

Microeconomics-Vol. I

Editor

M Aruna

Microeconomics –Vol-I

Editor:

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Chapter 1: Introduction to Microeconomics

(M Aruna and Dilip Dasgupta)

Introduction

The science of economics was born with the publication of "An Enquiry into the Nature and Causes of Wealth of Nations" by Adam Smith in 1776. It was called at that time as 'Political Economy'. Different names were suggested at different times. However in 1890 Alfred Marshall used the term Economics which has been accepted since then. The word 'Economics' was derived from two Greek words – *Oikos* (a house) and *nemein* (to manage). In other words, the original meaning was household management. It implied using scarce resources carefully to satisfy many ends i.e. economizing. The key point here is that the feature of resources is that they are limited but people's wants are unlimited. Therefore, limited resources need to be used carefully through efficient allocation among the various alternative uses. This is the basic situation that has led to the study of economics. Economics can be defined as the study of efficient utilization of scarce resources, which have various alternative uses to satisfy unlimited human wants. Economics deals with various aspects like production, distribution and consumption of scarce resources in an economy in order to satisfy human wants efficiently.

This chapter will discuss the importance of microeconomics and provide an idea of different economic systems. The chapter also provides an overview of Production Possibility Curve (PPC) which helps to determine the ideal combination of goods that can be produced with given resources and technology.

Nature and Scope of Economics

Economics can be considered both as a science and as an art. Science is a systematized body of knowledge ascertainable by an observation and experiment. It is a body of generalizations, principles, theories or laws which traces out a causal relationship between cause and effect. A definite result is expected to follow from a particular cause in economics like all other sciences. An example of a principle in chemistry is that, all other things being equal, a combination of hydrogen and oxygen in the proportion of 2:1 will form water. In physics, the law of gravitation states that things coming from above must fall to the ground at a specific rate, other things being equal. In economics, the law of demand tells us that other things remaining the same, a fall in price leads to extension in demand and a rise in price to contraction in demand. Rise or fall in price is the cause and, contraction or extension is its effect. Hence economics is a science like any other science Economics can be viewed as science because it explains the relationship between causes and effects. Also it can be viewed as an art because it deals with needs and wants of human beings. Art puts these principles into practical use. Analyzing the cause and effect of poverty falls within the purview of science, while laying down precepts for the removal of poverty is an art. Economics is thus both a science and an art.se. However, certain economists do not consider it advisable to treat economics as both a science and an art. The pressure of practical problems will hinder the development of economics as a science.

Chapter 2: Theory of Demand and Supply

(M Aruna and Dilip Dasgupta)

Introduction

The previous chapter discussed the importance of microeconomics and how with the given resources and technology and Production Possibility Curve (PPC) helps to determine the efficient combination of goods. This chapter is about the theory of demand and supply.

Demand analysis plays a significant role in the area of business. Various business activities like manpower utilization, production planning, investment decisions, cost budgeting, pricing decisions and profit planning depends on demand analysis. Demand analysis is extensively used in decision-making by managers and business firms. Multinational companies Kellogg's and McDonalds entered Indian market in the mid-1990s. Both these companies did not properly estimate the demand for their products in India and their operations ran into losses. These examples show us the significance of estimating demand correctly through proper demand forecasting and also understanding the relationship between demand and supply. Therefore, a thorough understanding of demand and supply conditions for a product or service is a must for the success of any business activity. One of the best ways to appreciate the relevance of economics is to begin with the supply and demand. Supply-demand analysis is a fundamental and powerful tool that can be applied to a wide variety of interesting and important problems.

This chapter will discuss the relationship between demand and supply, and the key determinants of demand, elasticity of demand and supply, and demand forecasting.

Demand Theory

Demand is a relative concept with price. Consumer's intention and ability to buy a number of goods at a price is demand for a good for that specific price. So, it is a measurement of consumers' want at a price and at a specific time. Here time is also an important factor to consider. For example, the demand for umbrellas varies with seasonal changes, like high demand during monsoon and summer and low demand during winter.

Demand not only considers the consumers' willingness to buy but also their ability to buy. Let's understand this statement with an example: Maruti Suzuki is planning for next 5 years and it wants to know demand for cars in India. It surveyed and found that there are almost 250 million Indians willing to have a car. Does it mean that demand for cars in India is 250 million? If 250 million citizens of India are willing to buy a car that is not the demand for the car leader Maruti Udyog Ltd., but those who have the ability to buy from out of this 250 million comprises the demand and the company will target for that number.

Demand is a function of price. It means that change in price will lead to change in demand for a good. Demands are quantitative expressions of preferences and to speak of demand without reference to price and time is meaningless. Essentials of demand are (a) Quantity (b) Price (c) Time.

Chapter 3: Consumer Behavior

(V Padmavathi and Dilip Dasgupta)

Introduction

The previous chapter discussed the relationship between demand and supply, the concept of elasticity of demand and supply, and different methods of demand forecasting.

The demand for a product is determined by the acceptance of the product by the consumer. The consumer's acceptance of a product is influenced by the price of the product, the consumer's wants, tastes and preferences, etc. In fact, every consumer would like to maximize his satisfaction while making a purchase decision. Therefore, it is very important for a firm to know the impact of changes in prices on demand for a product.

In economics, the theory of consumer behavior deals with how consumers allocated and spend their income among all the different goods and services. Consumer behavior theory also explains the relationship between changes in price and consumer demand. Since factors like customers' tastes and preferences, variations in price, play a significant role in determining the demand for a product, before launching their products, firms have to take into consideration all these factors.. Thus, a study of consumer behavior helps manufacturers in their decision-making.

This chapter will discuss the concept of utility and how that affects consumer behavior, consumer's reaction to a change in the relative prices of two products, also the effect of a change in the price of a product on the consumer's purchasing power, the concept of indifference curve and the uses of consumer surplus.

Choice and Utility Theory

The want satisfying power of a good or service, or the satisfaction or pleasure a consumer obtains from the consumption of a good or service is called "utility". Consumers have unlimited wants or preferences and numerous choices are available to satisfy those wants. Since any consumer will have certain budget constraint, consumers have to choose the best alternative whose net benefit is at the maximum level in order to maximize their satisfaction. Net benefit is calculated as the difference between benefits and cost.

Utility in economics means the extent of satisfaction obtained from the consumption of products and services by consumers. The concept of utility was developed by economists to explain the basic principles of consumer choice and behavior. However, the concept of utility is purely subjective in nature. In fact, utility cannot be measured but can be compared. This helps sellers in understanding how consumers make better choices.

Measurement of Utility

Utility can be measured through two approaches. They are the cardinal approach and the ordinal approach. The cardinal approach was proposed by Alfred Marshall. Under Marshall's approach, it is assumed that utility can be measured in terms of units called 'utils', which are measurable and quantifiable. The approach also assumes that the

Chapter 4: Production Function

(IRS Sarma and Dilip Dasgupta)

Introduction

The previous chapter discussed the concept of utility theory and the importance of indifference curve in consumer equilibrium. This chapter will discuss different aspects of production function.

A firm has to make various decisions with regard to production. Some of the issues which arise are: what type of product is to be produced, the method of production to be used if there are more than one ways of production, the quantity to be produced, etc.

Production can be defined as the transformation of inputs into outputs. Inputs are essential elements in the process of production. Economists have categorized inputs into four basic factors of production – land, labor, capital and organization. Transformation of inputs into outputs is of three types – change in form, change in place and change in time.

In this chapter, we will discuss the behavior of firms in producing goods, the different stages of production and the various ways in which production can be undertaken with changes in the number of variable inputs and the concept of expansion path.

Before studying the chapter, students should recall the concepts of diminishing marginal utility and the indifference curve discussed in chapter 3.

Production Function

The production function is the relationship between inputs and outputs, generally represented in a mathematical form. It can be expressed in several forms like tables, graphs and equations, etc. For example, let us assume that the factors of production can be categorized as labor (L) and capital (K). The equation for the production function is as below:

$Q = f(K, L)$

The production function is a quantified relation, which shows the overall output generated at a given level of input, with the technology and manpower available. Production functions can be used to obtain the least cost combination of inputs required to produce a given output, since they provide the technological information on input combinations to the firm.

Concepts of Product

The physical production process consists of three product concepts – total product, average product and marginal product.

Total Product

Total product (TP) refers to the total amount of output produced using a given quantity of one factor, assuming other factors to be constant. With an increase in the quantity of the factor input, the output also increases.

Chapter 5: Analysis of Costs

(IRS Sarma and Dilip Dasgupta)

Introduction

In the previous chapter, production function and the different types of returns to scale were discussed.

Expenses incurred on factors of production are known as the cost of production or the cost. For maximization of profits, a firm has to monitor revenues and costs closely. The cost of production is an important element in the firm's decisions regarding the quantity of production, expansion or contraction of the output, etc. Hence, the concept of costs plays a significant role in the price theory and output determination.

In this chapter we will discuss cost and production function, types of costs, break-even analysis and economies of scale.

Before studying this chapter, students should recollect the concepts described in the previous chapter.

Types of Costs

There are various types of costs that are relevant for a firm in decision making. The relevant costs may vary from situation to situation. A firm should be clear about the different types of costs, to enable them to take better decisions. The various types of costs are:

Opportunity Cost

According to Leftwitch, the "opportunity cost of a particular product is the value of the forgone alternative product that resources used in its production could have produced." In other words, opportunity cost conveys the next best alternative that was abandoned in order to pursue the other (best) alternative. It is useful to take opportunity cost into consideration in short-term decisions like sales strategy, inventory management, and hiring of labor. A firm should always consider the opportunity cost while evaluating the alternatives.

Implicit Costs

According to Leftwich, implicit cost is the, "cost of self-owned, self-employed resources that are frequently overlooked in computing the expenses of a firm." Implicit costs are also known as imputed costs. Implicit costs are the value of forgone opportunities but they do not involve a physical cash payment. Implicit costs include the wages the entrepreneur could have earned if he worked for some other company, the interest the entrepreneur could have earned on his capital, etc.

The following (Exhibit 5.1) is an illustration on implicit costs:

Exhibit 5.1: Implicit Costs

Family Inn is a restaurant owned by Shekar and run by him and his own family members. They would have drawn salaries, had Shekar and his family members been employed in some other company. Thus, the salaries they don't get, which are not mentioned in the books of accounts are known as implicit costs.

Source: ICFAI Research Centre

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Chapter 1: Perfect Competition

(Subhendu Dutta and Dilip Dasgupta)

Introduction

Till now, we have discussed the theory of demand and supply, concept of elasticity, the utility theory and the theory of production and cost. We have also discussed the concept of equilibrium. Now it is the turn to bring together all these concepts to analyze how price and output are determined under different market forms.

Market structure is important in determining the actions of an organization. The market structure affects the way in which a firm can achieve the objective of profit maximization. Thus, the market structure has a major influence on the decisions taken by the firm.

Market structure can broadly be classified into two categories – perfect competition and imperfect competition. In perfect competition, there are large number of buyers and sellers selling homogenous products; hence, a single buyer or seller cannot affect the price of a product.

In this chapter, we will discuss the characteristics of perfect competition and show how the equilibrium price and quantity of a firm are determined under conditions of perfect competition.

Characteristics of a Perfectly Competitive Market

Let us understand the characteristics of a perfectly competitive market through an example given in exhibit 1.1:

Exhibit 1.1: Characteristics of a Perfectly Competitive Market

Rajan is a farmer who cultivates maize. The market price of the maize is ₹ 200 per bag. Rajan wants to raise the price at which he sells the maize. However, when he increases his price over ₹200, buyers stop buying from him and switch to one of the numerous other sellers in the market. Unable to sell his maize at a price above ₹200, he decides to create an artificial shortage of maize, by asking other farmers to reduce supply, which he hopes will result in a rise in the price. But this does not happen as there are such a large number of farmers growing the same crop that even if a few of them get together they cannot affect the total supply of output in the market in such a way as to influence the market price.

Source: ICFAI Research Center

From the above example, the following important characteristics of a perfectly competitive market can be derived:

Large number of buyers and sellers: The market is comprised of a large number of buyers and sellers; hence, a single buyer or seller cannot influence the price of a product by altering his individual demand/supply of the product. This means a single firm is too small in relation to the market to influence price of the product prevailing in the market. Withdrawal by some of the sellers and buyers will not have any effect on the price of the commodity. Therefore, each seller is a *price taker* in perfectly competitive market.

Chapter 2: Imperfect Competition

(Subhendu Dutta and Dilip Dasgupta)

Introduction

Market structure influences the decisions taken by the firm and the profits that are earned by it in the long run. Market structure is classified into two types – perfect competition and imperfect competition. In the previous chapter we discussed perfect competition. This chapter is on imperfect competition.

Imperfect competition is any market structure, which is not perfectly competitive. Imperfect competition is categorized into monopoly, monopolistic and oligopoly market structures. Monopoly is a market structure where a single seller controls the whole market selling a unique product. Oligopoly is a market situation where a few sellers exist in the market. Monopolistic competition has a large number of buyers and sellers in the market and sellers divide the market through product differentiation and price discrimination.

This chapter will discuss the different types of imperfect market structures, their characteristics and the different strategies adopted by players under game theory.

Imperfect Competition

In an imperfect market structure, the marginal revenue curve lies below the demand curve or average revenue curve, which slopes downwards as firms are able to charge different prices for the product. A firm achieves profit maximization when its marginal revenue equals the marginal cost. The supply curve slopes upwards from left to right as the supply increases with the rise in price and decreases when there is a reduction in price. Under imperfect competition, the firm reaches the point of equilibrium when the demand curve intersects with the supply curve.

Monopoly

Monopoly is a type of market structure where there is only one supplier of a good or service. The good/service has no close substitute, and there are barriers preventing new firms from entering the market. The firm operating in the monopoly can either determine the price or the quantity demanded. A major difference between monopoly and competition is that a monopoly sets its own price. A monopoly firm can either sell a smaller quantity at a higher price or sell a larger quantity at a lower price. The demand curve of the firm is the demand curve of the industry because there is only one seller. A key feature of a monopoly is the existence of barriers, which prevent the entry of new firms into the market. Some of the barriers are: control over vital raw materials, tariff protection from importers, protective government legislation, temporary low prices to force out competition, and large research and development budgets. Another characteristic of a monopoly structure is price discrimination, which means that the monopoly firm charges different prices to different classes of customers.

Chapter 3: Rent and Wages

(V Padmavathi and Dilip Dasgupta)

Introduction

In the previous two chapters we discussed different types of market structure. In this chapter, we will discuss about the factors of production.

Resources like land, labor, capital, and entrepreneurship, which contribute to the production of goods and services, are the main factors of production. Each factor of production is rewarded differently for its contribution to production. The reward for land is rent, for labor it is wages, for capital it is interest, and for entrepreneurship it is profit.

Traditional economists were of the opinion that different theories were required to determine the prices of the factors of production. This was because they believed the determination of factor prices was different from that of product pricing, which is based on the demand and supply of products. In contrast, modern economists believed that factors of production can be priced similar to the way products are priced – that is, by taking the forces of demand and supply into consideration.

This chapter will discuss the theories of factor pricing, theories of rent and relation between rent and price. The concept of wage and the role of trade unions will also be discussed.

Theories of Factor Pricing

Factor pricing refers to the price paid for the services rendered by a factor of production; it is not the price of the factor itself. Various theories of factor pricing suggest different ways to distribute the income among the factors of production. The two ways in which this can be done are: personal distribution and functional distribution.

The personal distribution of income deals with income distribution among the owners of the factors of production while functional distribution deals with income distribution among the four factors of production -- land, labor, capital, and the entrepreneur. Under functional distribution, the macro theory of distribution deals with the distribution of national income among the factors of production, while the micro theory of distribution, also called the theory of factor pricing, deals with income distribution at the individual level. For example, an individual earns ₹. 20,000 per month; this income can be earned by him/her by wages, rents, or dividends. On the other hand, functional distribution is associated with the distribution of income among different factors of production as per their functions. Professor Alfred Marshall has emphasized that there is a need for a separate theory of factor pricing because the characteristics of commodities and factors of production are different.

Two of the prominent theories of factor pricing are the marginal productivity theory of factor pricing and the modern theory of factor pricing.

Marginal productivity theory of factor pricing states, how many units of a factor of production will be employed at different prices and does not deal with the supply side of a factor of production. Whereas Modern theory of factor pricing use the tools of

Chapter 4: Interest and Profit

(Laila Memdani and Dilip Dasgupta)

Introduction

Production of goods is not complete without the combined efforts of all the factors of production. In the previous chapter, we discussed two factors of production, namely land and labor. The compensation for land is called rent and the compensation received by labor is known as wages. This chapter will discuss the remaining two factors of production -- capital and entrepreneurship.

This chapter will explain the concepts of interest and profit and the various theories that attempt to explain the origin of interest and profit. The chapter will also discuss profit policies that assist entrepreneurs and business houses to function under diverse conditions.

The Concept of Interest

The interest is the reward for capital, which is a factor of production. As land is paid rent and labour wages, capital is paid interest. The owner of the capital receives interest for parting with it for the specific time period. In simple terms it is the price paid by the borrower to the lender. According to J.M. Keynes, Interest is the reward for parting with the liquidity for a fixed period of time. Here the time period is important, because a unit of money today is not equal to the same unit of money after one year. So if a person is offered ₹. 1000 today or the same amount at the end of the year he will prefer to take it today rather than waiting for one year and getting the same amount. Because if he deposits ₹1000 in bank today than at the end of the year he gets ₹1100 if the interest rate is 10%. Therefore, interest is to be paid for parting with liquidity/ loanable funds or capital. And the money or liquidity for a certain period of time. In terms of financial sector, the interest is the difference between money paid back and money received earlier, taking into account the time duration between the amount received and the amount paid. If you are given ₹ 100 and you give back ₹ 120 after a year, the interest rate you paid was 20% a year. Interest rate is the rate charged by the lender for using the principal amount by the borrower.

Basic Concepts

Interest rate is of two types. Nominal and real interest rates. Nominal interest rates are those given in the contracts between the two parties. Real interest rates are rate after the deduction of inflation rate from the nominal rates. For example, if inflation was 10%, in the preceding example the real interest rate can be said to be 20%-10% = 10%.

- Nominal Interest rate is the Gross interest rate. It is the actual amount paid by the borrower to the owner of capital. The Gross Interest following elements:
- Compensation for Risks: Giving a loan to somebody always involves a risk that the borrower may not repay it. To cover this risk, the lender charges more, in addition to the net interest.
- Compensation for Inconvenience: Saving involves some inconvenience. Moreover, lending money means the lender may not be able to get it back when he needs for his own use. Hence a payment to compensate for this inconvenience is charged by the lender.

Chapter 5: Forecasting and Decision Making

(Laila Memdani and Dilip Dasgupta)

Introduction

In the previous two chapters we discussed about different theories of factors of production. The present chapter will discuss a different concept.

Business decisions are characterized by risk and uncertainty. If these two factors are not tackled properly, it can lead to ineffective decision making. In the face of such risks and uncertainty, decision makers use forecasting as a tool to facilitate the decision-making process. Thus, forecasting is an integral part of business decision making.

This chapter explains the concept of economic forecasting and discusses the various demand forecasting techniques that managers can use to make appropriate business decisions. The chapter also discusses the concepts of risk and uncertainty. This chapter explains capital budgeting as well and how it is used by managers to make key investment decisions.

Economic Forecasting

The process of forecasting the economic conditions in a country either in full or in part is known as 'economic forecasting'. Forecasting the economic conditions in the economy has various advantages, both at the micro and macro levels. These advantages are outlined here.

- Macro level: Economic forecasting is useful in estimating the economic growth of the whole economy. If the forecasts predict that the economy is moving at a slow pace, then the government can make the required changes in the monetary and fiscal policies with a view to improve the economic conditions in the country.
- Micro level: As economic forecasting predicts the rate of growth of the economy, it helps individuals and businessmen in making prudent investment and business decisions.

Risk and Decision Making

Let us first learn the concepts of risk and uncertainty.

Risk and Uncertainty

A condition of risk and uncertainty arises in the decision-making process when the decision maker is not sure or is unaware of the outcome of a particular decision. In general, people tend to think of risk and uncertainty as being the same. However, in economic theory, there is a difference between the two. Let us now understand the distinction between risk and uncertainty.

Risk

One of the important differences between risk and uncertainty is that risk is calculable, while uncertainty is non-calculable. Risk can be defined as a situation where there can be more than one possible outcome to a decision. In addition, the decision maker can assign probabilities to the possible outcomes of a particular decision. For example, the

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Chapter 1: Introduction to Macroeconomics

(T Shyam Sundar and R Kanaka Sudha)

Introduction

Macroeconomics is a key branch of the discipline of economics. It deals with the big picture of a nation's economic system. Its relevance as a field of serious study stems from the relationship it shares with our understanding of contemporary business environment. A nation's economic progress depends upon a number of factors ranging from the availability of resources to their effective deployment. The scope of macroeconomics also includes economic role played by governments. We are aware of the limitations of imperfectly competitive markets in delivering efficient outcomes in various real-life situations. These are referred to as market failures. Governments have the onus to step-in in order to make up for them. Public goods, by their very nature, cannot be supplied by private profit-maximizing firms. Governments need to create the provisions for them. Another important second-point is that market forces of demand & supply create winners as well as losers. The gap between these two classes of society could be very large. The few very rich households might corner unreasonably high shares of a nation's aggregate income & wealth. They might indulge in spending frivolously causing what is known as conspicuous consumption. This is akin to a large-scale national waste of economic resources. At the same time, the large majority of the others might be earning incomes much below what it takes to make two ends meet. Governments like to intervene by taxing the rich and spending the proceeds of revenues on the public goods referred to above. They would also like to use parts of these revenues for transfers to the very poor in the form of unemployment allowances. Governments routinely engage in other welfare measures also like provision of basic amenities to the poor e.g. housing & sanitation. The third concern of modern national governments is that market-forces could destabilize the economic system causing persistent scarcities of goods & resources, & unemployment.

Therefore, governments use insights of macroeconomics to create policy which counters destabilizing tendencies of markets.

Macroeconomics, by definition, deals with the measurement & analysis of aggregates of economic variables like income, employment & prices. This is in sharp contrast to what we study in microeconomics with its emphasis on individual values of production, consumption, income, & prices prevailing in specific markets for specific goods. Thus, macroeconomics defines national output & income measures like the Gross Domestic Product (GDP), aggregative value of consumption in the whole economy, the size of the government's budget, & the value of exports from the country less imports to it etc. Another way of stating the same is that macroeconomics tries to explain collective or group behaviour of human beings in the material world while microeconomics does so for individual behaviour of consumers, households, & firms.

We will discuss about macroeconomics and different issues related to it.

Chapter 2: National Income

(T Shyam Sundar and R Kanaka Sudha)

Introduction

National Income Accounting is the basic foundation of modern macroeconomics. As explained in the previous chapter, macroeconomics deals with national aggregates of economic variables with the objective of analysing the economic progress of an entire nation or a region thereof. Now, we shall discuss the methods & concepts used by national governments in estimating these macroeconomic aggregates. Most nations have evolved autonomous government agencies & standard procedures for this purpose. Clarity & reliability in the modus operandi being followed enhance the credibility of the estimates. Hence, it is essential for us to understand the procedures generally followed in most countries today.

There are broadly two alternative approaches being followed for estimation of national income aggregates:-

1. Expenditure Approach - This is, effectively, the summation of all possible types of expenditures incurred on all final goods produced by a country's firms during an year. As we shall discuss a little later, these are of four kinds - a. Consumption Expenditures (C), b. Investment Expenditures (I), c. Government Expenditures (G), & d. Net Exports (symbolically denoted as NX). The sum of these components would be the aggregate expenditure on all final goods produced in our economic system. Hence, it is one way of estimating the value of economic activity in the country during the year.
2. Income Approach - This is the alternative approach to the expenditure approach. Logically speaking, this approach must yield the same value of national income as the expenditure approach because the two are attempting to measure the degree of economic activity within the same economic system albeit at different points of the circular flow of value in it. Expenditure approach focuses on the four different kinds of uses to which all final goods are put. The Income approach adds up the four kinds of all income factors earn as the output of final goods is created: a. wages earned by labour, b. interest on capital investments by firms, c. rents for land & similar assets paid out to their owners, & d. profit margins of owners of firms which undertake the risk of organizing businesses on the basis of expectations of a market-value for their output.

The Income approach offers itself to sophisticated methods of measuring the contribution of factors of production to the generation of all output within the economy. The following sections will discuss some of these. The most reputed of these is the 'value-added' method. According to this method, for every business firm, we expect to measure the 'Gross Value-Added' or simply the GVA. In principle, this is the difference between the value of the output minus the value of inputs of all other final goods which the firm uses up in the process of production of its output-what is being subtracted being called the 'intermediate consumption'. Conceptually, the GVA of any firm is the aggregate of all factor incomes it helps to generate. As a

Chapter 3: Consumption and Investment Function

(T Shyam Sundar and R Kanaka Sudha)

Introduction

The previous chapter discussed about different factors to determine national income, various approaches to measure national income and the problems associated with them.

Classical economists have proposed that the attainment of an economy's equilibrium depends on the achievement of full employment. However, this view was proved wrong when the Great Depression occurred in the 1930s. This prompted John Maynard Keynes to come out with his own views, challenging the Classical school of thought. Keynes suggested that an economy can achieve equilibrium without reaching full employment.

In this chapter, we will discuss how an economy reaches equilibrium in three different situations – without government intervention, with government intervention and in the existence of international trade.

Let us remember at the outset that Keynesian theory's claim to fame is in being able to explain as to how an economic system could be helped to move out of persistent unemployment & recession. In his book 'The General Theory of Employment, Interest & Money' (referred to simply as the General Theory), Keynes, conceptualized the working of a typical modern capitalist economic system. With the help of this framework for analysis, he explained as to how the economic system might continue to operate much below its potential of full employment level indefinitely. The thrust of his theory is the component-wise analysis of 'Aggregate Demand' (AD). He explained convincingly about shortfall in aggregate demand as the cause of persistent unemployment. Consumption (C), & Investment (I) hitherto were the principal components of aggregate demand. Consumption(C) was attributed to the households &Investment (I) to the firms. In a two-sector national income determination model, C+I is the Aggregate Demand (AD). At the same time, C+Savings (S) would be the actual value of the Aggregate Supply (AS) or output. Further, for the two sides i.e. AD & AS to be equal under the equilibrium condition of income determination, S=I would need to be satisfied. This principle of equilibrium income determination has been explained in detail in this chapter, & the same has been extended to include all the sectors of a four-sector model later on.

Aggregate Supply and Aggregate Demand

To explain the reasons for the Great Depression, Keynes came up with the concepts of aggregate demand, aggregate supply and effective demand. Effective demand is the aggregate demand created when the government intervenes in the economy to achieve full employment equilibrium.

The Keynesian aggregate supply function

Aggregate supply is the total quantity of all goods and services that businesses are willing to produce and supply in a given period at a particular price level.

Chapter 4: Classical and Keynesian Economics

(T Shyam Sundar and R Kanaka Sudha)

Introduction

The previous chapter explained how an economy reaches equilibrium when there was no government intervention, there was government intervention and in the case of an open economy.

The present chapter is about the opinions of different schools of economics. People hold different views or opinions as to whether the government should play an active role in managing an economy, or whether it should confine itself to providing the institutional framework, and let self-correcting forces operate to bring balance in the economy. The classical economists advocated a minimal role for the government, confined to ensuring "rule of law" and the overall institutional framework that went with it, e.g. ensuring that financial and trading agreements between them would be honoured, so that business could be conducted smoothly. The opinions people hold reflect the perspectives of different schools of economics.

In this chapter, we will discuss different schools of economic thought – the Classical approach, the Keynesian approach, the Monetarist approach, the Neoclassical approach, and the Supply-side approach.

It is important to remember, right in the beginning, that the classical approach to the working of an economic system was based on specific assumptions about three kinds of markets-the goods markets, the money markets, & the labour markets. These assumptions & the interactions between these three markets would ensure that there would be no unemployment in the long-run. So, according to this school, temporary imbalances or mismatches between demand & supply conditions are but short-run phenomena. The working of these three kinds of free markets ensures equilibrating forces of excess demand or excess supply to lead the economic system to a state of full employment. Keynes' approach was created to fill in a gap in this approach which was unable to explain the persistent recessionary conditions of the Great Depression. What was wished away by the classical approach as a short-run problem seemed to go on forever. This incited the famous retort from Keynes, "In the long-run we are all dead", implying thereby that the classical theory of macroeconomics ignored the nuances of short-run dynamics to a fault. Keynes' approach as explained in his book, 'The General Theory of Employment, Interest, & Money' published in 1936, must be seen as an attempt to bridge this gap. He chose to enquire into the nature of aggregate demand & its components. Therefore, Keynes' approach is an emphasis on short-run analysis. It goes a step further, & prescribes ways to overcome persistent recession & unemployment. It relies on a clear distinction between short-run & the long-run conditions. The short-run conditions overlap on a specific long-run state. The subsequent theories of macroeconomics should be seen as efforts to reconcile the classical & Keynesian approaches.

The different schools of thought beginning with the Keynesian revolution referred to above are, therefore, complement the theoretical foundations most creditably laid by

Chapter 5: Fiscal Policy and Budget Deficit

(T Shyam Sundar and R Kanaka Sudha)

Introduction

In the previous chapter we discussed about different schools of economic thought. In the present chapter we will discuss the objectives of fiscal policy and its significance in economic development.

Fiscal policy is defined as a policy under which the Government uses its expenditure and revenue programs to produce desirable effects and avoid undesirable effects on national income, production and employment. In other words, fiscal policy is a strategy framed by the government that directs the government with regard to planning the expenditure, revenues and managing fiscal deficits/surpluses in the budget.

Fiscal policy helps in checking inflation and plays a major role in the economic development. Fiscal policy involves designing the tax structure, determining tax revenue and handling public expenditure. Fiscal policy can be used to minimize the effects of business cycles and to maintain stable price levels.

In this chapter, we will discuss different objectives of fiscal policy, various components of fiscal policy and stabilization policies adopted by government. The chapter will explain the concept of a budget, budgetary policy and how national debt is related to budget. The chapter also discusses the limitations of fiscal policy.

Fiscal policy discussion should be understood against the background of the responsibilities of a 'fiscal state' as explained by Richard Musgrave & others. The objectives of a modern fiscal state are three-fold:

- To generate resources for the supply of public goods i.e. goods which offer themselves to non-rival consumption & non-excludability;
- Equitable distribution of income through differential levy of taxes under progressive taxation; &
- Ensuring that there is economic stability by counter-cyclical policies which moderate or eliminate the impact of business cycles which are ubiquitous in a market-economy. Both taxation & spending need to confirm to these broad set of objectives of modern public finance.

Objectives of Fiscal Policy

The objectives of fiscal policy are:

Mobilization of resources

Governments follow two methods to raise funds for investment – voluntary and compulsory savings. Resources can be mobilized through public borrowing and taxation. Generally, voluntary savings are not significant in developing countries as the per capita income is low. The government can collect more money by introducing new taxes and increasing the existing taxes.

Chapter 6: Banking and Money Supply

(T Shyam Sundar and R Kanaka Sudha)

Introduction

In the previous chapter we discussed about the problem of inflation, how to measure it and how to tackle it. This chapter is about the role of financial system in an economy.

Savings and investments play an important role in the development of an economy, as they bring about an increase in the output of goods and services. Savings, which are usually a result of a rise in income, can be used for productive purposes with the help of a financial intermediary or institution. This institution/intermediary is a part of a larger financial system.

A financial system can be defined as a set of institutions, instruments and markets which fosters savings and channels them to their most efficient uses. An efficient financial system mobilizes savings and gives it to those who will put it to good use.

Financial markets, institutions and instruments are engines of economic growth. A well-functioning financial market is the primary requisite for a healthy financial system. Banks play a major role in encouraging people to make savings. Therefore a banking system with strong fundamentals is crucial for the development of the economy.

This chapter will discuss about the banking system, the concept of money supply, the creation of money supply in an economy, components of money supply and equilibrium in the money market.

The following points should be remembered by us as we discuss the contents of this chapter:

While the use of money is as old as human civilization itself, modern banking system & money supply is not more than a couple of centuries old. Central banking & Fractional Reserve Mechanism (FRM) are closely related to monetary policies of modern governments. The evolution of the underlying institutions supporting the modern system is relevant to the complete understanding of modern financial sector & international financial as well as monetary relations. In other words, economic history of modern banking enables us to fully comprehend the strengths & weaknesses of the financial sector of any modern mixed economy.

Central banks emerged as regulating agencies of private banks. The private banks in medieval Europe started as safekeeping vaults of gold owned by traders operating across famous centres along trading routes. Gold was the principal medium of exchange used by these traders for buying & selling of goods. It was risky to carry large quantities of it on person as traders moved between these famous cities to strike deals with fellow traders from other countries.

Hence, initially, banks came into existence as providers of safety for these traders. Their source of income was the commission they earned for this service. Along the course of banking history, there are identifiable turning points bringing us through to modern banking. The first such innovation was that trading partners were encouraged



Macroeconomics-Vol. II

Editor
Suresh KG

Macroeconomics –Vol-II

Editor:

Suresh KG

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Chapter 1: Monetary Policy

(Suresh KG and R Kanaka Sudha)

Introduction

This chapter discusses macroeconomic policy- monetary policy.

Monetary policy is an important aspect of overall macroeconomic policy. Monetary and credit policies affect individual businesses and also the economy as a whole. Monetary policy decisions have widespread implications for the economy as it affects key economic variables like price level, exchange rate, real interest rate, unemployment rate and real GDP. Because of these implications central bank actions are of keen interest to media, industry, and financial market participants, etc. The basic element which is affected by monetary policy is the overall money supply. Monetary policy can be defined as "the deliberate effort by the central bank to influence economic activity by variations in the money supply, in availability of credit or in the interest rates consistent with specific national objectives." Monetary authorities use various instruments to achieve their economic objectives.

In this chapter, we will discuss the objectives of monetary policy, its problems and its role in a developing economy and in an open economy.

Objectives of Monetary Policy

The objectives of the monetary policy are several and most of the times are interconnected. Because, each country has its own national economic objectives and the central bank monetary policy objectives are always aligned to the national objectives.

Price stability

Price fluctuations are disruptive of economic activity. High level of Inflation and deflation are hindrances to the smooth functioning of the economy. Price stability implies that avoidance of prolonged inflation and deflation. Very low level of inflation, negative inflation rate (Deflation) and very high level of inflation are harmful to the economy. Quantitatively most of the central banks targets inflation with a band. For example, Reserve Bank of India (RBI), India's central bank, tries to bring inflation within the inflation rate band of 2% to 6%.In most of the countries central banks use Consumer Price Index (CPI) to measure inflation and price stability. India also uses CPI to measure inflation.

Exchange rate stability

The exchange rate can be defined as the value of a particular country's currency in terms of another currency. Instability in the exchange rate affects international trade and impairs the financial relations of a country, which can, in turn, lead to financial crises. Exchange rate volatility may restrict investments in those countries. Therefore, there should be a degree of stability in the country's exchange rate.

Full employment and maximum output

The levels of employment and output in an economy are based on certain factors like technology and human resources, and are not affected by monetary policy in the long run. Full employment indicates optimum utilization of scarce resources – land, labor, capital and organization. Monetary policy can influence the levels of output and employment only in the short run. The central bank of the country has the responsibility of stabilizing the economy and taking steps through its monetary policy to smoothen sharp variations in output and employment.

Chapter 2: Inflation

(Suresh KG and R Kanaka Sudha)

Introduction

In the previous chapter, we have discussed the basics of macroeconomics. We also understood the concepts of consumption and investment function and fiscal and monetary policies. In this chapter we will discuss about inflation.

Inflation can be defined as an increase in the amount of money relative to the amount of goods or services available, which in turn leads to an increase in the general price level of goods and services. A rise in the cost of goods reduces the buying power of money over time i.e. inflation decreases the purchasing power of a rupee. Inflation can be measured by the Consumer Price Index (CPI) and the Product Price Index (PPI).

This chapter will discuss the types of inflation, sources of inflation, methods to measure inflation and measures to control inflation.

Types of Inflation

In the words of Keynes, "Inflation refers to a rise in price level after full employment level has been achieved". However, economists define inflation in terms of a continuous rise in prices. Frederick S. Brooman defines it as "a continuing increase in the general price level".

Based on the degree of increase in price level, inflation is classified into four categories – creeping inflation, walking or trotting inflation, running inflation, galloping or hyperinflation.

Creeping inflation can be described as a situation where the rate of increase in the price level is small or gradual. Inflation rate less than 3% is called creeping inflation Creeping inflation encourages investment in the economy.

Walking inflation: When prices rise moderately and the annual inflation rate is a single digit at an intermediate range of 3-10% per annum or less, then it is termed as walking or trotting inflation.

Running inflation: If prices increase rapidly for a longer period of time and is not properly controlled, it becomes running inflation. Running inflation leads to a fall in savings in the economy and hampers economic growth, if it is not controlled. In running inflation, the price increase is between 10-20% percent per annum. If monetary authorities lose control over running inflation, it becomes galloping inflation.

Galloping inflation or hyperinflation occurs when the inflation reaches double or tripledigit figures on monthly basis. This is extremely serious situation for the economy and people can't live in such economies because of high unemployment and high cost of living. During the period August 1945 to July 1946, Hungary experienced 10800% inflation per month. Further, Zimbabwe (2006-2008) and Venezuela experienced hyperinflation (Refer Exhibit 2.1). In Zimbabwe the annual inflation rate was 1017% in 2006, 10453% in 2007 and 55.6 billion percentage in 2008.

Chapter 3 : International Trade and Balance of Payments

(Sushanta K Mahapatra and R Kanaka Sudha)

Introduction

The previous chapter was about the inflation in an economy and its nature, types and controlling measures. This chapter will discuss about an entirely different and new concept - international trade and balance of payments.

International trade is one of the determinants of the financial and economic status of a country. Through international trade, a country can export surplus goods to countries that lack these products and import goods that it lacks from some other country, which has surplus of it. This results in economic development of both the countries involved in the trade.

There are two schools of thought on international trade. One school of thought is in favor of free trade, while the other advocates protectionism. Proponents of protectionism are of the view that the domestic country should develop its own industries independently, without being subjected to foreign competition. The advocates of free trade propose that international trade offers more opportunities for a country for rapid economic growth. Many governments impose certain restrictions on free international trade by levying import tariffs and setting up non-tariff barriers to regulate trade with other countries.

In this chapter, we will discuss the basis of international trade, the significance of international trade and the various barriers to international trade.

Basis of International Trade

Theorists have developed different theories of international trade. During 16th and 17th centuries, Mercantilism supported the idea of boosting exports and reducing imports for the best interest of a country. The idea laid emphasis on maintaining a trade surplus, i.e. to export more than import and this boosted intervention of the government to achieve a surplus in the trade balance. It witnessed trade as a zero-sum game (one in which a gain by one country results in a loss by another). Mercantilism is not economically valid for its problematic approaches, even today many political views aim at boosting exports and limiting imports by seeking only selective liberalization of trade. Adam Smith, in 1776, promoted the idea of unrestricted free trade. He disagreed with the mercantilist notion that supported ‘assume trade as a zero-sum game’. Smith argued that every country differs in their ability to produce goods and a country has an advantage in the production of a product when it is more efficient than any other country in producing it. In the 19th century, David Ricardo built on Smith ideas, and in the 20th century, Eli Heckscher and Bertil Ohlin refined Ricardo’s work.

Theory of absolute advantage

Adam Smith proposed the Theory of absolute advantage in 1776. According to this theory, a country could experience absolute advantage when it produces a product more economically than other countries. The theory proposes that a country, which enjoys an absolute advantage in the production of certain goods, should export its surplus of those goods and import those goods, which are needed by the country. It results in specialization and increased productivity.

Chapter 4: Economic Indicators

(Sushanta K Mahapatra and R Kanaka Sudha)

Introduction

In the previous chapter we discussed about international trade and balance of payments. This chapter will illustrate the features of different economic indicators.

Some economies are healthy and productive whereas others are weak and inefficient. Depending on their economic conditions, countries are referred to as 'developed' or 'developing'. Economists use economic indicators to study the economic conditions prevailing in an economy. In addition, economic indicators are also useful in predicting the future economic growth and state of the economy. To put it simply, economic indicators are useful in understanding the economic growth of nations.

In this chapter, we will discuss about economic indicators and their features. Later in the chapter, some of the important economic indicators that are useful in predicting the present and future state of the economy are explained.

The Concept of Economic Indicators

Economic indicators indicate the present and future state of the economy of a country. An economic indicator is a statistic about an economic activity. Economic indicators allow analysis of economic performance and predictions of future performance. Any economic statistic that indicates the current level of economic growth and forecasts the future growth rate is called an economic indicator. The list of economic indicators is in fact very large because any economic statistic that indicates the rate of growth of economy is called an economic indicator. The study of business cycles is one application of economic indicators. Economic indicators include economic summaries, various indices, and earnings reports such as the unemployment rate, interest rate, consumer price index (a measure for inflation), consumer leverage ratio, housing starts, gross domestic product, industrial production, bankruptcies, broadband internet penetration, retail sales, stock market prices, foreign exchange reserves, and money supply changes.

Features of Economic Indicators

Economic indicators have three major features and they are related to:

- The business cycle/economy
- Frequency of the data
- Timing

Related to Business Cycle/Economy

Depending upon their relation to an economy's business cycle, economic indicators may be classified into:

- ***Procyclic*:** Economic indicators that move in the same direction as the business cycle or economy are known as Procyclic indicators. Generally, Procyclic indicators increase during boom periods and decrease during recessionary periods. Example: The gross domestic product of an economy is a prominent economic indicator that measures the economic activity in a nation. It has generally been observed that the GDP figures increase during boom periods and decrease during recessions. Thus, the GDP is a procyclical economic indicator.

Chapter 5: Business Cycles

(Rashmi Ranjan Paital and R Kanaka Sudha)

Introduction

The previous chapter discussed economic indicators. In this chapter we will discuss business cycles.

The growth of economies is rarely steady over a long period - growth is usually followed by recession, and sometimes even depression. Economic recession is characterized by a fall in national output, decline in profits and real incomes, and high unemployment. When the economy recovers from recession, and the recovery is very strong, there may be a boom period, when there is high demand, plenty of employment opportunities and the standard of living of people rise.

In this chapter, we will explain the various phases of the business cycle in an economy.

Characteristics of Business Cycles

A business cycle is the characteristic up-down-up fluctuation in economic activity as aggregate measures like total national output, income and employment, in an economy. The length of a business cycle (the period from one peak to the next) can range from two years to ten years. It consists of two major phases – recession and expansion. (Refer Figure 5.1). The exact duration of each phase of the business cycles is hard to predict. The characteristics of the recession period are as follows:

- There is a fall in consumer spending, which leads to accumulation of inventories. Accumulation of inventories discourages producers from producing more, leading to a fall in the production of goods, and investment in plant and machinery. This results in a fall in the real GDP.
- Reduction in production results in a decline in the demand for labor, which in turn leads to layoffs and high unemployment.
- The decline in the demand for raw materials due to the decrease in output causes a fall in the price, which is followed by overall deflation (fall in the general price level).
- There is a decline in profits during the recessionary period. Stock prices fall. Due to fall in demand for credit, interest rates also fall.

According to Joseph Schumpeter, there exist four stages in the business cycle – prosperity, recession, depression and recovery.

Prosperity is the stage when there is an increase in production in all the sectors of the economy. The increase in production enhances employment opportunities, and leads to a rise in consumer spending.

During a recession, there is a general fall in prices, decline in the demand for capital goods and cancellation of new projects and a fall in the stock prices. Initially, the demand for consumer goods remains the same, but slowly it diminishes. The performance of various stocks in the stock market is one of the indicators, which reflects the pulse of the industrial and financial segments of the economy.

Chapter 6: Economic Growth, Development, & Planning

(Lagesh Kumar M. A and R Kanaka Sudha)

Introduction

Thus far, we have discussed different aspects of macroeconomics, like national income, consumption and investment functions, fiscal and monetary policies, inflation, banking and money supply, economic indicators. The previous chapter on business cycles discussed the short-run fluctuations in an economy and its causes. In this chapter ~~unit~~ we will learn about the factors contributing to the long-run sustained growth of an economy.

The variation in the income levels of people in different countries is attributable to the varied levels of economic growth across the globe. The World Bank has classified countries into groups of low-income economies, lower middle-income economies, upper middle-income economies, and high-income economies, depending upon the average income levels.

While economic growth is measured in terms of the increase in the Gross Domestic Product (GDP) or Gross National Product (GNP), economic development is a measure of the change in the living conditions of the people of country along with economic growth. Economic planning is a useful tool, mainly for the developing countries to achieve economic growth and/or economic development.

This chapter will explain different theories of economic growth and various factors contributing to economic development.

India has taken up economic reforms to set the country on the growth path. The chapter also provides a discussion on the economic reforms in India and an analysis of the possible future of the Indian economy.

The Process of Economic Growth

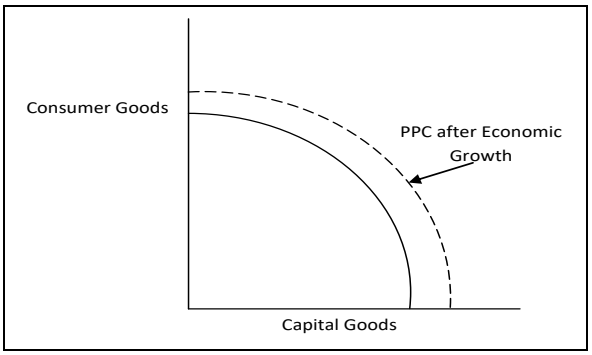
The process of economic growth is explained on different bases as:

Economic Growth

According to Samuelson and Nordhaus, "Economic growth represents the expansion of a country's potential GDP or national output."

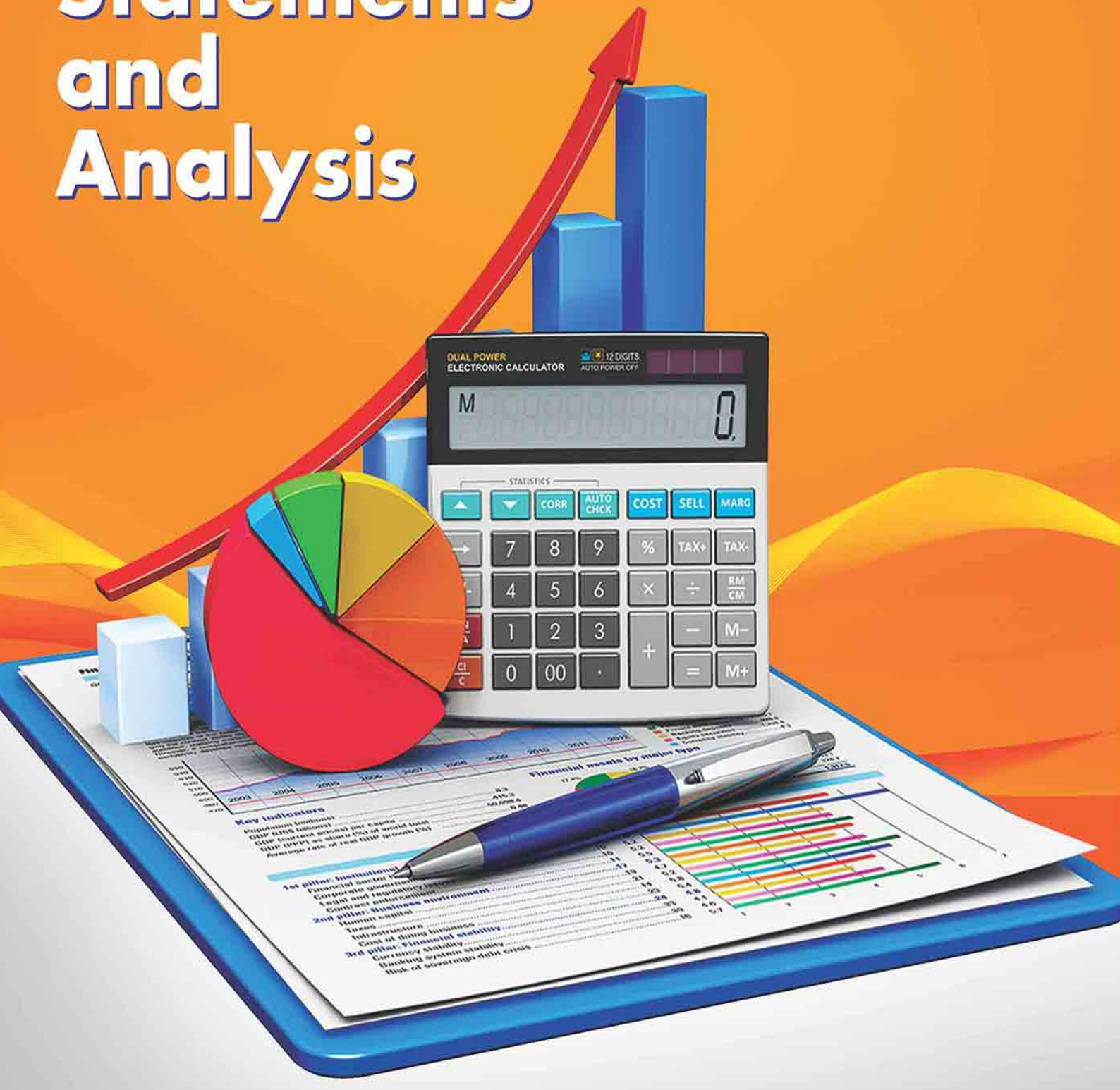
Figure 6.1 depicts the Production Possibility Curve (PPC) which experiences an outward shift and depicts economic growth due to the increased production of both capital and consumer goods in the economy.

Figure 6.1: Production Possibility Curve



Source: ICFAI Research Centre

Financial Statements and Analysis



Editor

K. Rajya Lakshmi

Financial Statements and Analysis

Editor:
K. Rajya Lakshmi

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Financial Statements and Analysis

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Chapter 1: Financial Statements of Companies

(K. Rajya Lakshmi, C. Padmavathi, UL Sunitha and Kirthika)

Introduction

Financial Statements are the basic and formal means of communicating financial information related to outsiders, especially shareholders. With the growing significance given to transparency and disclosure in the presentation of financial information, companies are increasing emphasis on the presentation of the information in an easy manner enabling transparency. These factors have resulted in changes in the form and content of Financial Statements. The financial statements of a company consist of the Statement of Profit and Loss, Balance Sheet and the Cash Flow Statement.

In this chapter, we shall discuss the preparation, presentation and disclosure requirements regarding a joint stock company's financial statements as per the provisions of Companies Act, 2013 and the various components of such statements.

Statutory Requirements Governing Financial Statements

In India, the format and contents of the Financial Statements of companies is governed by the provisions of the Companies Act, 2013. The relevant sections of the Act containing the provisions are provided below:

Legal Requirements as to the Submission of Financial Statements

Section 129 of the Companies Act, 2013 specifies the following regarding the annual accounts to be drawn up by a company:

- At every Annual General Meeting of the shareholders, the Board of Directors of the company should lay before the shareholders, a balance sheet as at the end of the accounting period which has just ended and a statement of profit and loss for such accounting period.
- Where a company is not carrying on business for profit, an income and expenditure account shall be laid before the company at its annual general meeting instead of a statement of profit and loss.
- The annual accounts of the company must be submitted in an Annual General Meeting within six months counted from the last day of the accounting period to which the accounts relate.
- The period to which the accounts relate is known as the financial year and it may be about 12 months. As per Section 2 (41) of the Companies Act, 2013 financial year is defined as "financial year, in relation to any company or body corporate, means the period ending on the 31st day of March every year, and where it has been incorporated on or after the 1st day of January of a year, the period ending on the 31st day of March of the following year, in respect whereof financial statement of the company or body corporate is made up."
- If any company or body corporate already in existence as on the commencement of Companies Act 2013, does not have a financial year ending on March 31, then it should within a period of two years ensure that its financial year is aligned to March 31 every year.

Chapter 2: Introduction to Financial Statement Analysis

(K. Rajya Lakshmi, C. Padmavathi, UL Sunitha and Kirthika)

Introduction

Financial statements are prepared with an objective of facilitating decision-making. They play a major role in providing the necessary framework for managerial decisions. The information provided in the financial statements is not an end in itself and are inadequate to draw meaningful conclusions from it. In fact, financial statements communicate an enterprise's economic events in an aggregate form containing highly abstracted data. The analysis and interpretation of this data is of immense help in decision-making. Financial statement analysis consists of the application of analytical tools and techniques to the data in financial statements in order to derive from them measurements and relationships that are significant and useful for decision-making. In this chapter, we shall understand the nature, purpose and importance of financial statement analysis. We shall also be discussing the information needs of various users of financial statement analysis, sources of financial statement analysis, tools and techniques and the limitations of financial statement analysis.

Nature of Financial Statement Analysis

Financial statement analysis involves gaining an understanding of an organization's financial situation by reviewing its financial reports. The results can be used to make investment and lending decisions. Financial Statement Analysis is the art and science of examining and drawing inferences from the financial statements. Financial analysis is also known as analysis and interpretation of financial statements. It refers to the process of determining financial strengths and weaknesses of the firm by studying the relationship between the items of the balance sheet, profit and loss account and the other operative data. According to Stewart C. Myers, the author of Principles of Corporate Finance, "Financial statement analysis is largely a study of relationship among the various financial factors in a business as disclosed by a single set of statements, and a study of the trend of these factors as shown in a series of statements."

The term 'financial statement analysis' contains both 'analysis' and 'interpretation'. Therefore, a distinction should be made between the two terms. The term analysis is used to mean the simplification of the financial data by methodical classification of the data given in the financial statements, on the other hand, interpretation means, explaining the meaning and significance of the data so simplified. Analysis and interpretation are inter-linked and complementary to each other. Both are inter-dependent. Most writers use the term 'analysis' only to cover the meaning of both analysis and interpretation as the objective of analysis is to study the relationship between various items of financial statements by interpretation. The usage of the term "financial statement analysis" or simply "financial analysis" is to cover the meaning of both analysis and interpretation.

Central focus of financial analysis is evaluating the company's ability to earn a return on its capital that is at least equal to the cost of that capital, to profitably grow its operations, and to generate enough cash to meet obligations and pursue opportunities.

Chapter 3: Financial Ratio Analysis

(K. Rajya Lakshmi, C. Padmavathi, UL Sunitha and Kirthika)

Introduction

Financial statements provide financial data, which requires analysis, interpretation and comparison. Internal users use this analysis for evaluating the efficiency of the management and the external users use it to decide upon whether the firm is good for investment. Thus, we see that besides financial statements, its analysis and interpretation are also very important. This analysis and interpretation of financial statements and their comparison with others form the major part of ratio analysis.

The financial statements contain quantitative information and may not provide qualitative information. Hence, it is necessary to interpret the financials, as to have an intra-firm performance analysis over a given period of time, and inter firm comparative analysis within the same industry.

Financial ratio analysis is the calculation and comparison of ratios, which are derived from the information in a company's financial statements. The level and historical trends of these ratios can be used to make inferences about a company's financial condition, its operations and attractiveness as an investment.

Ratio analysis is a very powerful tool used for measuring performance of an organization. It concentrates on the inter-relationship among the figures appearing in the financial statements. It helps to analyze the past performance of the firm and also to make further projections. It is a process of comparing one figure against another, which makes a ratio, and the appraisal of the ratios to make proper analysis about the strengths and weaknesses of the firm's operations. The actual calculation of the ratios involves an application of the necessary formulae; however, it is the analysis of these ratios, which is significantly a complicated task, even for a skilled analyst. In this chapter, we will be discussing the importance of ratio analysis, classification of ratios and limitations of financial ratios.

Importance of Ratio Analysis

Ratios are the best tools for measuring liquidity, solvency, profitability and management efficiency of the firm. The importance of ratio analysis is discussed below:

i. It helps in analyzing the probable causal relationships among different items after analyzing the past results.

ii. These ratios that are derived after analyzing the past results help the management to prepare budgets, to formulate policy, and to prepare a future plan of action.

iii. It takes the time dimension into consideration through trend analysis. Trend analysis using ratios helps in understanding the performance of the company over a period of time.

iv. It is also called the surveyor of efficiency as it throws light upon the efficiency of the management and the degree of utilization of assets by the business.

v. Ratio analysis helps in making inter-firm comparisons and also comparisons between the different divisions of the company.

vi. The short-term liquidity position of the firm can be easily ascertained by applying the liquidity ratios. Often a firm may have the assets, however may be short of short-term funds. Liquidity ratios help in understanding the firm's short-term liquidity position.

Management Accounting



Editor
K. Rajya Lakshmi

Management Accounting

Editor:
K. Rajya Lakshmi

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Management Accounting

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Chapter 1: Basic Cost Terms and Concepts

(K.Rajya Lakshmi, C. Padmavathi, UL Sunitha and Kirthika)

Introduction

The financial information derived from the financial statements is used by the management widely to arrive at decisions. However, in addition to the financial information, the management would also need information on cost data which is a crucial factor for decision-making. For example, a firm proposes to increase its output by 10%, is it reasonable to expect total cost to increase exactly by 10% or more or less than 10%? Such questions are concerned about cost concepts and basic cost behavior which can be available in the cost accounting records maintained by the business.

In this chapter, we will discuss the meaning of the terms cost, cost accounting and cost accountancy, and provide an overview of the different types of costs and various methods of costing. An insight into the concepts of cost unit and cost center, and a discussion on the characteristics of cost information for financial reporting purposes is also undertaken. We shall also derive the relation between cost behaviour and cost estimation and learn the preparation of statement of cost or cost sheet.

Meaning of Cost

It is very difficult to define the term 'cost'. Cost accountants, economists and others define the concept of 'cost' according to their needs. According to the Oxford Dictionary, cost means "the price paid for something".

The important definitions of costs are given below:

According to CIMA (Chartered Institute of Management Accountants), London cost is, "the amount of expenditure (actual or notional) incurred or attributable to a given thing".

According to the Committee on Cost Concepts and Standards of American Accounting Association, "Cost means economic sacrifice, measured in terms of standard monetary unit, incurred or potentially to be incurred, as a consequence of a business decision to achieve a specific objective".

According to ICAI (Institute of Chartered Accountants of India), the term cost can be used as a noun meaning the amount of expenditure (actual or notional) incurred on or attributable to a specific article, product or activity. As a verb it is used to ascertain the cost of a specified thing or activity.

In order to understand the meaning of the term 'cost', it should be used with a modifier or an adjective according to the specific purpose of its use.

The terms Costing, Cost Accounting and Cost Accountancy need to be interpreted to understand the concept of 'Cost'

Concepts of Cost, Costing, Cost Accounting & Cost Accountancy

ICAI, defines the terms as follows:

Cost is "the amount of expenditure (actual or notional) incurred or attributable to a given thing".

Costing is "the technique and process of ascertaining costs".

Chapter 2: Cost Analysis and Decision Making

(K.Rajya Lakshmi, C. Padmavathi, UL Sunitha and Kirthika)

Introduction

Managerial decision-making is the process of choosing one among alternative courses of action. The manager chooses that course of action, which he considers as the most effective for achieving goals and solving problems. Decision-making is an integral part of all management functions – planning, organization, coordination, and control. All decisions are futuristic in nature, involving a forecast of what management thinks is likely to occur. But future is highly uncertain. Thus, business decisions have to be made with the full realization that there is some probability of the prediction, which underlies the decision taken, going off the mark. Some decisions are routine in nature. These decisions take up very little of the manager's time either because there is very little uncertainty or because the cost is insignificant. On the other hand, managers have to take 'nerve-racking' decisions. The manager has to spend a considerable amount of time and thought on these decisions because they are crucial to the organization.

In this chapter, we will be discussing the significance of costs for decision making, meaning of Relevant Cost and Irrelevant Cost, Marginal Costing and Differential Cost Analysis and interpret the various managerial decisions on the basis of Cost information and analysis. We will also be discussing the various considerations required for fixation of selling price, different pricing methods, distribution related problems and the concept of target costing.

Concept of Relevant Cost and Irrelevant Cost

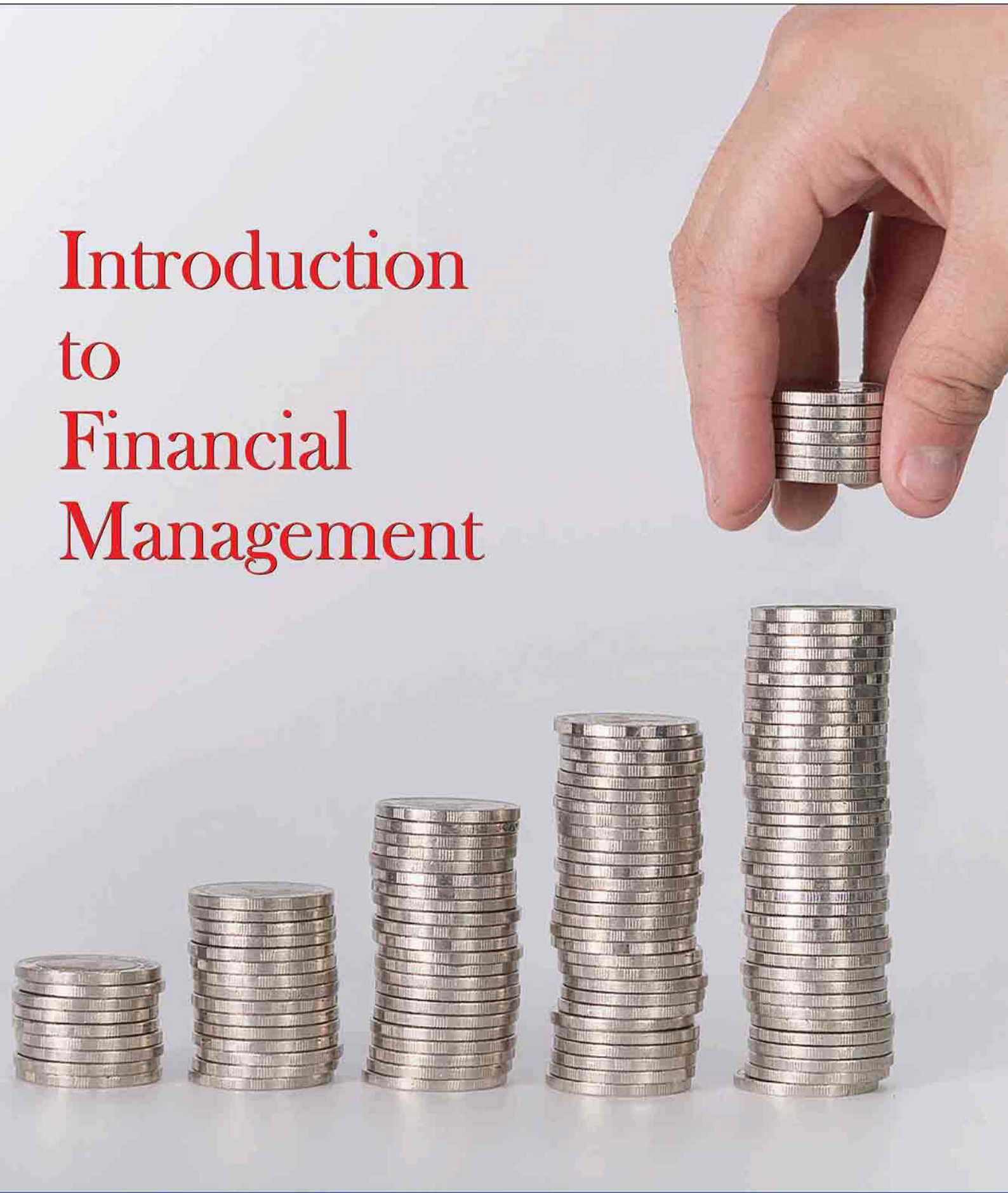
Any financial decision involves a cost-benefit analysis. One significant component of this analysis is to quantify the costs that are relevant for a decision. Cost data are important since they are the basis in making decisions that are geared towards maximizing profit, or attaining other objectives. However, not all costs are important in decision-making. This calls for a segregation of costs on the basis of their effect on a decision.

Such segregation is done by classifying costs into relevant costs and irrelevant costs. Examples of situations in which the relevant vs irrelevant classification is useful include decisions regarding:

- Shutting down a division of a business
- Accepting an special order at lower price
- Making a product in-house or purchasing it from outside
- Selling a semi-finished product or processing it further, etc.

Relevant Costs: Relevant costs are given the utmost importance in managerial decision-making. Their magnitude will affect a decision being made. The concept of managerial decision-making involves planning for the future of the business in terms of new products, entry into new markets etc., and other decisions like alternative course of actions to be taken at various situations. During the course of such decision-making, the management has to consider various cost related aspects. These costs are also called relevant costs as they are relevant for future decision-making. So, a cost can be considered as relevant cost if it is relevant and aids in helping the management to take right decision to achieve the objectives of the company.

Introduction to Financial Management



Editor
Naseem Ahamed

Introduction to Financial Management

Editor:
Naseem Ahamed

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Introduction to Financial Management

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Chapter 1: Introduction to Financial Management

(M.Dharani and U L Sunitha)

Introduction

Financial management has tremendous importance in the modern economic world. At the same time, it is becoming complex day-by-day. Finance managers who were hitherto confined to national markets are now looking towards international markets for their financing and investment activities. Financial management deals with financial planning and decision-making and includes all the tools and analysis for planning and decision-making. It is not confined to profit making alone. The common thread running through all the decisions taken by managers is money. There is hardly any manager working in an organization to which money does not matter.

Quite often, businesses are confronted with situations where decisions, which have important financial implications, need to be taken. It may be R&D, expansion of business, replacement of equipment, advertising or raising of funds domestically or internationally. This unit is intended to provide an overview of the financial management, its nature and objectives. The objectives revolve around the functions that a finance manager performs. The chapter also explores the scope of financial management by understanding the linkages that this discipline has with other disciplines, especially accountancy as most of the financial data is taken from the accounting records.

Difference between Accounting and Finance

The accounting process comprises of recording, classifying, summarizing, and interpreting the financial information in a business. Accounting is done with the twin objectives of ascertaining the profit or loss of the business after a specific period and evaluating the financial position of the business on a specific day. Accounting information has frequently been criticized as being historical and irrelevant for decision making.

However, the activities performed by a Finance Manager are much broader in scope than that of an Accountant or Accounts Manager.

Financial Management

Why Study Finance?

Finance and financial thinking are everywhere in our daily lives. Consider your decision to go to college. You surely weighed alternatives, such as starting a full-time job immediately, and then decided that the college provided you with the greatest net benefit. More and more, individuals are taking charge of their personal finances with decisions such as:

- When to start saving and how much to save for retirement.
- Whether a car loan or lease is more advantageous.
- Whether a particular stock is a good investment.
- How to evaluate the terms of a home mortgage.

Chapter 2: Financial Management Process

(M.Dharani, Senapathy and UL Sunitha)

Introduction

In the previous chapter , we discussed the various functions of financial management and its importance in the modern economic world. Financial management is applied not only by individuals or business organizations but also by governments. In addition, government activities and policies have a profound impact on the financial management decisions taken by all entities (individuals & all types of organizations) of the economy. Hence, understanding the flow of financial management process from a government perspective is vital. This chapter discusses some of the important issues in public finance such as five-year plans, public finance management, budgetary allocations, sources of finance for government entities, etc. The chapter also gives an overview of the corporate and individual financial management process.

Emphasizing on corporate financial management, the chapter describes the various forms of business organizations and their requirements for finance. The regulatory framework laid down by government within which these organizations take financial decisions is also outlined.

Flow of Financial Management Process in Government

Financial Management is an effective tool for proper funding and deployment across the board to all entities – individuals, firms of all types and the government. The flow of financial management process in a government can be discussed as follows:

The Inter-connectivity in Financial Management Process

Financial Management is the effective and efficient management of funds to achieve the objectives of the organization. It includes planning**,** organizing, directing and controlling the financial activities such as procurement, allocation and financial control taking into account various risks involved in the process. The four major objectives of financial management are to (i) ensure regular and adequate supply of funds to the organization, (ii) ensure adequate returns to the shareholders, (iii) ensure optimum utilization of funds and (iv) ensure safety on investments made.

The government policies and their execution play a pivotal role in financial management of business firms and individuals in general. Direct and indirect taxes, fiscal and monetary policies, trade policy, the scope for external borrowing by individuals and firms, etc., are within the powers of the Central government in our country.

Planning Commission and Five-Year Plans

After Independence, the Government felt the importance of developing the country economically; and the first five-year plan was initiated in 1951 with focus on primary sector, and subsequent five-year plans with focus on other areas based on the Government priorities. The Planning Commission was formed in March 1950 based on the recommendations of the Economic Program Committee (EPC). The Planning Commission’s objectives were:

Chapter 3: Financial System – Indian and International Scenario

(M.Dharani, Senapathy and UL Sunitha)

Introduction

The financial system is one of the most important developments of the modern society. The phenomenon of imbalance in the distribution of capital or funds exists in every economic system. There are areas or people with surplus funds and there are those with a deficit. A financial system functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A financial system is a composition of various institutions, markets, regulations and laws, practices, money managers, analysts, transactions and claims and liabilities.

The financial system helps determine both the cost and the volume of credit. The system can affect a rise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Vice-versa, lowering the cost of credit can enhance all the above factors in the positive direction. Thus we find that a financial system has an impact on the basic existence of an economy and its citizens.

This unit provides an overview of the financial system, and the role of financial markets and financial institutions in it. It also discusses the functions of the Reserve Bank of India, commercial banks and gives an overview of the International Financial System.

Features of Financial system

The financial system of a country is an important tool for economic development of the country, as it helps in creation of wealth by linking savings with investments. It facilitates the flow of funds form the households (savers) to business firms (investors) to aid in wealth creation and development of both the parties.

The financial system of a country is concerned with:

- Allocation and Mobilization of savings
- Provision of funds
- Facilitating the Financial Transactions
- Developing financial markets
- Provision of legal financial framework
- Provision of financial and advisory services

According to Robinson, the primary function of a financial system is “to provide a link between savings and investment for creation of wealth and to permit portfolio adjustment in the composition of existing wealth”

A Financial System consists of various financial Institutions, Financial Markets, Financial Transactions, rules and regulations, liabilities and claims etc.

- It plays a vital role in economic development of a country
- It encourages both savings and investment

Chapter 4: Time Value of Money

(M.Dharani and U L Sunitha)

Introduction

The time value of money is an important part of financial management. Time value of money is all about compounding and discounting the rupee value. Suppose you can buy 10 mangoes for Rs.100 today. However, you can buy only 9 mangoes of the same quality for the same amount after one year. You cannot purchase the same quantity or more because the purchasing power of money has declined in the future. This is called time value of money. Over a period of time, the value of Rs.100 depreciates. This whole idea, when applied to the business world, means investing in the present market in those projects, which would yield higher return in the future market/period or comparing the future yields from the project to the present market. This chapter intends to provide an overview of time value of money and applicability of various concepts of time value of money.

Meaning of Time Value of Money

To keep pace with the increasing competition, companies have to go in for new ideas implemented through new projects - be it for expansion, diversification or modernization. A project is an activity that involves investing a sum of money now in anticipation of benefits spread over a period of time in the future. How do we determine whether the project is financially viable or not? Our immediate response to this question will be to sum up the benefits accruing over the future period and compare the total value of the benefits with the initial investment. If the aggregate value of the benefits exceeds the initial investment, the project is considered to be financially viable.

While this approach *prima facie* appears to be satisfactory, we must be aware of an important assumption that underlies. We have assumed that irrespective of the time when money is invested or received, the value of money remains the same. Put differently, we have assumed that: value of one rupee now = value of one rupee at the end of year 1 = value of one rupee at the end of year 2 and so on. We know intuitively that this assumption is incorrect because money has time value. How do we define this time value of money and build it into the cash flows of a project? The answer to this question forms the subject matter of this chapter.

We intuitively know that 1,000 in hand now is more valuable than 1,000 receivable after a year. In other words, we will not part with 1,000 now in return for a firm assurance that the same sum will be repaid after a year. But we might part with 1,000 now if we are assured that something more than 1,000 will be paid at the end of the first year. This additional compensation required for parting with 1,000 now is called ‘interest’ or the time value of money. Normally, interest is expressed in terms of percentage per annum for example, 12 per cent p.a., or 18 per cent p.a., and so on.

Why should Money have Time Value?

Here are some important reasons for this phenomenon:

Money can be employed productively to generate real returns. For instance, if a sum of 100 invested in raw material and labor results in finished goods worth 105, we can say that the investment of 100 has earned a rate of return of 5 per cent.

Chapter 5: Sources of Long-term and Short-term Finance

(M.Dharani and U L Sunitha)

Introduction

The financial needs of an organization can be broadly classified into two heads: Short-term financial needs; and long-term financial needs. Both these needs are financed either by short-term funds or long-term funds. It is prudent for an organization to meet its long-term fund requirement from long-term sources of finance rather than short-term sources.

The long-term sources comprise shares, debentures and other long-term loans. The short-term financial instruments are treasury bills, commercial paper, certificate of deposits and bills of exchange.

Short-term financial decisions are covered under working capital management. Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities, and the inter-relationship that exists between them.

This chapter provides an insight into the nature of long-term finance and short-term finance and different types of capital that a company can issue. It also talks about procedure for issue of different securities, short-term financial instruments and the concept of working capital management.

Need for Long-Term Finance

Business firms need finance mainly for two purposes – to fund the long-term decisions and for meeting the working capital requirements. The long-term decisions of a firm involve setting up of the firm, expansion, diversification, modernization and other similar capital expenditure decisions. All these decisions involve huge investment, the benefits of which will be seen only in the long-term and are also irreversible in nature. By nature of these projects, long-term sources of funds become the best suited means of financing. One of the most important considerations for an investment and financing decision will be proper asset-liability management. Companies will have to face a severe asset-liability mismatch if the long-term requirements are funded by the short-term sources of funds. Such a mismatch will lead to an interest rate risk thereby enhancing the interest burden of the firm and a liquidity risk with the short-term funds being held up in long-term projects. Let us consider the costs and means of finance of a project.

Illustration 5.1

Ponni Sugars & Chemicals Ltd., is setting up a new sugar mill in Orissa. The details of cost of the project and the means of financing are given below:

	Particulars	(₹ in lakh)
	Cost of the Project:	
1.	Land and Site Development	102
2.	Buildings	543
3.	Plant and Machinery	2,959
4.	Miscellaneous Fixed Assets	176
5.	Fees for Consultants	55
6.	Preliminary and Pre-operative Expenses	445
7.	Provision for Contingencies	210
8.	Margin Money for Working Capital	60
	Total	4,550

Chapter 6: Basics of International Trade and Finance

(M.Dharani and U L Sunitha)

Introduction

International finance or international macro-economics is a wide subject that covers contemporary issues such as:

Why was the INR (Indian Rupee) so volatile against the USD (US Dollar)?

Should we liberalize our domestic capital markets to accept FDI (Foreign Direct Investment) and FPI (Foreign Portfolio Investment)?

What is the impact of higher FDI and FPI on domestic inflation?

Similarly, at a corporate level, finance managers of MNCs who try to maximize shareholder wealth by playing across geographical markets have to live with the harsh reality of varying tax rates, interest rates, inflation rates, and exchange rates of the host countries. The competitiveness of an MNC depends on how they manage their international finance function effectively. Hence, MNCs want to know answers to questions like: Should we invest in China? Should we serve US/European markets? In today's globalized world, international trade, investments and aid will influence the movement of exchange rates. Volatile exchange rates influence revenues, costs, cash flows, profits, and thereby the market capitalization (measure of shareholder wealth). Every student of finance should gain mastery over this subject of international finance as it deals with causal factors of changing exchange rates and its impact on global trade and investments.

Need for International Finance

Financial management of a company is a complex process, involving its own methods and procedures. It is made even more complex because of globalization, which makes the global financial and commodity markets more and more integrated. The integration is both across countries as well as markets. Not only the markets, but even the companies are becoming international in their operations and approach.

When a firm is a pure domestic play, it operates only in the home country, both for procuring inputs as well as selling its output; it needs to deal only in the domestic currency. As companies try to increase their international presence, either by undertaking international trade or by establishing operations in foreign countries, they start dealing with people and firms in various nations. Since different countries have different domestic currencies, the question arises as to which currency should be used to settle the trade. The settlement currency may either be the domestic currency of one of the parties to the trade, or may be an internationally accepted currency. This gives rise to the problem of dealing with a number of currencies. The mechanism by which the exchange rate between these currencies (i.e. the value of one currency in terms of another) is determined, along with the level and the variability of the exchange rates, can have a profound effect on the sales, costs and profits of a firm. Globalization of the financial markets also results in increased opportunities and risks on account of the possibility of overseas borrowing and investments by the firm. Again, the exchange rates have a great impact on the various financial decisions and their movements can alter the profitability of these decisions.



Financial Reporting and Analysis

Editor
M Saritha

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Financial Reporting and Analysis

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Chapter 1: Introduction to Financial Reporting

(Bhanu Sireesha and Suresh Babu Addepalli)

Introduction

Rapid growth in cross-border investment over the last two decades has resulted in an increasing demand for high quality, and uniform financial reporting. Majority of the investment decisions are primarily made on the publicly available information. Hence, there is growing emphasis for credible, comparable and transparent financial reporting, as it would ensure the effectiveness of capital markets.

This chapter is intended to provide a conceptual framework that defines preparation of financial statements, the objectives of financial reporting, and the qualitative characteristics and elements of financial statements. It discusses the diversities existing in reporting practices worldwide; it also introduces the Accounting Standards adopted internationally, and those adopted in United States and in India. It also deals with the important milestones leading to harmonization of Accounting Standards globally.

Financial Reporting – An Overview

With rapid changes in the global scenarios and technology, the distance between the markets have been reduced so as to enable the free flow of currency and resources across the globe, thus shifting from the traditional national economies to become a part of the global economy. The importance of relevant information is such that the investors are on constant lookout for reliable and accurate information, not only of their company but also of their company's competitors.

Thus, financial reporting reaches a wider audience than ever before, as audience demands relevance, transparency and credibility in the financial reporting. Some of the significant factors influencing financial reporting environment include aspects such as investor demand technology, globalization and global benchmarking.

What is Financial Reporting?

Financial Reporting is the vehicle used for communicating the activities of the company. It is the disclosure of financial results and related information to management and external stakeholders like investors, customers, regulators, etc. about how the company is performing over a specific period of time. Financial Reporting is defined broadly as the mechanism for providing information to all potential users about the financial indicators, performance and most importantly risk profile of the firm. It is one of the basic elements of financial infrastructure. Financial reporting comprising the financial statements that forms the basis to understand the financial health of companies, to assess their past and estimate future performance. The primary source of financial statements is the annual report, which represents a company's performance during the current year and also management's strategy for its future. Preparation of the financial statements for the users involves principles and procedures that can vary widely from country to country and sometimes within a country.

Chapter 2: Financial Ratio Analysis

(Suresh Babu Addepalli)

Introduction

In the previous chapter we have discussed about introduction to financial reporting and one of its reporting tool, Financial Ratio Analysis' is discussed in this present chapter.

Financial statements provide financial data, which requires analysis, interpretation and comparison. Internal users use this analysis for evaluating management efficiency and external users use it to decide whether the firm is a good investment or not. Thus we see that not just financial statements, but their analysis and interpretation are also very important. This analysis and interpretation of financial statements and their comparison with others form the major part of ratio analysis.

Financial ratio analysis is the calculation and comparison of ratios, which are derived from the information provided in a company's financial statements. The level and historical trends of these ratios can be used to make inferences about a company's financial condition, its operations and attractiveness as an investment.

Ratio Analysis is a very powerful tool and is useful for measuring the performance of an organization. It concentrates on the inter-relationship among the figures appearing in the financial statements. It helps to analyze the past performance of the firm and also to make future projections. It is a process of comparison of one figure against another, which makes a ratio, and the appraisal of the ratios to make proper analysis about the strengths and weaknesses of the firm's operations. The actual calculation of ratios is simply an application of the necessary formulae: however it is the analysis of these ratios, which is a significantly complicated task, even for a skilled analyst.

In this chapter, we will discuss the uses of common size statements, concept of ratio analysis, techniques of ratio analysis, and other tools such as breakeven analysis which are relevant for decision-making.

Common-size Statements

Common-size analysis expresses comparisons in percentages. Each element of the income statement or the balance sheet is expressed as a percentage of a relevant basis. In the case of income statements, the total revenues or sales form the basis, whereas in the case of Balance Sheet total of assets or in other words total of liabilities form the basis. This technique is also referred to as vertical analysis given the up-down (or down-up) movement of our eyes as they review the statements. Common-size financial statement analysis is an inquiry into the internal structure of financial statements.

As already explained, common-size statements are an important tool for analyzing the financial statements. Common-size analysis can be of two types – Common-size Income Statement Analysis and Common-size Balance Sheet Analysis.

Uses of Common-size Statements

i. **For inter firm/intercompany comparisons** – Common-size statements are especially useful for intercompany comparisons because financial statements of

Chapter 3: Quality of Earnings and Earnings Management

(Bhanu Sireesha and Suresh Babu Addepalli)

Introduction

Every financial analyst and potential investor is interested in ascertaining the earnings potential of the firm in which the latter intends to invest. The earnings potential of the firm is disclosed in the financial statements. Hence, only through an analysis of the amounts given in financial statements, one can derive conclusions about the earnings potential of the firm.

In the previous chapter we discussed the various tools for financial analysis. A complete analysis of the financial statements requires an understanding of their preparation. The preparation of the financial statements (Profit and Loss Account and Balance Sheet) are based on a number of assumptions or allocations which are prone to the subjective judgment of the firm, and which in turn enable the firm to manage its earnings. To ascertain whether such practices have been resorted to, the analyst needs to gauge or measure the quality of earnings projected by the firm.

Quality of earnings can be defined as "The amount of earnings attributable to higher sales or lower costs rather than artificial profits created by accounting anomalies."

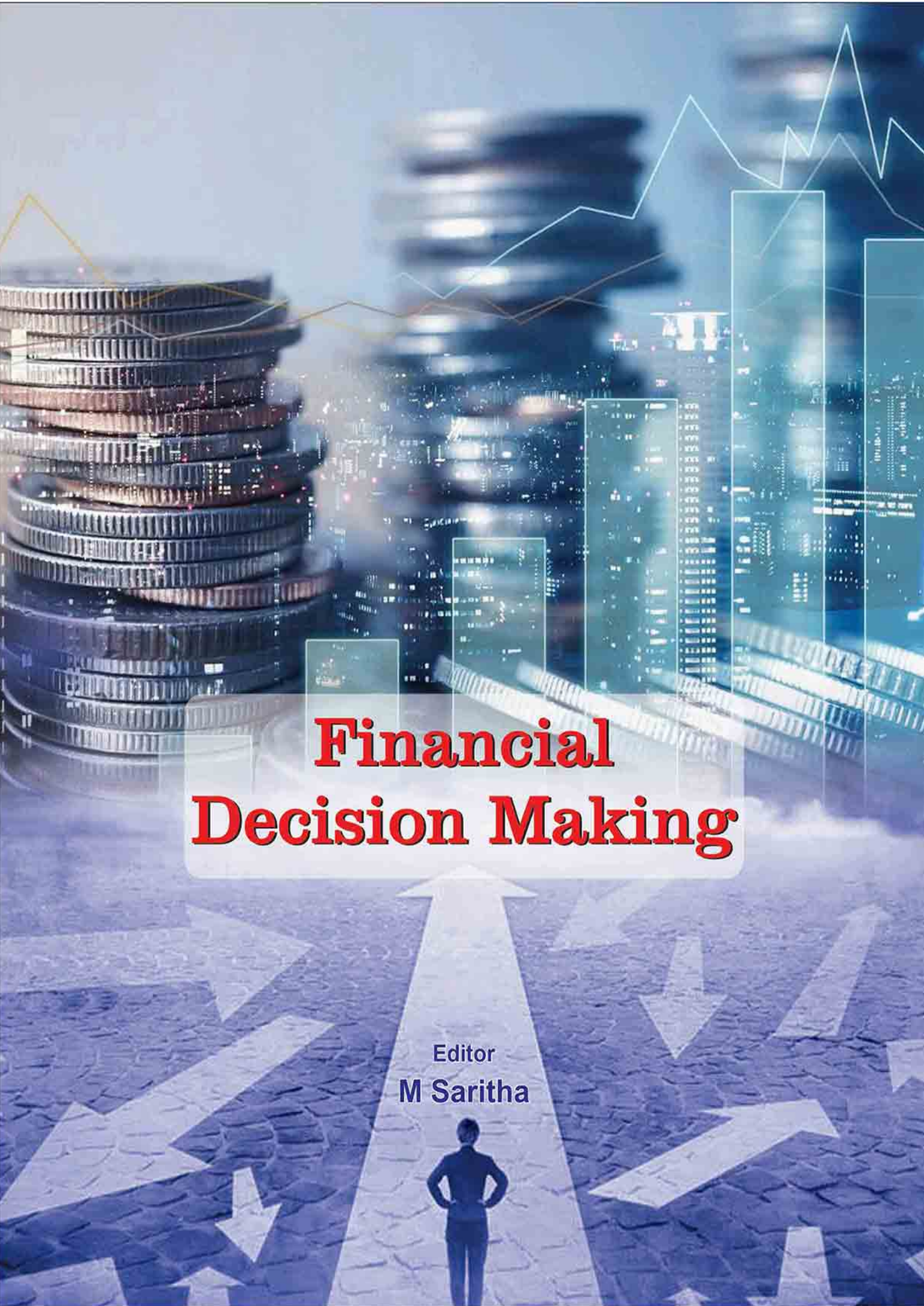
In measuring or valuing the quality of earnings, one important technique to be employed by the financial analyst is the analysis of cash flows. An analysis of cash flows becomes imperative as the traditional financial statements are prepared on the accrual basis and hence are not indicators of the liquidity of the firm. Cash flow analysis can be drawn from Cash flow statement.

In this chapter, we shall discuss in depth the cash flow statement, its components, and information disclosed in cash flow statements. We also discuss the various assumptions and policies that affect the quality of earnings.

Cash Flow Statement

While earnings only provide information about money coming into the business, cash flow statement is a statement addressing how a business receives money (from its sales and investments) as well as the ways in which it spends money (on operating expenses, capital investments, taxes and interest). The cash flow statement provides information regarding the cash inflows and outflows of an organization during a particular period. It provides a valuable analytical tool for the users of financial statements. The cash flow statement avoids many of the allocations and estimations, and personal judgments that are needed for conventional income statement preparation and hence is more objective and understandable than the traditional financial statements.

The cash flow statements are important from the view of investors and creditors because they provide vital information regarding the company's ability to generate future positive cash flows, meet obligations and pay dividends, satisfy its external financing. In United States, SFAS 95 as amended by SFAS 102 and SFAS 104 established the standards for cash flow reporting.



Financial Decision Making

Editor
M Saritha

Financial Decision Making

Editor:
M Saritha

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Financial Decision Making

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Chapter 1: Cost-Volume-Profit Analysis

(Suresh Babu Addepalli)

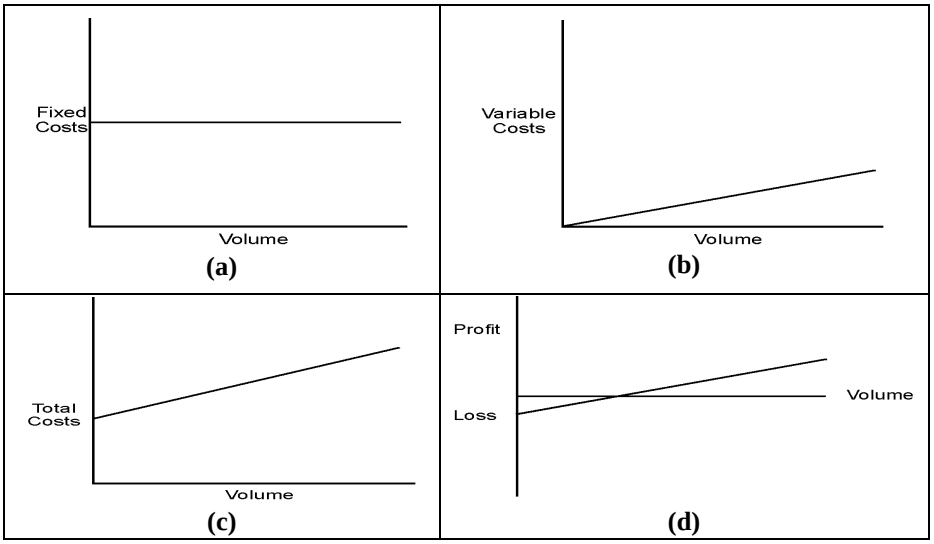
Introduction

Cost-Volume-Profit (CVP) Analysis studies the relationship of cost, volume and profit. These three factors are interrelated. The cost of the product determines its selling price, and selling price determines the profit. Selling price affects the volume of sales, which directly affects the volume of production; and the volume of production influences the cost. In brief, variations in volume of production result in changes in cost and profit. According to CIMA, London, "CVP analysis is the study of the effects on future profits of changes in fixed cost, variable cost, sales price, quantity and mix". This is the most important technique, which is used in managerial decision-making and profit planning.

The Relationship of Costs and Profits with Volume

In Management Accounting it is very important to find out how costs and profits vary in relation to changes in volume, i.e., quantity of the product manufactured and sold. Under certain assumptions (discussed later), the relationships are usually found to be linear (refer figure 1.1). This means that if we draw a graph with volume on the X-axis and costs or profits on the Y-axis, the graph will be a straight line.

Figure 1.1: Relationship of Costs with Volume



Source: ICFAI Research Center

All the above linear relationships hold good under three assumptions, namely

1. Every cost can be classified as fixed cost or a variable cost. Fixed costs remain the same even if the volume (i.e., quantity of product manufactured and sold) changes. A cost like factory rent would be an example of a fixed cost.

   On the other hand, variable costs vary in proportion to changes in activity. An example of a variable cost is raw material. If volume of production increases by say 10% then we can expect raw material costs also to increase by 10%.

Chapter 2: Decisions Involving Alternative Choices

***(Suresh Babu Addepalli*)**

Introduction

Managerial decision making is the process of choosing among alternative courses of action. The manager chooses that course of action which he considers the most effective means at his disposal for achieving goals and solving problems. Decision-making is an integral part of all management functions – planning, organization, co-ordination and control. All decisions are futuristic in nature, involving a forecast of what management thinks is likely to occur. But we must not forget that the future is highly uncertain. Thus with uncertainty surrounding business decisions, decisions have to be made with the full realization that there is some probability of the prediction which underlay the decision taken, going wide off the mark. Some of the decisions which managers take are routine in nature. These decisions take up very little of the manager's time either because there is very little uncertainty or because the cost is insignificant. On the other side of the coin we have those "nerve-racking" decisions which managers have to take. The manager has to spend a considerable amount of time and thought on these decisions because they are crucial to the organization, totally surrounded by uncertainty and involves large sums of money.

Steps in Decision Making

Before discussing the use of accounting information useful for decision-making, it is helpful to look at the process of decision-making itself. While this process is complex and not amenable to standardization, the following steps seem useful for most of the problems:

- Defining the problem
- Developing alternative solutions
- Evaluating the alternatives
- Arrive at a decision.

Defining the Problem

Identifying a problem is the first and often a very critical step in the process of decision making. While this may be fairly easy in some cases, it might be more difficult in others. Perceptive analysis and insight may be required to articulate the problem. The real problem may have to be distinguished from the apparent one.

Developing Alternative Solutions

Once the nature of a problem is understood, alternative courses of action to solve it have to be developed. This requires a sound understanding of the factors causing the problem and imaginative thinking about ways and means that can solve it. In the initial stages of developing alternative solutions several possibilities may arise. The analyst should eliminate those which are clearly unattractive and narrow his choice down to a few, perhaps two or three. This will prevent the analysis from becoming complex and unwieldy. Of

Chapter 3: Budgeting and Budgetary Control

(Suresh Babu Addepalli)

Introduction

Basically, management is the coordination of human effort, i.e., the accomplishment of goals by utilizing the efforts of other people. Management is termed efficient if it accomplishes the objectives with minimum effort and costs. Management planning and control has been recognized as one of the most important approaches for facilitating effective performance of the management process.

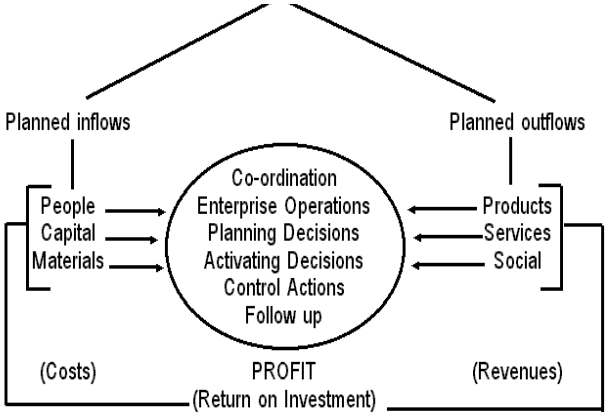
While all business endeavors have multiple objectives of profit and contribution to the economic and social improvement, non-business endeavors have relatively precise objectives generally to be accomplished within specified cost constraints. Whether it is a business or non-business endeavor it is essential that the management and other interested parties are very well acquainted with the objectives and goals so that proper managerial guidance could be given and the effectiveness with which the desired activities are performed could be measured.

So, whatever be the endeavor, the management process essentially conforms to the general pattern – planning, co-ordination and control. With the increasing competition among profit-making enterprises, the concept of profit planning and control system has gained wide acceptance which requires management to design its course in advance and use appropriate techniques to assure co-ordination and control of operations.

Steps in Management Planning and Control

Management planning and control means the development and acceptance of objectives and goals and moving an organization efficiently to achieve the desired objectives and goals. It is not a separate technique but entails an integration of all the functional and operational aspects of an enterprise.

Figure 3.1: Planning and Controlling Inflows and Outflows for Profit



Source: ICFAI Research Center

Chapter 4: Standard Costing and Variance Analysis

(Suresh Babu Addepalli)

Introduction

One of the most important objectives of cost accounting is to provide necessary information to management for cost control. But, the control function of management can be effective only if it is preceded by planning. The basic objective of any type of control is to ensure that actual performance conforms to a predetermined plan. Hence, for purposes of cost control it is necessary to have planned costs indicating what the management wants to achieve. This is where standard costing comes in, as it is one of the ways of planning costs.

Standard costing refers to the principles and procedure which involve the use of predetermined standard costs relating to each element of cost, and for each line of product manufactured or service rendered. A standard cost is an estimated cost which suggests what the cost should be under given conditions. The significance of standard costing can be understood better if it is viewed in contrast to actual historical costing. The system of costing in which costs are recorded after they are incurred is known as historical costing.

Historical Costing and its Limitations

Historical costing has its own usefulness. It provides management with a record of what has happened. Information regarding actual costs classified by elements are known to management accurately, at frequent intervals. The cost data can be verified with the help of documents and evidence regarding various transactions. The result of activities can also be known on the basis of actual performance. However, there are three serious limitations of historical costing which are given below:

- Actual records do not provide any basis for cost comparisons to evaluate the efficiency of operations;
- Historical costs data are available only after a time-lag. Thus, corrective action cannot be taken in time to prevent losses;
- Historical costs fail to provide any guidance for future planning of operations, because they arise out of the conditions peculiar to a particular period of time.

These limitations are sought to be overcome in the system of standard costing.

Definition of Standard Costing

The Terminology of Cost Accountancy defines standard costing as “the preparation and use of standard costs, their comparison with actual costs, and analysis of variances to their causes and points of incidence”.

The technique of standard costing thus involves:

- The ascertainment of standard costs
- The use of standard costs

Business Contracts



Editor
M Saritha

Business Contracts

Editor:
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Business Contracts

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Chapter 1: Law of Contracts

(D S Chary, A V Narasimha Rao and Aparna M)

Introduction

The daily life of an individual is governed by innumerable agreements such as the purchase of a bus ticket, a cool drink, or giving a vehicle for repair, which involve contracts. However, the Law of Contracts focuses not only on these simple consumer transactions but also on more complicated commercial transactions taking place between corporates.

All these contracts as such create legal rights and obligations.

The law of contracts is considered as a part of the law of obligations. A contract creates self-imposed obligations. It establishes the reciprocal responsibilities of the parties along with the extent and standard of their performances. Finally, it also makes allowance for any loss arising out of any mishap or non-happening of any event. In this chapter we shall deal with all the important aspects of contract law.

Meaning of a Contract

A contract is the result of a promise to do or not to do a certain thing in exchange for a promise from another person. Contract law assures that the promise so made is legally enforced, if any one of the parties fails to abide by the contract.

A contract is said to create a legal bond – a *vinculum juris*. This arises only when the parties have intended to create a legal relationship between them. The infringement of such obligations will make the parties liable to the extent of the loss suffered by the aggrieved party for non-performance of the agreed act.

Balfour vs. Balfour: Balfour was employed in Ceylon and he promised to send his wife, 40 pounds a month so long as they had to remain separate. The wife owing to her ill health had to stay in England and could not accompany him to Ceylon. Subsequently the husband failed to send the money as agreed. The wife sued for breach of contract. It was held that this agreement was not a contract enforceable in a Court of Law. The principle laid down is 'Agreements of social or domestic nature shall not constitute legal relationships and thus not valid contracts. Such agreements are not enforceable in the court of law'.

All the definitions of contract refer to agreements between individuals and are enforceable by law constitutes two basic requirements. They are:

- An agreement.
- Legal enforceability.

According to Section 2(h) of the Contract Act, "An agreement enforceable by law is a contract."

According to Section 2(e) of the Act, "Every promise and every set of promises, forming the consideration for each other, is an agreement."

Chapter 2: Special Contracts

(D S Chary, AV Narasimha Rao and Aparna M)

Introduction

In our earlier chapter we have learnt the general principles and rules governing contracts.
In this chapter we shall deal with contract of agency, indemnity and guarantee, bailment and pledge which are contracts of special nature.

Contracts of indemnity and guarantee are dealt under Sections 124 to 147 of the Indian Contract Act, 1872. Indemnity in general is the protection given against loss or a security against or compensation for loss. The law relating to agency is dealt in sections 182 to 238. An agent is a connecting link between the principal and third parties as it is very difficult to attend all matters personally, wherever necessary, to bring the legal relations in this complex modern business world. Additionally, this chapter also deals with essentials of employment contracts and documentation of commercial contracts.

Contracts of Indemnity

According to Section 124 of the Indian Contract Act, 1872 a contract by which one party promises to save the other from loss caused to him by the conduct of the promisor himself or by the conduct of any other person, is called a 'contract of indemnity'.

A contract of insurance is an example of a contract of indemnity according to English Law. In consideration of a premium the insurer promises to make good the loss suffered by the assured on account of the destruction by fire of his property insured against fire. The person who promises or makes good the loss is called the indemnifier (promisor) and the person whose loss is to be made good is called the indemnified or indemnity holder (promisee).

However, a contract of life insurance does not come under the category of a contract of indemnity. This is because, in the case of life insurance, the insurer agrees to pay a certain sum of money either on the death of a person or on the expiry of a stipulated period of time. The question of having suffered a loss does not arise. Moreover, as the life of a person cannot be valued, the whole of the sum assured becomes payable and for that reason also it is not a contract of indemnity.

The contract of indemnity in a real sense is a contingent contract. It must have all essentials of a valid contract. It can be expressed or implied. It is relevant to discuss the following cases in this regard.

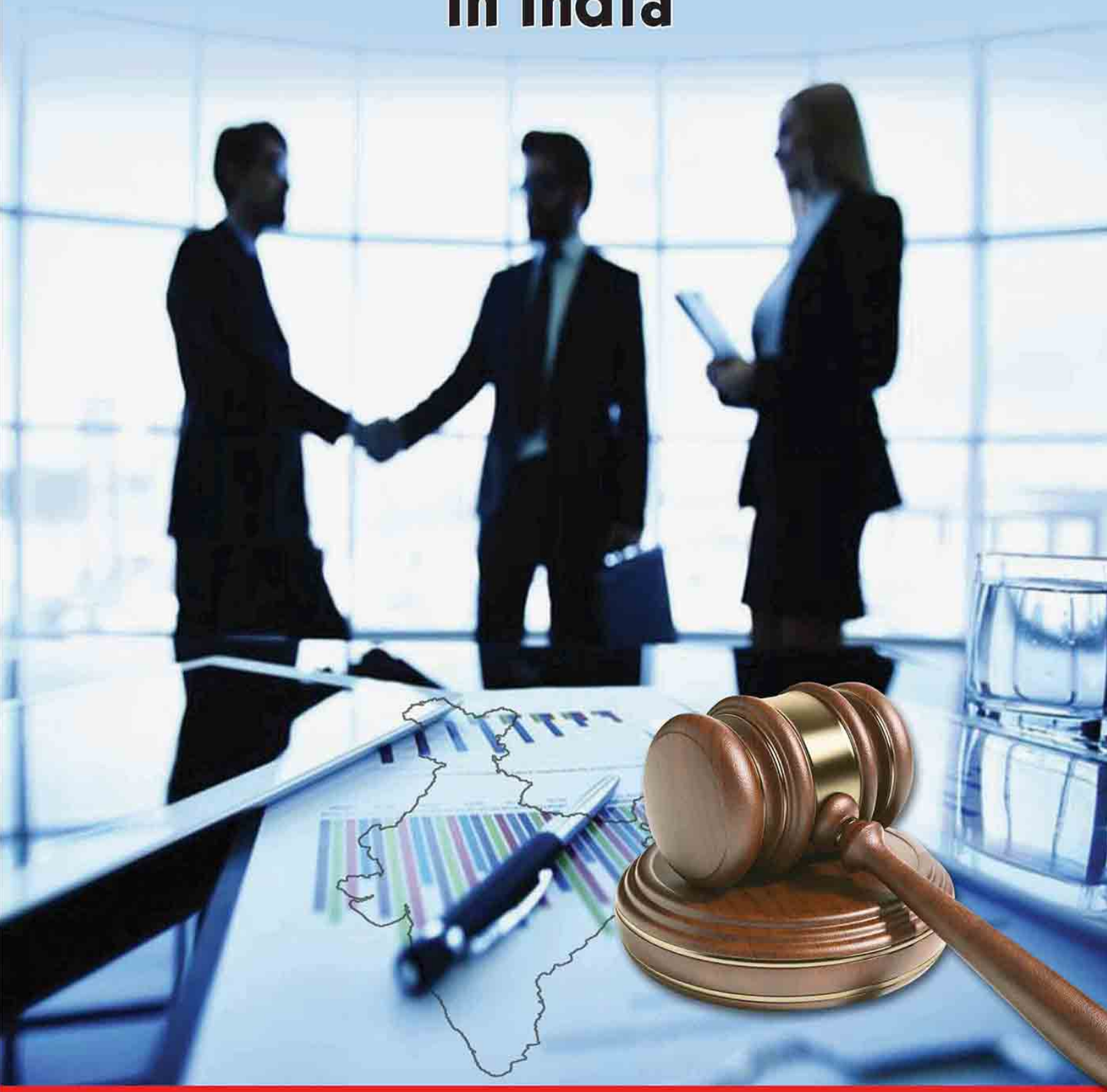
Certain rights have been granted to the indemnity holder under Section 125.

Rights of Indemnity Holder when Sued

The promise in a contract of indemnity, acting within the scope of his authority, is entitled to recover from the promisor:

- All damages within the scope of the terms of the indemnity;
- All costs which he may be compelled to pay in any such suit if, in bringing or defending it, he did not contravene the orders of the promisor and acted as it would have been prudent for him to act in the absence of any contract of indemnity, or if the indemnifier authorized him to bring or defend the suit;

The Law Relating to Corporate Business Entities in India



Editor
M Saritha

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The Law Relating to Corporate Business Entities in India

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Chapter 1: Formation and Organization of Company

(D S Chary, AV Narasimha Rao and Aparna M)

Introduction

Every individual who wishes to start a business should have a basic understanding of the regulatory requirements needed to set up a business. A company form of business is the most popular form of business organization.

In this chapter, we shall deal with the laws governing companies' form of business entities.

Salient Features of a Company

A company is a voluntary association of persons formed for the purpose of doing business, having a distinct name and limited liability. It is a juristic person having a separate legal entity distinct from the members who constitute it, capable of rights and duties of its own and endowed with the potential of perpetual succession.[1]

Companies are those business entities that are incorporated under separate enactments. They have a distinct legal personality, separate from the persons constituting it. The word 'corporation' or the word 'body corporate' is defined in Clause (11) of Section 2 of the Companies Act, 2013:

"Body corporate" or "Corporation" includes a company incorporated outside India but does not include –

- A co-operative society registered under any law relating to co-operative societies; and
- Any other body corporate not being a company which the Central Government may, by notification in the Official Gazette, specify in this behalf.

A company under the Company Law is a company incorporated under this Act or under any previous company law [Section 2(20)]. A company is allowed to incorporate only for a lawful purpose. A company can either be a public company, private company or a one person company. One person company is a form of private company.

To form a company, requisite numbers of persons decide the type of company to be incorporated. To incorporate a public company, seven or more persons is a requisite number. For a private company, two or more persons and for one Person Company, one person is the requisite number. The said persons shall subscribe their names or name to a memorandum of the company and fulfils all the requirements of incorporation stated in the Companies Act, 2013. [Section 3(1)]

The following are the characteristic features of a company (Refer Figure 1.1):

Independent Corporate Entity

One of the important features of a company is its separate legal entity once it is incorporated or registered under the Companies Act.

[1] Salomon vs. Salomon Co. Ltd (1997) A.C.22.

Chapter 2: Company Management and Winding Up

(D S Chary, A V Narasimha Rao and Aparna M)

Introduction

In our earlier chapter we have studied the features of a company, types of companies, different kinds of shares and doctrines of ultra vires and indoor management. On incorporation, a company becomes a legal entity – an artificial person. Being a legal entity, it conducts its business with the help of representatives chosen by the shareholders. These representatives are termed as Directors.

In this chapter we shall discuss the rights, duties and liabilities of directors. In addition, we shall also discuss the different types of meetings, provisions governing the change in form as a result of amalgamations and reconstruction and other aspects as winding up, and dissolution of a corporate entity.

Company Management - Directors

On incorporation, a company becomes a legal entity and artificial person. Being a legal entity, it conducts its business with the help of representatives chosen by the shareholders. These representatives are termed as 'Directors'.

In order to determine whether a person is the director, it is important to see if that person is appointed and authorized by the articles to act on behalf of the company or not. It should be noted that a person who performs all the functions of a director, but who is not duly appointed as one cannot be considered as a director. Only an individual should be the director of a company.

The Companies Act, 2013 repeals the old provision that provides that an individual to become a director needs to hold qualification shares as specified under the Act.

Legal Status of a Director

As a Trustee

A director of the company occupies a position of a trustee in relation to the company. As a trustee, he should exercise his powers for the benefit of the company and its shareholders.

As an Agent

The relationship between the company and its directors can also be construed as one of principal and agent. When the directors act on behalf of the company, the company is liable for all the acts performed within the authority of the directors.

They will also be held personally liable when they

a. Enter into contracts in their own names.
b. When they use the name of the company incorrectly.
c. When it is not clear as to who is signing the contract (that is, whether the principal or the agent) and the act performed is the ultra vires to the company.

Tax Laws in India



Editor
Bhanu Sireesha

Tax Laws In India

Editor:
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Chapter 1: Direct Taxes

(Bhanu Sireesha, A V Narasimha Rao and Aparna M)

Introduction

The origin of the word "**Tax**" is from the Latin taxo which means an estimate. A tax is a compulsory financial charge or some other type of levy imposed upon a taxpayer (an individual or legal entity) by a governmental organization in order to fund various public expenditures. A failure to pay, along with evasion or avoidance of taxation, is punishable by law.

Tax**es** are levied in almost every country of the world, primarily to raise revenue for government expenditures, although they serve other purposes as well. For example, taxes are used to pay for people who work for the government, such as the military and police, provide services such as education and health care, and to maintain or build things like roads, bridges and sewers.

In India, the system of taxation existed even in ancient times, which find references in Manu Smriti and Arthasastra. A detailed analysis given by Manu on the subject clearly shows the existence of a well-planned taxation system in ancient India. Taxes were paid as gold coins, cattle, grains, raw materials and also by rendering personal service. Present Indian tax system is based on this ancient tax system which was built on the theory of maximum social welfare.

In this chapter, we shall identify the different types of taxes and the various taxes that fall under each category. First, we shall deal with the first category of taxes – Direct taxes.

Types of Tax Systems

“Taxes are paid and nations are made”.

Any government collects different forms of direct and indirect taxes to meet up its expenses. This money is deployed for various purposes and projects for the development of the nation. Taxes are determined by the Central and State governments along with the local authorities such as municipal corporations. The government cannot impose any tax unless it is passed as a law.

There are three types of tax systems available across the globe. (Refer Figure 1.1)

Progressive Tax System: In a progressive tax rate system, higher income individuals pay a higher proportion of tax with a rise in their income. In this case, the marginal tax rate would be higher than the average tax rate. This system is cited as a method to reduce inequality in the society. Most economies around the world use a progressive tax system to assess taxes for individual income.

Proportional Tax System: In a proportional tax rate system, everyone pays the same proportion of his or her income as tax. Here, as the tax rate does not change with an increase or decrease in their income, the average tax rate will be equal to the marginal tax rate. This system exists in Ethiopia, Latvia, Lithuania, Ukraine and Russia, and is considered to be more ‘fair’ and easier method to manage for everyone. Some states in the U.S. like Colorado, Utah and Michigan impose a proportional income tax for individuals.

Chapter 2: Goods and Services Tax: An Overview

(Bharath Supra, A V Narasimha Rao and Aparna M)

Introduction

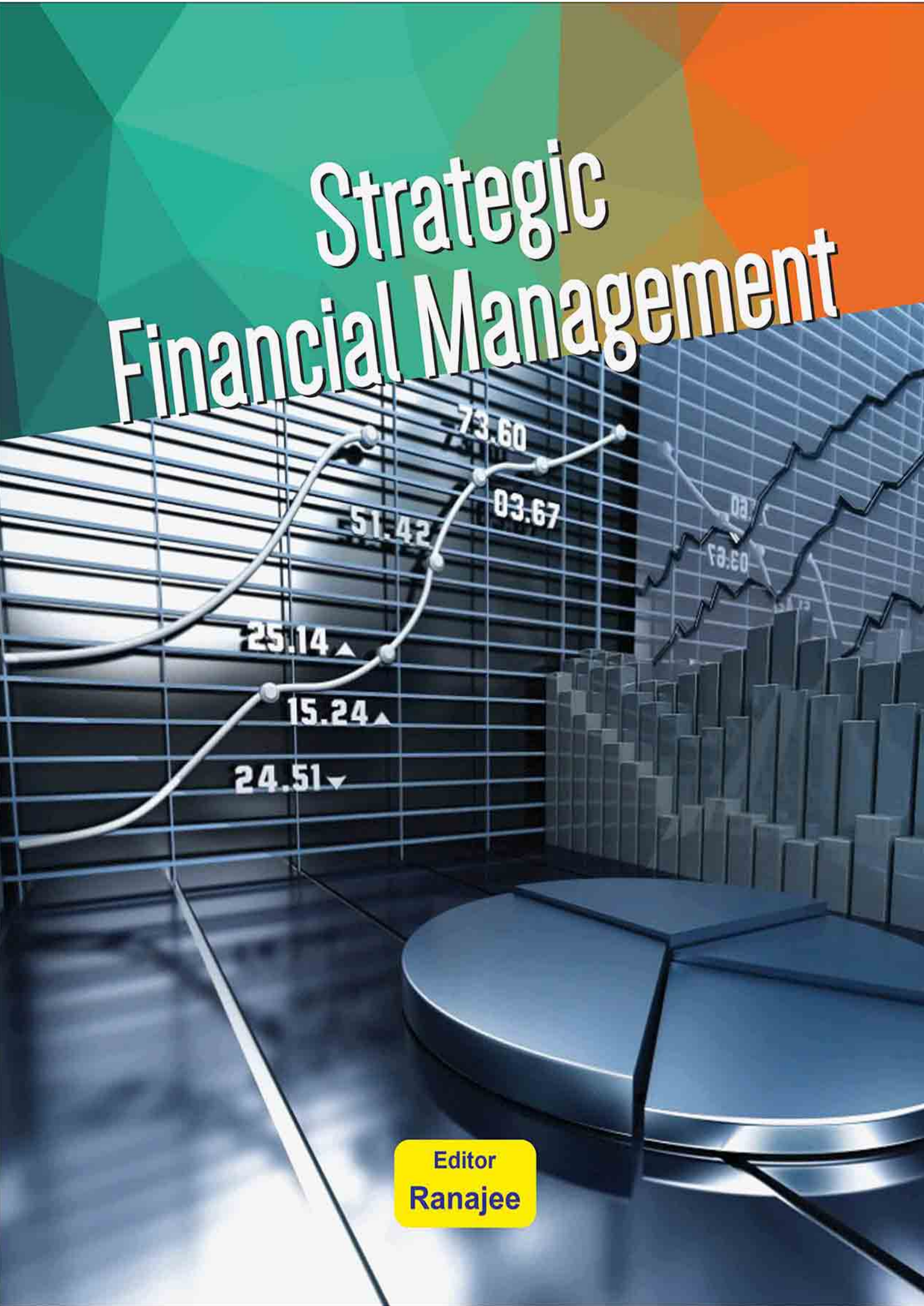
The introduction of Goods and Services Tax (GST) in Indian Tax System from 1st July 2017 is being widely appreciated as a unique initiative among the indirect tax reforms. The initiative replaces several Central and State taxes by a transparent, simple and unified indirect tax regime which would eliminate the cascading or double taxation menace. It also promises to build a common national market throughout the country and provides a level playing field for all enterprises. The GST architecture is also going to be leveraged by technological tools and sound monitoring system that could effectively curb tax evasion.

GST is a single tax on the supply of goods and services, right from the manufacturer to the final consumer. The attractive offer of seamless Input Tax Credit is the core of GST reform by which the seller is allowed to net off his output tax liability against input tax credit to arrive at net GST payable, if the difference is positive. If the difference is negative the amount becomes net GST refundable/creditable. Credits of input taxes paid at each stage will be available in the subsequent stage of value addition, which makes GST as a tax only on value addition at each stage.

GST is also differently positioned on the principle of destination-based consumption taxation as against the present principle of origin based taxation. It is a dual GST with the Centre and the States simultaneously levying it on a common base. The GST to be levied by the Centre would be called Central GST (CGST) and that to be levied by the States would be called State GST (SGST). An Integrated GST (IGST) would be levied on inter-State supply (including stock transfers) of goods or services. This would be collected by the Centre so that the credit chain is not disrupted. Import of goods or services would be treated as inter-State supplies and would be subject to IGST in addition to the applicable customs duties. In essence, introduction of GST would make Indian products competitive in the domestic and international markets. GST regime is expected to add significant contribution to GDP growth, as tax savings become growth drivers of economy.

Four laws namely CGST Act, UTGST Act, IGST Act and GST (Compensation to States) Act have been passed by the Parliament and since been notified on 12th April 2017. The economic integration of India was completed on 8th August 2017 when the State of J&K also passed the SGST Act and the Central Government also subsequently extended the CGST Act to the State of J&K. The Constitution of India has been amended by the Constitution (one hundred and first amendment) Act, 2016 for this purpose. Article 246A of the Constitution empowers the Centre and the States to levy and collect the GST. The Central GST and the State GST would be levied simultaneously on every transaction of supply of goods and services except on exempted goods and services, goods which are outside the purview of GST and the transactions which are below the prescribed threshold limits. Further, both would be levied on the same price or value.

Strategic Financial Management



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Ranajee

Strategic Financial Management

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Chapter 1: Strategic Financial Management: An Overview

(Dibyendu Dutta)

Introduction

Maximizing the present value is the main objective of any firm, but in addition to this, it has to fulfill the social responsibilities and adopt shot-term and long-term survival strategies. Hence, Strategic Financial Management plays a crucial role. One of the popular definitions of strategic financial management as per the official terminology of the CIMA is, "the identification of the possible strategies capable of maximizing an organization's net present value, the allocation of scarce capital resources among the competing opportunities and the implementation and monitoring of the chosen strategy, so as to achieve stated objectives". So, it can be said that, strategy depends on the stated objectives or targets. In this chapter, we shall discuss agency theory, goal congruence, financial planning and strategic planning.

Financial Objectives of a Company

It is needless to say that one of the most important objectives of a company is maximizing the wealth of its shareholders. It is to be kept in mind that a company is financed by its ordinary shareholders, preference shareholders, loan stock holders and other long-term and short-term creditors. Any retained profits are the undistributed wealth of the equity shareholders. The non-financial objectives do not ignore financial objectives altogether, but they point towards the fact that the simple theory of company finance which postulates that the primary objective of a firm is to maximize the wealth of ordinary shareholders, is too simplistic. In essence, the financial objectives may have to be compromised in order to satisfy non-financial objective.

Value Enhancement in the Business Parlance

When the prices of the shares of a company that are traded on a stock market rises, the wealth of the shareholders tends to get increased. The price of a company's share goes up when the company is expected to make attractive profits, which it plans to pay as dividends to its shareholders or re-invest in the business to achieve future profit growth and dividend growth. However, it is also to be kept in mind that in order to increase the price of the share, the company should achieve its profits without taking business risks and financial risks which might worry its shareholders.

Non-Financial Objectives of a Company

Having discussed the financial objectives of the firm at length, let us now look into some of the non-financial objectives. The non-financial objectives of a firm can be as follows:

a. General welfare of the employees, which includes providing the employees with good wage, salaries, comfortable and safe working conditions, good training and career developments and good pensions.

Chapter 2: Capital Structure

(Koya Raghu Nadh and Dibyendu Dutta)

Introduction

An optimal capital structure of a company can be properly defined as that security mix, which minimizes the firm's cost of capital and maximizes its values. The capital structure should be balanced with adequate equity cushion to absorb the shocks of business cycle and afford flexibility. As a finance manager, you can achieve this by identifying the factors affecting capital structure, both internal and external, keeping the capital cost at the minimum, level assist financing and reduce the hazards of insolvency. This unit explains the theories of capital structure, various factors affecting capital structure and focuses on the capital structure decisions in both perfect markets as well as imperfect markets. This unit focuses on capital structure theories, cost of capital, tax shield, and strategic determinants of the capital structure.

The Effect of Leverage on EPS

An appropriate (optimal) capital structure is an important decision for any business organization. The importance of the decision lies not only because of the need to maximize returns to various organizational constituencies, but also because of the impact such a decision would be having on the organization's ability to deal with its competitive environment.

The theory of capital structure analyzes the impact of the financing mix on the valuation of the firm. The theory also attempts to discover whether there exists an optimal capital structure for a firm. This is one of the most controversial topics in the theory of finance. There are broadly two schools of thought. One school believes that the composition of the financing mix does not affect the cost of capital. This school does not believe in the existence of an optimal capital structure. Hence, the capital structure has no relevance in the valuation of the firm. The proponents of the other school believe that the cost of capital is determined by the composition of the capital structure. The application of leverage results in a change in the cost of capital. They try to determine the optimal capital structure, at which level the overall cost of capital is minimal. They conclude that it is the capital structure which determines the valuation of the firm.

The most discussed proposition on capital structure calls forth the Miller and Modigliani proposition that was originally developed by Modigliani and Miller (1958). Basically, it speaks about an optimal capital structure which balances the risk of bankruptcy with the tax savings of debt. Once established, this capital structure should provide greater returns to stockholders than they would receive from an all-equity firm. In this context, the chapter focuses on the capital structure decisions in both perfect markets as well as imperfect markets.

Chapter 3: Dividend Policy

(Dibyendu Dutta)

Introduction

The dividend policy of a firm determines what proportion of earnings is paid to shareholders by way of dividends and what proportion is ploughed back in the firm for reinvestment purpose. Thus, the dividend policy affects both – the long-term sources of finance and the market price of shares. A firm should treat its dividend policy as relevant because shareholders bother a great deal about the dividends. As a finance manager, you must carefully evaluate the circumstances and the environment in which the firm is operating in order to determine its dividend policy. Recognizing the importance of dividend policy, this unit highlights dividend decisions and some models which help in arriving at good dividend policy decisions. In addition to dividend models, the strategic determinates of dividend policy and financial signaling are covered in this unit.

Dividend Decisions

Dividends refer to that portion of a firm's net earnings, which are paid out to the shareholders. Since dividends are distributed out of profits, the alternative to the payment of dividend is the retention of earnings/profits. The retained earning constitutes an easily accessible important source of financing, for the investment requirements of the firm. There is, an inverse relationship between retained earnings and cash dividend: larger retention, lesser dividends; smaller retention, larger dividends.

The dividend policy of a firm refers to the views and practices of the management with regard to distribution of earnings to the shareholders in the form of dividends. The portion of the earnings which is undistributed is called retained earnings. The retained earnings are often used as means of financing the capital expenditure of the firm. The higher the dividend pay-out, the lower will be the retained earnings. This would entail dependence on other sources of financing by the firm. Hence the dividend policy has implications on the financing decision of the firm. As the ultimate objective of any company is to maximize the wealth of the shareholders, the impact of dividend policy on the market valuation of the firm needs to be analyzed.

Dividend Pay-Out Models

The following are the various models which analyze the relationship between the dividends and the stock prices.

Graham-Dodd Model

This model postulates that the market price of a share is a function of its dividends and earnings. However, the model assigns higher weightage to dividends as against retained earnings. The equity valuation model proposed by them is as follows:

$$P = m (D + E/3)$$

Chapter 4: Allocating Capital and Corporate Strategy

(Dibyendu Dutta)

Introduction

In this chapter, we will discuss how to allocate the funds (capital) raised from various sources in various projects. Investment in long term projects is not a simple task. The survival of the firm depends on long term investments. The investments made in projects must be evaluated at strategic points. There are various methods and models which help in allocating capital and building corporate strategy.

Valuing Strategic Options with Derivatives

A lot of discussion has been made about the positive net present value of projects that have been undertaken, but very little has been done in answering the question of what is the real source of this positive net present value. Generally, the generation of the net present values of the firms arise due to the existence of investments that are made earlier in the project. It is a general practice of the firms to discount only those cash flows that are directly attached to the project, in doing so they sometimes ignore the total value of the project as such. Thus they fail to recognize that while adopting an investment project may successfully lead to the generation of future investment opportunities. But at the same time, it has been observed that many companies tend to grow as a result of the benefits they reap out of past investments.

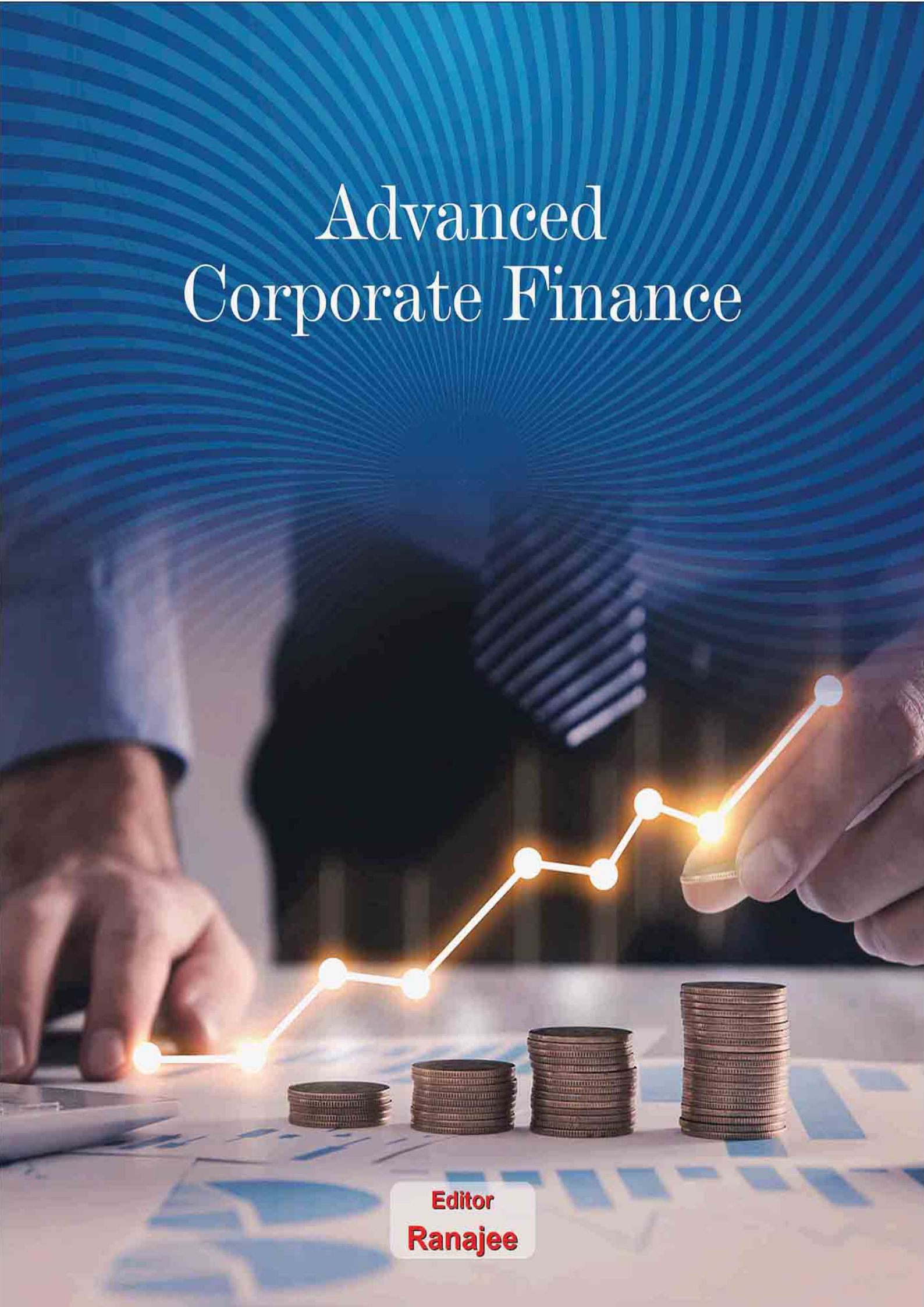
Option Pricing Theory as a Tool for Quantifying Economies of Scope

Most investment projects include a certain number of options. This not only involves the option of undertaking certain new projects but also options to cancel, downsize, or expand the project.

Taking this decision depends on a number of factors which may include certain underlying economic variables such as the demand for the product, the level of interest rates, the health of the economy, the success of competitors, the political climate, and so forth. These underlying variables have a direct effect on the values of many traded securities, as well as the company's own stock.

Any continuing project that has been subject to alteration in its midway or even subjected to further investment that was not earlier called for may result in creating opportunities in future. This, put in other words, can be explained in terms of strategic options. The opportunities that are created can be due to the fact that strategic options represent strategies of whether the firm has an option to pursue any project only by taking on the earlier project or going on to any new projects. Here it can be said that unless the firm carries on with the earlier project, the possibility of obtaining the cash flows from the strategic option does not exist. A good example of this can be a stock option, which has a value that is determined by the price of the underlying stock. Thus put otherwise the traditional methods of performance appraisal tend to treat the investments either as reversible or as irreversible decision that must be taken at a

Advanced Corporate Finance



Editor
Ranajee

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Advanced Corporate Finance

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Chapter 1: Decision -Support Models

(Dibyendu Dutta)

Introduction

Corporate decisions are affected by a large number of variables. Many-a-times, the interlinkages between these variables and their resultant effect on the decision is extremely complex. Decision-support models are tools used to spell out the relationships clearly in order to help the management arrive at the optimal decision. There is a wide variety of decision- support models – optimization models, simulation exercises, models for predicting a firm's bankruptcy, etc. In this chapter, the Modelling Process, Financial Modelling, Marakon Model, Alcar Model and McKinsey Model are discussed.

Financial Objectives of a Company

The following are the major steps in the process of using a model to arrive at the optimal decision:

- Feasibility study
- Model construction
- Compatibility of the model with the tools used
- Model validation
- Implementation
- Model revision, and
- Documentation.

Feasibility Study

The foremost step in developing a model is to ascertain the feasibility of a model assisting the decision-making process. The various points that are required to be considered are:

- Whether the decision under consideration is a one-time process, or is required to be taken as a routine measure.
- The suitability of the area in which the decision is required to be made, to be supported by a model.
- The possibility of all the relevant variables being unambiguously identified.
- The possibility of all the variables being built-in into a single model.
- The expected effectiveness of the model.
- The acceptability of a model replacing human judgment to the management.
- The possibility of obtaining the required data on an ongoing basis.
- The possibility of integrating the model with the normal decision-making process.
- The costs involved with setting up and running the model, and its comparison with the expected benefits.

Chapter 2: Financial Distress and Restructuring

(Dibyendu Dutta)

Introduction

The basic causes of business failure can be categorized into four major heads – the economic factors, the financial factors, factors relating to neglect, disorder and fraud and some other factors. The economic factors relate to industry weakness and poor location of the firm. The financial factors relate to the over burdening debt capacity and insufficient capital. The importance of the different factors varies over the time, depending on such things as the state of the economy and the level of interest rates. Apart from this, sometimes some factors produce a combining effect so as to make the business unsustainable. Studies have provided further evidence that the causes of financial distress are a result of a series of errors, misjudgments and interrelated weaknesses that can be attributed directly or indirectly to the management of the firm. This chapter highlights factors leading to failure of business and models to predict bankruptcy and financial distress.

Meaning of Bankruptcy

A firm is said to be bankrupt if it is unable to meet its current obligations to the creditors. Bankruptcy may occur because of a number of external and internal factors.

Definitions

Sick Industrial Company

The Sick Industrial Companies (Special Provisions) Act, 1985 or SICA defines a sick industry as "an industrial company (being a company registered for not less than five years) which has at the end of any financial year accumulated losses equal to or exceeding its net worth".

Weak Unit

A non-SSI industrial unit is defined as 'weak' if its accumulation of losses as at the end of any accounting year resulted in the erosion of fifty percent or more of its peak net worth in the immediately preceding four accounting years. It is clarified that weak units will not only include those which fall within the purview of Sick Industrial Companies (Special Provisions) Act, 1985 (of industrial companies) but also other categories such as partnership firms, proprietary concerns, etc. A weak Industrial Company should be termed as "potentially sick" company.

Sick SSI Unit

A small-scale industrial (SSI) unit, as per the RBI is classified as sick when:

a. Any of its borrowal accounts has become a doubtful advance, i.e. principal or interest in respect of any of its borrowal accounts has remained overdue for periods exceeding $2^1/_2$ years and

b. There is erosion in net worth due to accumulated cash losses to the extent of 50 percent or more of its peak net worth during the preceding two accounting years.

Chapter 3: Real Options

(Dibyendu Dutta)

Introduction

Investment of financial resources is very crucial to the success of a business firm. There are so many investment opportunities available. In one way, the investment opportunities are termed as options. These options are of two types, viz., financial options and real options. Investments in financial assets like shares and bonds are known as financial options whereas investments in real assets like land and realty are termed as real options. Investing money in available options is not a simple activity or decision. It is a process which affects the short-term as well as long-term solvency of the firm. This chapter discusses the various approaches that the managers have to adopt to manage strategic investments.

Definition of Real Options and Difference with Financial Options

A real option is an option that arises naturally in the course of business activities rather than one purchased on a financial market. A common example of a real option is early investment in a technology, which will enable a firm to exploit the new technology should it prove successful. In a narrower sense, the real options approach can be viewed to be an extension of the financial option theory. In case of the real options the underlying are real assets unlike financial assets in the case of financial options. The difference lies in the fact that the financial options are detailed in their contract; the real options that are embedded in strategic investments must be identified and specified. The real option approach provides the managers with opportunities for the way they have to plan and manage strategic investments.

Comparison of Real Options with Financial Options

The basic difference that exists between a financial option and a real option lies in its underlying. The underlying that exists in case of the former is a security such as a share of a common stock or a bond, whereas the underlying for the latter is a tangible asset, say for example, a business unit or a project. It is to be noted that both types of options give the right but not the obligation to take an action. Financial options are written on traded securities, whose price is usually observable and one can estimate the variance of its rate of return. In the case of real options, the underlying risky asset is usually not a traded asset, thus one estimates the present value of the underlying without flexibility by using traditional net present value techniques. A further difference exists between the two. Most financial options are not issued by the companies on whose shares they are contingent, but rather by the independent agents who write them and buy those that are not written. As a result of which, the agent that issues a call option has no influence and control of the company and its share price. The real options are different in this aspect because here, the management controls the underlying real assets on which they are written. As an example, a company might have the right to defer a project and it may choose to do so if the present value of the project is low.

Chapter 4: Working Capital Management

(Koya Raghu Nadh and Dibyendu Dutta)

Introduction

Working capital management is concerned with the problems that arise in attempting to manage the current assets, the current liabilities, and the interrelationship that exists between them. Assets and liabilities of a company can be classified on the basis of duration. Assets can be classified into fixed assets and current assets, while liabilities are classified as long-term liabilities and current liabilities. The present chapter is an attempt to decide the optimum level of the various components of working capital i.e., in tune with the risk-return profile acceptable to the management. In addition to the traditional tools employed in the determination of these optimum levels, the domain of working capital management has imbibed a number of techniques from fields like statistics, economics, etc. The application of these techniques is wide-ranging. While some of them (like cash budget simulation) are more flexible versions of the traditional tools, others go beyond determination of optimum levels of working capital components. Various cash models help in determining the best use of free cash, while discriminant analysis helps in choosing the customers to whom credit can be safely extended.

Working Capital Leverage

If things could be predicted accurately, there would be a certain level of current assets which would be just enough to keep the production process rolling smoothly. There would be no lost sales on account of absence of finished goods and no held up production due to inadequate raw materials; the credit terms would be lenient enough to support the credit sales. Yet, there would not be any unnecessary investment in current assets beyond the required level, and hence, no unnecessary costs.

However, uncertainty is omnipresent, which rules out the possibility of a perfect level of current assets. In an uncertain scenario, the management of a company has to make an attempt to predict the level of current assets that will be required for future operations and maintain the assets at that level. In addition, a certain amount of buffer would be required to be maintained, to provide for the contingency of the actual requirements being higher than the predicted level. This buffer helps in reducing the risk of stock-out costs and other costs involved with a low level of current assets (like lost sales), thus reducing the level of risk the firm is exposed to. At the same time, the firm has to bear additional costs for financing the additional investment in current assets, which reduces the firm's profitability. Hence, every firm faces a risk-return trade-off in managing its working capital.

Since a firm generally maintains a buffer stock in addition to the minimum level of current assets required, a small change in the amount of working capital employed can be expected not to have any effect on the EBIT. Hence, it is possible to increase the firm's return on investment by reducing the level of current assets. This is because the firm will be generating the same EBIT on a lower investment. The sensitivity of return

Chapter 5: Strategic Cost Management

(Dibyendu Dutta)

Introduction

Cost analysis is traditionally viewed as the process of assessing the financial impact of alternative managerial decisions. But now it is very important to survive in the competitive business environment. One of the good ways to improve the profitability is to control cost of production. There are many costing methods available to control the cost of production. In this chapter, you will study some costing methods like activity based costing, targeting costing, etc.

Strategic Perspective of Cost Management

Strategic Cost Management (SCM) is a cost analysis in a broader context, where the strategic elements become more explicit and formal. SCM involves usage of cost data to develop superior strategies to gain sustainable competitive advantage. Thus, SCM is the managerial use of cost information explicitly providing strategic perspectives.

The process of strategic cost management encompasses the following:

- Value Chain Analysis
- Activity Based Costing
- Target Costing
- Quality Costing
- Life Cycle Costing

Value Chain Analysis

Value chain is the linked set of value-creating activities beginning from the basic raw material sources from suppliers to the ultimate end-use product delivered into the final customer's hands. No individual firm is likely to span the entire value chain. Each firm must be understood in the context of the overall value chain of value-creating activities

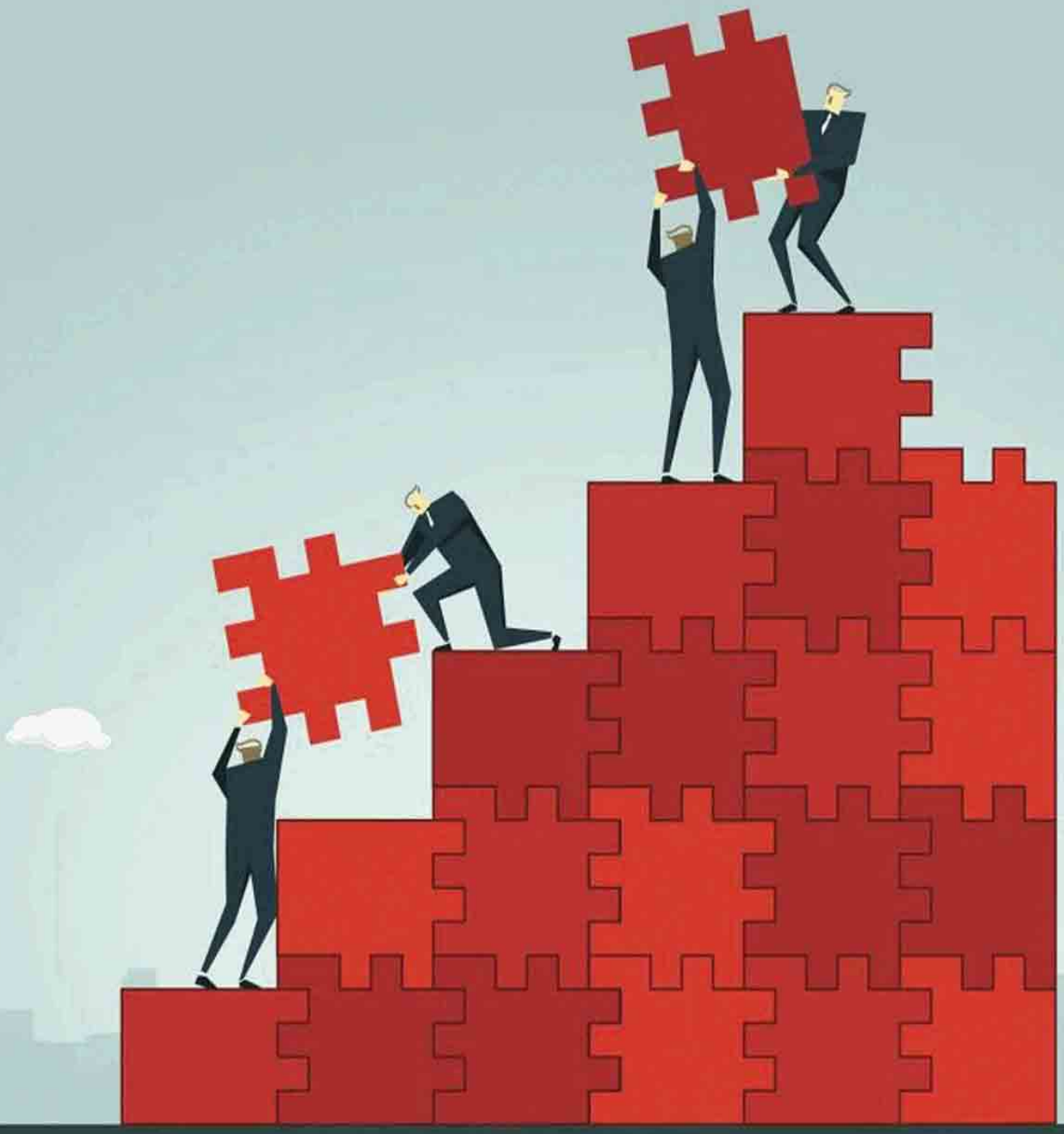
According to Michael Porter, a business unit can develop a sustainable competitive advantage based on cost or on differentiation or on both, as shown in the following Figure 5.1:

Figure 5.1: Developing Competitive Advantage

Relative Differentiation Position \ Relative cost position		
Superior	Differentiation Advantage	Differentiation with Cost Advantage
Inferior	Stuck-in-the-Middle	Low Cost Advantage

Source: ICFAI Research Center

Techniques of Corporate Restructuring



Editor

Ranajee

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Techniques of Corporate Restructuring

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Chapter 1: Sell Offs and Divestitures

(Dibyendu Dutta)

Introduction

Many corporations, mostly large and highly diversified organizations, are persistently evaluating various ways in which the shareholders' wealth could be enhanced. These activities are referred to as restructuring activities. The restructuring activity may take the form of either expanding the business or exiting from the business.

This chapter deals with the shareholders' wealth and effects of several forms of corporate restructuring and with strategies that allow the firm to maximize shareholders' value by redeploying assets through contraction and downsizing of the parent corporation.

Divestitures, spin offs, equity carve outs, split ups and split offs are the commonly used strategies to exit businesses and to deploy corporate assets by returning cash or non-cash assets through a special dividend to shareholders.

Factors Involved in Divestment Decisions

A number of factors play a role in making divestment decisions and are grouped under three general categories:

i. Opportunistic
ii. Planned
iii. Forced

Opportunistic considerations are totally optional and are to be implemented in a reactive manner. Taking the example of profit motivation, consider a successfully operating division that receives an unsolicited cash bid from a suitor, which would translate into an extraordinary profit. While there may be no immediate use for the cash, the profits to be obtained from selling off this division are such that management cannot be in a good conscience to turn down the offer. The profit motivation under opportunistic consideration is slightly different from profit motivation under planned considerations in column 2, of Table 1.1 below. Under the scenario of planned consideration, a company may have a profitable, well run division, but may go in for divestment to raise the necessary capital to invest in something new, or out of concern about the division's long-term future. While profit motivation is the same in both the instances, different circumstances lead to the divestiture decision.

Some amount of overlap does take place between the three basic scenarios that trigger or motivate a divestiture. Likewise, there is interchangeability among the individual factors.

These factors are divided into five categories:

i. Economic
ii. Psychological
iii. Operational
iv. Strategic
v. Governmental or legislative

Chapter 2: Joint Ventures

(Dibyendu Dutta)

Introduction

In today's fast changing competitive world many firms particularly large and diversified organizations are constantly reviewing various ways to increase the shareholder value by changing the composition of their assets, equity, liabilities and operations. Business alliances or strategic partnerships represent an attractive alternative to mergers and acquisitions. Business alliances take the form of a variety of different legal structures.

The alternative to M&A is 'strategic partnership' wherein two or more firms develop a relationship that combines their resources, capabilities and core competencies for certain business purposes. This chapter explores the potential of various means to maximize shareholder's value without resorting to mergers and acquisitions. There are four major types of strategic partnerships: (i) Strategic alliances, (ii) Long-term contracts, (iii) Equity partnerships, and (iv) Joint ventures.

Strategic Alliances

In this form of strategic partnership, two or more companies jointly share resources, capabilities, or distinctive competencies to achieve some business goals. These alliances may be aimed at world market dominance within a product category. While the partners cooperate within the boundaries of the alliance relationship, they often severely compete in other parts of their business operations. Each firm remains a distinct entity, separate from its strategic alliance partner.

Examples of Strategic Alliances

Following are some of the examples of Strategic Alliances:

Wipro – Sun One

Sun Microsystems provides a complete portfolio of affordable, interoperable, and open software systems designed to help organizations maximize the utilization and efficiency of their IT infrastructure. It includes advanced software like Java. Wipro Infotech formed a strategic alliance with Sun One. Through this alliance, Wipro Infotech brings all the components required to set up next generation internet infrastructure. The Sun ONE platform employs open standards at every level of integration, enabling enterprises to create innovative services that leverage advanced communication and Internet technologies. Some products on the offer include the Sun ONE portal server, messaging server, calendar server, proxy server, web server and directory server. These Sun ONE products offer always-on services that also offer the convenience and control of a single mailbox, phone number, address book and calendar.

Chapter 3: Going Private and Leveraged Buyouts

(Dibyendu Dutta)

Introduction

The business and legal climate have changed dramatically in the recent years. Public companies as a whole recorded a loss in their market capitalization. The collapse in market valuations has affected the finances of being public. In particular, while a public company should still generally be able to raise capital more easily than a private company, the advantage is diminished if the company cannot easily tap the capital markets at an acceptable price.

The recent developments have affected the costs and risks of staying public. The increased costs and risks include the following:

Cost of reporting: A publicly owned company must file quarterly reports with the SEC and/or various state officials. These reports can be costly especially for very small firms.

Disclosure: Management may not like the idea of reporting operating data, because such data will then be available to competitors.

Self-dealings: The owners/managers of closely-held companies have many opportunities for self-transactions, which they may not want to disclose to the public, although legal.

Inactive market, low price: If a firm is very small, and its shares are not traded frequently, then its stock will not really be very liquid and the market price may not be truly representative of the stock's true value.

Control: Owning less than 50% of the control could lead to a loss of control for the owners/management. Against this background, two financial developments have led to the increase in the number of going private transactions. First, large pools of capital are currently available for going private transactions. Second, relatively low interest rates may permit privatizations to be financed on attractive terms with borrowed funds.

This has led to increasing number of companies 'going private' in recent times.

'Going Private' Transactions

The transformation of a public company into a privately held firm is called a going private transaction. In other words it can be termed as the repurchasing of some or all of a company's outstanding stock by a private investor or sometimes by the employees. Over the past few years, transactions involving public companies turning private have grown dramatically world over. One of the significant elements in a going private transaction is justice to minority or outside shareholders thus, avoiding allegations of security fraud against the controlling shareholders. But the most important aspect of going private is from where the money would come from.

Chapter 4: ESOPs and MLPs

(Dibyendu Dutta)

Introduction

The Employee Stock Options Plan (ESOP) has become the new buzzword in the corporate sector. From cash-poor start-ups in the Silicon Valley to old-line manufacturing and service firms, an increasing number of companies are offering stock options not only to their senior executives but to other employees as well, all in the hope of enticing and retaining the intellectual capital within the organization by creating a feel of ownership.

ESOPs are nothing but "contribution employee benefit pension plans". These plans may receive stock or cash to buy employer's stock. ESOPs may also provide for the employee contribution besides the employers'. To better appreciate the relevance and potency of ESOPs as a tool of HRD, we first need to recall what we understand by pension plans.

Types of Pension Plans

There are two major types of pension plans such as (i) defined benefit plans, and (ii) defined contribution plans.

i. **Defined Benefit Plans:** Government workers in the US quite often avail this facility. Under this plan, an employer agrees to pay employees specific benefits upon their retirement. It may be a fixed sum per month or a specific percentage of previous year's salary/several years' salary, according to a predetermined formula.

ii. **Defined Contribution Plans:** In a defined contribution plans, employers make a substantial and recurring contribution rather than a specific benefit. The employees' benefits depend on the investment performance of the benefit fund that is managed by a group that oversees the investment of the funds. Since the employees' benefits under these plans depend on the performance of the funds, these plans are riskier for the employees. The factor of risk gets compounded with the absence employer's guarantee for the performance of funds. Money Purchased Pension Plans, Profit Sharing Plans etc., are some of the examples of defined contribution plans available in the US market.

In the context of Mergers and Acquisitions employee stock ownership plans have evolved as tools for facilitating the transactions in two main ways: (i) as a financing vehicle for the acquisition of companies, including through LBOs, and (ii) as an anti-takeover defense.

ESOPs: The Underlying Philosophy

In markets like the USA, ESOPs are seen as an important HRD (Human Resources Development) tool. In India, the idea is just beginning to catch up. An ESOP is another incentive or compensation tool for a company.

Chapter 5: Buy-back of Shares and Exchange Offers

(Dibyendu Dutta)

Introduction

Managers wishing to distribute profits to their shareholders have two choices: (i) Issue dividend or (ii) Repurchase shares. Unlike in the past when paying out dividends was the most popular way of distributing profits, share repurchases are preferred today as a way to compensate shareholders with a company's excess cash. Share repurchases enhance shareholder value in many ways.

One of the reasons that companies opt for share repurchases over dividends is that shareholders often prefer capital gains over the current income that comes in the form of dividends. Moreover, in some countries dividends are double taxed since all the profits which a company earns are taxed at the corporate level besides being taxed in the hands of the receiver. If a company wishes to pay-out some of its profits in the form of a dividend, the shareholders also have an income tax liability. This is the reason why in recent times dividend yields of stocks are being at all-time lows and at the same time share repurchase activity is becoming extremely active.

Another reason which justifies the operations of open market repurchases is related to free cash flow. Free cash flow gives rise to conflicts between shareholders and managers when the latter have incentives to invest in projects other than those which give positive net present value. By distributing the free cash flow to shareholders, repurchases lessen these conflicts. Repurchases are an extremely reliable means of distributing free cash flow because funds are distributed immediately. Other methods of distributing free cash, such as dividends, involve an obligation to make distributions in the future. Also open market repurchases are often a more flexible and efficient means of distributing free cash flow than major leverage increasing transactions such as debt-for-equity swaps and leveraged recapitalizations.

The free cash flow hypothesis implies that firms with high levels of excess cash flow and firms with low marginal financing costs will repurchase more stock. Firms with high levels of excess cash flow are at a greater risk of over investing, and hence, derive greater benefits from distributing cash to shareholders. Firms with relatively low marginal financing costs can distribute more cash to shareholders, knowing that if they must raise external funds in the future if cash flow is lower than expected, or profitable investment opportunities are greater than expected, the funds will be relatively inexpensive.

The Nature of Cash Share Repurchases

A company can repurchase its own outstanding shares in three ways: (i) in the open market, (ii) by a tender offer or (iii) by a private negotiation.

Open Market Repurchases

Open Market Repurchases (OMR) refer to a company's buying back of its own shares in the open market at the prevailing market price just as any other investor might buy

Chapter 6: Takeover Defenses

(Dibyendu Dutta)

Introduction

Mergers, acquisitions and takeovers have been a part of the business world for centuries. In today's dynamic economic environment, companies often face decisions concerning acquisitions or mergers. The job of management is to maximize shareholders value. In most cases the use of mergers and acquisitions strategy can help a company develop a competitive advantage and ultimately increase shareholder value. There are several ways that two or more companies can combine their efforts. They can partner on a project, mutually agree to join forces and merge, or one company can acquire another company completely. Among these, the instruments of takeover are crucial for corporate growth. The purpose of this chapter is to discuss the most commonly used takeover tactics to acquire a company in a hostile takeover attempt and to evaluate the effectiveness of the various takeover defenses commonly employed.

Takeovers may be friendly or hostile.

Friendly takeover

Negotiated settlements often involving bargaining are called friendly takeovers. Here the acquirer does not have to resort to aggressive tactics like the bear hug, proxy contest or the tender offer etc., because both the companies are in a mood to go for such a merger driven by individual interests or strategies.

For example, the takeover of Indian Aluminium Company (Indal) by the Kumar Mangalam Birla group. Alcan of Canada held 53 percent stake in Indal. For strategic reasons, Alcan decided to exit from Indal. They voluntarily sold their stake to the Birla group. The Birla group has acquired Indal in a friendly takeover.

Hostile Takeover

A hostile takeover is an unwanted offer made by a potential acquirer, that is, strongly opposed by the target firm. These types of takeovers are usually bad news since the employee morale of the target firm can quickly turn to enmity against the acquiring firm.

One of the earliest cases of hostile acquisition in India was the hostile takeover of Shaw Wallace by Manu Chhabria in 1987. The then existing management led by S P Acharya had strongly but unsuccessfully opposed the takeover of the company.

In a hostile takeover, aggressive tactics like the bear hug, proxy contest or the tender offer are adopted by the firms. A bear hug involves the mailing of a letter containing an acquisition proposal to the Board of Directors of a target company without prior warning, but demanding immediate decision from the target. A proxy contest is an effort by a group of dissident shareholders to obtain representation on the Board of directors or to change a firm's by-laws. A tender offer is a takeover tactic in which the acquirer goes directly to the shareholders of the target with an offer to purchase their shares. We will see each of them in detail.

Introduction to Investment Management



Editor
M.V. Narasimha Chary

Introduction to Investment Management

Editor:

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Introduction to Investment Management

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Chapter 1: Investment Scenario

(Ameena Praveen)

Introduction

An investment scenario is a term that is used to describe the projection of the merits and demerits of potential investment opportunities. The investment scenario can be applied to a potential investment, or it may be applied retroactively to an existing range of investments with a view of analyzing the short-term and long-term profitability of such investments.

Concept of Investment

We can define investment as the process of, 'Sacrificing something now for the prospect of gaining something later'. Our definition implies that there are three dimensions to an investment – time, today's sacrifice and prospective gain. Investment is a mechanism of channelizing the savings into productive or/and profitable opportunities. However, one has to be aware of the risk involved in such investment activities and also the time value of money.

Are all Investments Speculative?

We know that investment means sacrificing or committing some money today in anticipation of a financial return later. The investor indulges in a bit of speculation as to how much return he is likely to realize. There is an element of speculation involved in all investment decisions. It does not follow though all investments are speculative by nature.

Genuine investments are carefully thought out decisions. They involve only calculated risks. The expected return is consistent with the underlying risk of the investment. A genuine investor is risk averse and usually has a long-term perspective in mind.

Speculative investments on the other hand are not carefully thought out decisions. They are based on rumors, hot tips, inside dopes and often simply on hunches. The risk assumed is disproportionate to the return expected from speculation. The intention is to profit from short-term market fluctuations. In other words, a speculator is relatively less risk averse and has a short-term perspective for investment.

So, an investment can be distinguished from speculation by (a) the time horizon of the investor and (b) the risk-return characteristics of the investments. A genuine investor is interested in a good rate of return, earned on a rather consistent basis for a relatively long period of time. The speculator, on the other hand, seeks opportunities promising very large returns, earned rather quickly. In this process, he assumes a risk that is disproportionate to the anticipated return.

We understand that one who wants to be a genuine investor has to be rational in his/her approach towards assessing the options available from various aspects and take the calculated risk. So, there is a need to understand different types of risks involved in the investment activity.

Chapter 2: Risk and Return

(Ameena Praveen)

Introduction

In the previous chapter, we have discussed on the overall investment scenario in financial and non-financial markets. Generally, the investment is prone to the risk and return to an investor which is discussed in the present chapter.

No investor is obliged to take any disproportionate amount of risk on his or her investment. One may invest one's money in a government bond or a fixed bank deposit and receive fixed interest. This interest may be called risk-free return (near risk-free) on investment. On the other hand, one may also invest in rather risky investments, in the expectation of earning very high returns. It appeals to commonsense that one will invest in a risky venture only if one expects to earn a return much in excess of the risk-free return. But what do we mean by return from a venture? For that matter, what do we mean by riskiness of a venture? Let us have a closer look at the concept of return and risk in this chapter.

Concept of Risk and Return

The concept of risk and return is explained with the help of illustrations as:

Return

The term return is almost invariably associated with a percentage (for example, 15% return on investment) and not the amount (like, profit of Rs.100). In finance, we are primarily concerned with returns from the investors' perspective. Our main concern is to compute or estimate the return for an investor on a particular investment. The investment is looked by a security analyst as essentially a financial asset, say, a share or a debenture or some other financial instrument. So then, what is the return on a financial asset for the investor?

Single Period Returns

At the outset, let us consider situations where we are concerned with only a single period (say, one day, one week, one month or one year, etc.). Consider the following illustration.

Illustration 2.1

Let us consider a share whose prices now (period 0 or P_0), one year later (period 1 or P_1), two years later (period 2 or P_2) etc., over a 10 year period are as follows:

Period	P_0	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}
Prices	100	110	108	130	154	145	160	170	193	220	264

We need to compute the return from the share in each of the periods.

Chapter 3: Equity Markets and their Structures

(Ameena Praveen)

Introduction

In the previous chapters we have discussed about the basics of investment management and 'the risk and return' that connects to investments. Now, the present chapter deals with the 'equity markets and their structures' into which an investor peeps into before making any of his investment decisions.

"In the first place, it is only an organized securities market which can provide sufficient marketability and price continuity for shares so necessary for the needs of the investors. Secondly, it is only such a market that can provide a reasonable measure of safety and fair dealing in the buying and selling of securities. Thirdly, through the interplay of demand for and supply of securities, a properly organized stock exchange assists in a reasonably correct evaluation of securities in terms of their intrinsic worth. Lastly, through such evaluation of securities, the stock exchange helps in the orderly flow of distribution of savings as between different types of competitive investments."

The secondary market is that segment of the capital market where the outstanding securities issued by the Central and the State Governments, public bodies, and corporate entities are traded. It is an open auction market where buyers and sellers meet and evolve a competitive price for the securities.

The secondary market in India consists of twenty three stock exchanges recognized by the government under the Securities Contracts (Regulation) Act, 1956. These stock exchanges, operating under the rules, bye-laws, and regulations approved by the government, constitute an organized market for the outstanding securities.

Markets and Their Functions

A market is a location where buyers and sellers come into contact to exchange goods or services.

Markets can exist in different forms depending upon the nature of location and mode of contact. It can have a physical location where buyers and sellers come in direct contact with each other or a virtual location where the buyers and sellers contact each other employing advanced means of communication. There is another form of market where actual buyers and sellers achieve their objectives through intermediaries.

The essential features of a market are

1. Existence of the buyers (demand side of the market) and sellers (supply side of the market);
2. Existence of price for every asset;
3. Allocation of resources;
4. Existence of regulatory mechanism.

One of the essential features of a market is the existence of price for every asset. That is, the consumers have to pay a price to acquire an asset. How can one define price? It

Chapter 4: Sources of Financial Information

(Ameena Praveen)

Introduction

In the previous chapters we have learnt about equity markets and their structures from the investment perspective and in this chapter we will learn about the different sources of financial information upon which an investor and others rely upon to deal with or make an investment in a company.

Barring a few such as government securities, bank and post office deposits, most investments are risky. An investment decision, therefore, calls for carefully evaluating available alternatives; assessing the reward and risk associated with each of these alternatives and selecting such of the alternatives that are believed to best serve the investment objectives at hand.

As the prospect for better rewards on an investment depends upon what the future holds, a primary task of an investor, an investment manager, an investment broker or counselor is to look ahead. This looking ahead involves making projections about prospective rewards and risks of investments in the near as well as distant future.

The investment results in general and the results of security investments in particular are influenced by a whole gamut of events, public policy changes, market conditions, policies and performance of companies, and so on. So, data has to be gathered on economic and market events, national and international events, public and corporate policies, and performance facts.

Since the gathering of primary data is both time consuming and costly, the investing public has to resort to the sources of secondary information. Further, to facilitate quick analysis and decision-making, it would be useful to collect data from such sources that have already done a good deal of data analysis and condensed them into a capsule form.

Various agencies publish various types of data. There are a number of trade journals, periodicals, official documents, advisory reports published by the investment brokers and counselors that can be valuable sources of information for investment decision-making. The finance newspapers and magazines of course carry a lot of investment and finance data on a regular basis. Most of the national newspapers invariably carry a financial page. The delay in the publication of latest information by agencies, in particular public agencies, is, however, quite common. The updating service, the reliable and well-researched economic and financial forecasts are generally lacking in India. So, an Indian investor would have to walk an extra mile to gather the most recent data and put in an extra effort to generate meaningful projections.

Sources of Economic Data

Some of the important sources of investment information are briefly described below:

Economic and Industry Data

i. Two important publications of the Central Statistical Organization provide monthly Abstract of Statistics and Monthly Statistics of the production of Selected Industries in India. The former contains information on selected economic

Bond Analysis and Valuation



Editor
Naseem Ahamed

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Editor:

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Bond Analysis and Valuation

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Chapter 1: Bond Valuation

(Kaushik and Ameena Praveen)

Introduction

In comparison to equities, bond at first sight appears less glamorous and exciting. But bonds too have their subtleties and pitfalls for the investors. Typically, bond prices fluctuate less than equity prices, and the investor who desires superior performance has to be on the lookout for even small differentials in prices and returns. In this chapter, we look at the nuances of bond valuation in detail.

Strategic Role of Bonds from an Investor's Point of View

While constructing a portfolio, it is quite important to consider the risk-return profile of an investor. The portfolio of an investor who is willing to take high risks to earn high returns might consist of common stocks only. On the other side, the portfolio of an investor whose only objective is to minimize the risk might consist wholly of Fixed Income securities issued by government and other bodies whose default risk is almost nil. However, since the risk is almost nil, the return is also very low.

Most of the investors adopt a middle path. These investors find that their investment needs are modest and usually prefer less volatility in returns. We know that each security in the portfolio contributes to the total risk. Some securities individually or as a group tend to increase the risk while some others tend to decrease it. Quantitatively, this association is measured by correlation. Therefore, the correlation between the constituents should be as low as possible if not negative.

It has been observed, over a period of time, that the correlation of risk although positive is very low between common stock and both government and corporate bonds. This is more or less true across all the economies, where both bond and stock markets are mature. This fact should be taken into consideration while constructing a portfolio, as bonds which normally not only possess lower risk than common stocks but also tend to reduce the portfolio's risk more than proportionately than the reduction in the overall returns.

Hence, depending upon the risk appetite of an investor, the strategic role of bonds is to reduce the risk and stabilize the returns of the portfolio.

Unlike the stockholder who faces uncertainty regarding the rate as well as returns on his investment, a bondholder receives interest payments regularly irrespective of the profits of the firm since payment of interest is an obligation on the part of the issuer unlike dividend which is discretionary and dependent on the profits of the firm. Thus, a bondholder can lock-in income as compared to a stockholder. Also, in case of the firm being liquidated the debt-holder will have a preferential rights over a stockholder to recover his investment.

Chapter 2: Risk Measurement Tools

(Ameena Praveen)

Introduction

We generally hear statements like "Stocks are risky and bonds are less risky than stocks". The risks associated with bonds are different, compared to those of stocks.

Before adopting any risk management strategy one should be able to measure it. Various tools are used for measuring the risks associated with bonds.

Types of Risks

The following are the types of risks associated with the bonds.

Price Risk

The extent to which price changes every day is known as price risk. Price risk is a combination of (a) Default Risk, and (b) Interest Rate Risk.

Default Risk

It is the risk which arises when the issuer is not able to satisfy the terms and conditions of the obligation with respect to the timely payment of interest and repayment of the amount borrowed. If a default occurs, the investor does not lose the entire amount invested. A certain percentage of the investment can be recovered. This is called recovery rate. The percentage of a population of bonds that is expected to default is called default rate. Given the default rate and the recovery rate, the estimated expected loss due to a default can be computed.

The difference between the investor's expected rate of return and the actual offered rate of return is known as risk premium. This includes the risk associated with a particular bond depending on the likelihood for default of non-payment of principal and interests either partially or fully. This risk premium depends on the issuer's financial position and fundamentals.

Interest Rate Risk

It is known that the price of a typical bond changes in the opposite direction with a change in interest rates or yields i.e., when interest rates rise, a bond's price will fall; and when interest rates fall, a bond's price will rise. Since the price of a bond fluctuates with market interest rates, the risk that an investor faces is that the price of a bond held in a portfolio will decline if market interest rates rise. This risk is referred to as interest rate risk.

OTHER RISKS

Call Risk

In a callable bond, the investor faces the inconvenience of getting the bonds called back by the issuer in case of falling interest rates in the market. This option gives the issuer

Chapter 3: Bonds with Warrants and Embedded Options

(Ameena Praveen)

Introduction

In the earlier chapter, we have discussed the bond market and its valuation methodologies. In this chapter, we shall discuss the various types of bonds which are offered in the market along with other instruments. These instruments such as warrants, call features, convertibility features attract the investors because of in-built diversity. The popularity of these instruments has increased in recent days as more and more companies are coming up with these instruments to attract the investors and financial institutions.

Bonds with Warrants

Warrants are usually attached with the bonds or preference shares to attract the investor. The objective is to induce the potential investors to subscribe to either bonds or preferred stocks, which give less attractive returns. The investor commits his funds with the expectation that he might be able to realize capital gains by selling the underlying stock of the firm whenever the warrants are exercised and exchanged for equity shares in some specified ratio.

Thus, warrant is another variant of the call option wherein the holder has the right to purchase shares of the company at some predetermined price. Warrants can be exercised within a certain time limit, which can be of some years. They entitle the holders to subscribe to the shares of the company, which issued the warrants, at the end of or within certain time period (ranging from 5-10 years). The number of shares and the price at which these shares can be bought are determined at the time of issuing the warrants. The price at which the shares can be subscribed to is called exercise price. Warrants generally have a longer expiration period before they can be exercised compared to exchange traded options.

Often warrants can be traded independent of the instrument along with which they were issued. These warrants are called detachable warrants. Usually the exercise price is fixed over the entire life of the instrument and is greater than the market price of the stock at the time of issue. When bonds with detachable warrants are offered, the investors purchase them as a bundle of securities. The purchaser of a warrant does not have equity rights in that company. He has no voting rights and no dividends are paid for holding the warrant.

Investment Characteristics

As mentioned earlier, a warrant is a variant of a call option and gives the holder a certain right to purchase shares of the company at a predetermined price within a certain time limit. But a warrant is different from a call option in the following ways:

i. Investors design call or put options whereas corporates issue warrants.

Derivatives Markets

Volume-1



Editor

Naseem Ahamed

Derivatives Market Volume- 1

Editor:

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Chapter 1: Derivative Markets and Instruments

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

In this era of globalization we are witnessing innovations in financial engineering. These innovations have led to the evolution of a new set of products named derivatives in the banking and financial sector. The growth of derivatives in the last 30 years has been one of the most extraordinary and important features of the financial markets. Although commodity forwards and futures are being traded actively since the turn of the century, historians find antecedents for option contracts in ancient Greek writings. It was not until 1972 that the market for modern derivatives was born.

The Rise of Derivatives Market

Towards the end of the Second World War, representatives of 44 nations gathered in 1944 in Bretton Woods town in New Hampshire, US and agreed on a fixed exchange rate system which lasted till the early 1970s. Under that system, the exchange rates of all currencies were fixed against the US dollar. As the US dollar was then convertible to gold at $35 per ounce, all currencies were indirectly fixed in terms of gold. In 1973, the Bretton Woods agreement, the pact that instituted a fixed exchange-rate regime for the world's major nations, effectively collapsed when the US suspended the dollar's convertibility into gold. This resulted in an increase in the exchange rate and interest rate volatility.

Two months before the collapse of the Bretton Woods system, the Chicago Mercantile Exchange (CME) launched the world's first exchange-traded currency futures. In 1975, interest rate futures contracts started on the Chicago Board of Trade (CBOT) and in the T-Bills on the CME.

In the 1980s, the process of liberalization and deregulation of the financial markets gained momentum when the British and American leadership led what could perhaps be considered as the world-wide deregulatory movement. While the liberalization drive under the Reagan administration in the US brought about major changes, London's pre-eminent position in the world's financial arena was further elevated by the "Big-Bang" of 1986, which allowed increased presence of foreign firms. This resulted in what is known as integration and the securitization of the world financial markets. The arrival of Information Technology (IT) facilitated the process of integration on an unprecedented scale. Cross-border activities in finance flourished and the access to different markets the world increased manifold. Also, transfer of resources from one market to another became rapid and almost cost free.

It was also at this juncture that trends in disintermediation manifested manifold compelling banks to create new products and services. The prescription of Capital Adequacy norms by the Bank for International Settlement (BIS) resulted in increased costs of loans to banks and as an off-shoot of this development, banks found securitization, an off-balance sheet activity, an attractive route to expand assets. With

Chapter 2: Forward Markets and Instruments

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

Forward market for a commodity is a place for price discovery and price risk management and is important to all sectors of the economy including the farmers and consumers. This forward market exists not only for commodities but also for financial securities like stocks, stock indices, foreign exchange and also for interest rates. The prices of agricultural commodities are generally at their lowest at the harvest time as the supply far exceeds the immediate, short term demand by the consumers, processors and other stakeholders associated with the commodity markets and increase substantially in the lean season when the demand by the consumers, processors etc exceeds the supply. This adversely affects the farmers (as they realize lower prices of their produce in the harvest season) and consumers (as they have to pay higher prices in the lean season to meet their requirements). Forward markets provide a market mechanism to balance this imbalance of the supply-demand pattern of agricultural commodities. Forward trading provides a means of appraising the supply and demand conditions and dealing with price risks, over time and distance.

A forward market contract is nearly identical to a future from an investment standpoint. The only defined difference is in the method sold. A future is sold over an exchange, a dedicated platform for the buying and selling of assets. Forwards are sold over-the-counter, meaning they are sold by the issuer directly to another person. On the futures exchange, the contracts are usually standardized forms. Whereas, on the forward market, the buyer and seller typically work together to create a unique contract that will be beneficial to both parties.

The Structure of Global Forward Markets

In the financial world, forward contracts take place in large and private markets called forward markets. Forward contract dealers transact with two types of parties, namely, end users and other dealers. An end user may be a company, non-profit organization or government. Some dealers are specialized in certain markets and contracts such as forward contracts on the Euro or Japanese equity products. Generally, these dealers are large global banking institutions. However, many large non-banking institutions such as Goldman Sachs and Merrill Lynch also remain big players in this market.

A dealer is approached by the end user with a risk management problem. The dealer then provides a financial transaction that will solve the problem. For example, let us consider Hoffman-LaRoche, the Swiss pharmaceutical company that sells its products all over the world. The company anticipates receipt of a large amount of cash in US dollars and has a concern that the dollar value against Swiss Franc may decrease. Hence, it approaches a dealer, UBS Warburg, the investment firm affiliated with the largest Swiss bank UBS. Subsequently, the company buys a forward contract to sell the dollars and buy Swiss Francs.

Chapter 3: Futures

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

The futures market came into existence following the development of forwards market. A futures contract can be defined as an agreement to buy or sell a standard quantity of a specific instrument at a predetermined future date and at a price agreed upon between the parties through open outcry on the floor of an organized futures exchange. Futures contract is also called common man's forward contract, as it can be purchased or sold by any person who has sufficient funds to open a margin account. Futures facilitate control of risk associated with interest rates, bond prices, currencies, equity prices, commodity prices, credit risk, inflation etc.

For the past thirty years, futures market has remained one of the fastest growing global financial markets. It plays a significant role in financial innovation. However, on the darker side, futures market has been defamed because of financial scandals such as Barings affair and hence is regarded by some people as a threat to the global financial system.

Futures Contract

Consider yourself as a farmer growing corn. Say, the month running is April, and your crop is likely to harvest in the month of July. There is an uncertainty about the price you will receive for the corn. In the years of low supply or scarcity of corn, you might obtain a relatively high price – especially, if you are not in a hurry. In the years of oversupply of corn, you may have to dispose at lower prices. In the latter case, you are exposed to a great deal of risk.

On the other hand, consider a merchant who has an ongoing requirement for corn. In the years of oversupply, he could fetch the corn at a competitive rate. But, in years of scarcity, he is exposed to price risk, as the prices may be highly exorbitant.

As you are uncertain about the price that you are likely to receive, you will be happy if you can know the price you are likely to receive beforehand with certainty. The futures market will enable you to enter into a contract, and lock the price. 'Futures' contracts are legally binding agreements to buy or sell a commodity sometime in the future. The 'contract' specifies the quantity, price and the date of delivery (negotiable to you and the merchant), and will enable you either to eliminate or minimize the risk, which otherwise will be faced due to uncertain price fluctuations of the future price of corn.

Let us consider an example to understand the concept of futures.

Say, you are a trader in Chicago. In March, you instructed a broker to buy 10,000 bushels of corn futures for July delivery. The broker would immediately pass these instructions on to a trader on the floor of the Chicago Board of Trade (CBOT) (an exchange). Say, at about the same time, another investor, Mr. Kelly, instructs a broker to sell 10,000 bushels of corn futures for July delivery (this example is cited to make you understand the concept. The time and the quantity may not always match). The

Chapter 4: Options Markets

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

Options are one of the actively traded derivative instruments in the financial markets. An Option is a contract in which the seller (also called the writer) gives the buyer the right but not obligation to purchase from a designated asset at a specific price which is agreed upon at the time of entering into the contract. It is important to note that the option buyer has the right but not an obligation to buy or sell. But, if the buyer decides to exercise his right, the seller of the option has an obligation to deliver or take delivery of the underlying asset at the agreed price.

An option means a choice. An option in a financial market is created through a financial contract. This financial contract gives a right to its holder to enter into a trade at or before a future specified date. The underlying assets on options include stocks, stock indices, foreign currencies and debt instruments, commodities and futures contracts. These are called stock options, index options, commodity options, currency options and futures options. An option is different from other derivatives in that it provides a downside protection against risk and also an upside benefit from favorable movements in the underlying asset prices.

In simple language:

"An option gives an investor the right, but not the obligation, to buy or sell a specified asset on a specified future date."

Structure of Global Options Market

Options are traded either on an organized exchange or on Over-The-Counter (OTC) market.

Exchange Listed

Options listed on exchanges are standardized in terms of the size as well as the expiration date. For example, a typical option contract on a stock on CBOE (Chicago Board Options Exchange) is for 100 shares. Standardization provides the benefits of adequate liquidity in the market and low transaction costs. The direct link between the buyer and seller gets completely terminated after the order is executed because of the interchangeability of exchange-traded options. The exchange-listed options trade on organized exchanges, which stipulate, rules and regulations, protecting the interests of the parties to an option contract.

Over-the-Counter (OTC)

OTC options are usually costlier than exchange traded options as these options have to be customized to meet the requirements of the trader or investor. The main participants in the OTC options market are the investment banking firms and commercial banks. Though the OTC options are not as liquid as exchange traded options, they are popular because institutional investors who invest in them use them and intend to hold them till maturity. While a large transaction involving purchase of puts may send signals in the

Derivatives Markets

Volume-2



Editor

Naseem Ahamed

Derivatives Market Volume- 2

Editor:

Naseem Ahamed

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Chapter 1: Option Pricing – Principles and Models

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

The pricing of options is based on supply and demand created by the buyers and sellers of that option at that point in time. Beyond this simple supply and demand explanation of option pricing, you should also know that there are several formulas that the mathematicians have developed to approximate a fair price of call and put options. The primary drivers of the price of an option are current stock price, intrinsic value, time to expiration or time value, and volatility. There are several options pricing models that use various parameters to determine the fair market value of the option. The most popular formula is called the Black Sholes Option Pricing Model. In many ways, options are just like any other investment in that you need to understand what determines their price in order to use them to take advantage of moves in the market.

Factors Influencing Option Prices

The value of an option depends on six factors:

C_0 or $P_0 = f(S_0, X, \sigma^2, t, r_f, d)$

Where,

- C_a = Value of American call option.
- P_a = Value of American put option.
- C_e = Value of European call option.
- P_e = Value of European put option.
- X = Exercise price or strike price.
- S_0 = Price of underlying stock.
- S_T = Price of underlying stock at expiration (i.e., after the expiration period).
- f = Function of
- σ^2 = Price volatility of underlying stock.
- t = Time to expiration.
- r_f = Risk-free interest rate.
- d = Cash dividend.

i. The spot price or current price of the underlying asset.

ii. The exercise price or strike price of the option.

iii. The time-to-maturity or time-to-expiration.

Chapter 2: Managing an Option Portfolio

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

Normally, investors invest in options to make money when markets move in anticipated direction. For each option transaction, that is executed, there are two parties, one is the investor and on the opposite side of the transaction is the counterparty. An option can be either an exchange-listed option or over-the counter option. Exchange-listed option is an option traded on a regulated exchange where the terms of each option are standardized by the exchange. The contract is standardized so that the underlying asset, quantity, expiration date and strike price are known in advance. Over-the-counter option as opposed to exchange-listed option has a direct link between the buyer and the seller. It has no secondary market, has no standardization of striking price and expiration dates, and has no secondary market. It allows for the customization of the terms of the option contract. As seen earlier, the option market is characterized by counterparties who are in market making or dealer business. In an exchange-listed option these counterparties are the individuals who buy or sell options through the exchange. In over-the-counter options, the counterparties are institutions who offer to buy or sell options. These counterparties or dealers', motive is not to speculate or hedge but to make use of the bid-ask spreads. Therefore, they have to neutralize the risk they assume. Let us see how this can be done using delta hedging and gamma hedging.

Delta Hedging

Delta hedging or delta neutral is an options strategy designed to reduce the risk associated with price movements of the underlying security, achieved through offsettinglong and short positions i.e., through buying and selling the shares of the underlying stock. Theoretically, delta hedging position is to be adjusted continuously to reflect the fact that the delta changes with the level of the stock price and with time. Delta hedging can be used to neutralize risk only when the price changes are small.

For example, let us consider a dealer sells 1000 of ABC June 125 call at the Black-Scholes price of ₹23.4412 with 30 days left in the option's life. Let us consider that the delta is 0.6921. Therefore, the dealer should purchase 1000 (0.692) i.e., 692 shares to hedge the risk (we are rounding off as we cannot hold fraction of share). Let us consider that the dealer adjusts the hedge at the end of the day. In order to hedge the risk the dealer has to buy 692 shares at price, let us say ₹125.5. Therefore, the investment he would be making is, 692 * 125.5 = ₹86,846 to buy the shares minus the amount made from the selling of 1000 calls at 23.4412, i.e., ₹23,441. The investment would then be equal to 86,846 – 23,441 = ₹63,405. (Refer Table 2.1).

Chapter 3: Option Trading Strategies and Exotic Options

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

Of all the derivative instruments, options are exceptionally innovative instruments which can be used for varied reasons. They give the user the needed flexibility and utility. Options are used to hedge, to generate income by way of writing, etc. Of the different strategies available to a trader, the basic strategies are long call, short call, long put, short put. Option traders often trade options in combination to benefit from unpredictable behavior in the prices of the underlying assets. The option trading strategies enable the option trader to meet his precise needs of trading and also handle any kind of market, be it bearish or bullish.

Elementary Strategies

The use of options enables an investor to achieve unique risk-return patterns which cannot be achieved by taking investment positions only in the underlying assets. This is, in fact, the economic rationale for the existence of options. We will elaborate on this theme by illustrating several investment strategies using options. To provide a balanced picture, we will also discuss the risks associated with indiscriminate use of options.

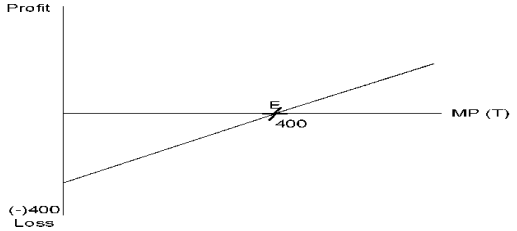
Let us begin our discussion with the investment strategies familiar to us – the long position and the short position in the underlying asset.

I. Long Position

Consider an investor who is bullish about the equity stock of Reliance Industries. He believes that a price rise is imminent and takes a long position in the stock, say, a price of₹400 per share. Assume an investment horizon of three months. The investor will make a profit at the end of this period if the stock appreciates in price. On the other hand, if the stock price remains unchanged or declines, the investor makes no profit or incurs a loss (ignoring transaction costs).

To determine the entire spectrum of profits and losses associated with the investor's strategy, we can use a 'profit diagram'. The profit diagram depicts the profits and losses associated with an investment strategy as a function of the price of the underlying asset at expiration. The possible range of prices on the expiration date is displayed along with X-axis and the profits and losses are on the Y-axis. The profit diagram associated with the long position is shown in Figure 3.1.

Figure 3.1: Long Position



Chapter 4: Swap Markets

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

The term 'swap' has two different meanings in the financial markets. In one definition, it refers to the simultaneous purchase and sale of currency for different maturities or vice versa. The other definition states that it is the agreed exchange of future cash flows with or without any exchange of cash flows at present. The base on which the cash flows are exchanged may be different and it gives rise to different types of swaps.

Financial swaps are broadly classified into –

i. Interest rate swaps
ii. Currency swaps.

Swaps have been defined variously as:

- Atransaction in which two parties agree to exchange a predetermined series of payments over time;
- An agreement between two parties to exchange interest payment for specific maturity on an agreed upon notional amount;
- An arrangement whereby one party exchanges one set of interest payments for another, example fixed for floating rate.

An agreement between two parties to exchange a series of payments, the terms of which are predetermined can be regarded as a financial swap. If the terms provide for exchange of interest payments without involving exchange of principal payments it is normally referred to as an interest rate swap. If the terms of agreement also provide for exchange of principal, which normally happens when two currencies are involved, it is called a currency swap.

Swaps can be used to convert liabilities or assets to the benefit of the owner. With the help of a swap, a floating rate liability (loan) can be converted into a fixed rate liability (loan), thus ensuring that the volatility in the interest rates does not increase the burden of payments or else, vice versa convert a fixed rate liability (loan) into a floating rate liability (loan) when the interest rates fall steeply in the market.

Elementary Strategies

The evolution of global swap market can be traced back to the late 1970s when the currency market traders brought currency swaps as a tool to exploit British controls on the movement of foreign currency. The first interest rate swap occurred in 1981 with an agreement between IBM and the World Bank. The swap market in the early 80's was worth only a few hundred million dollars, which today stands at several trillion dollars. Most of the capital market issues are swapped today, with minor exceptions. Initially, the swap deals were on a matched basis whereby a bank would bring two counterparties together with the same matched requirements. In 1984, especially in the US dollar

Chapter 5: Mortgage-Backed Securities

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

A mortgage-backed security (MBS) is a type of security that is secured by a mortgage, or more commonly a collection ("pool") of sometimes hundreds of mortgages. They are debt obligations that represent claims to the cash flows from pools of mortgage loans, most commonly on residential property. Mortgage loans are purchased from banks, mortgage companies, and other originators and then assembled into pools by a governmental, quasi-governmental, or private entity. The entity then issues securities that represent claims on the principal and interest payments made by borrowers on the loans in the pool, a process known as securitization. The invention of mortgage-backed securities completely revolutionized the housing, banking and mortgage business in the global financial markets and was responsible for the 2008 financial crises.

Mortgages

A mortgage may be defined as a pledge of property to secure a debt payment; in this context, we will use the term property to mean real estate. If the mortgagor (say, homeowner) fails to pay the lender (the mortgagee), the lender can foreclose the loan, seize the property and sell it in order to realize his dues.

Depending upon the terms of mortgage agreed upon between the lender and the borrower, mortgages can be classified into traditional and non-traditional mortgages.

Before discussing the features of the two mortgages, let us take a look at some of the important aspects. The lender usually examines the creditworthiness of a borrower by eliciting information on the following:

- Details of the amounts outstanding on any other loans taken by the borrower.
- Details of monthly/annual income of the borrower from all sources; and the net worth of the borrower.

The lenders in the US follow two basic rules of thumb to adjudge the adequacy of the income for paying the obligations under mortgage:

Rule 1: The total mortgage payment (principal and interest) should not exceed 25% of the borrower's total income less all payments owed to other obligations.

Rule 2: Total mortgage payments plus other housing expenses such as taxes, insurance, utilities and normal maintenance costs should not exceed 33% of the borrower's total income less all payments owed to other obligations.

Traditional Mortgages

In US, savings and loan associations constitute the major originating group of the traditional loans. The traditional mortgages exhibit the following features:

- A fixed rate of interest is charged on the loan for its entire term.

Chapter 6: Asset-Backed Securities

(Nitya Nand Tripathi and Dibyendu Dutta)

Introduction

When financial assets or bonds are pooled together and offered to the investors for receiving the inflow of funds from these underlying assets, they are termed Asset-Backed Securities (ABSs). These comprise mostly the receivables such as credit card receivables, auto loans, car loans, housing loans, etc. Asset-backed securities emerged from mortgage-backed securities market that developed in the 1970s. During this period, the interest rates surged and the thrift institutions were saddled with residential mortgages that resulted in lesser earnings when compared to what they were actually paying. Asset-backed securities remain relatively unaffected by swings in interest rates than mortgage-backed securities, because, car loans and other loans backing these securities have shorter maturities than mortgages. Hence, people are less likely to refinance, when there is a decline in interest rates. In this context, asset-backed securities look similar to non-callable bonds.

Usually, the financial institutions in the area of credit card, auto finance, home finance, consumer loan finance companies including banks issue asset-backed securities. Through securitization, these companies pool together these loans and offer them to the investors. Securitization refers to conversion of illiquid assets to liquid assets by converting longer duration cash flows into shorter duration ones.

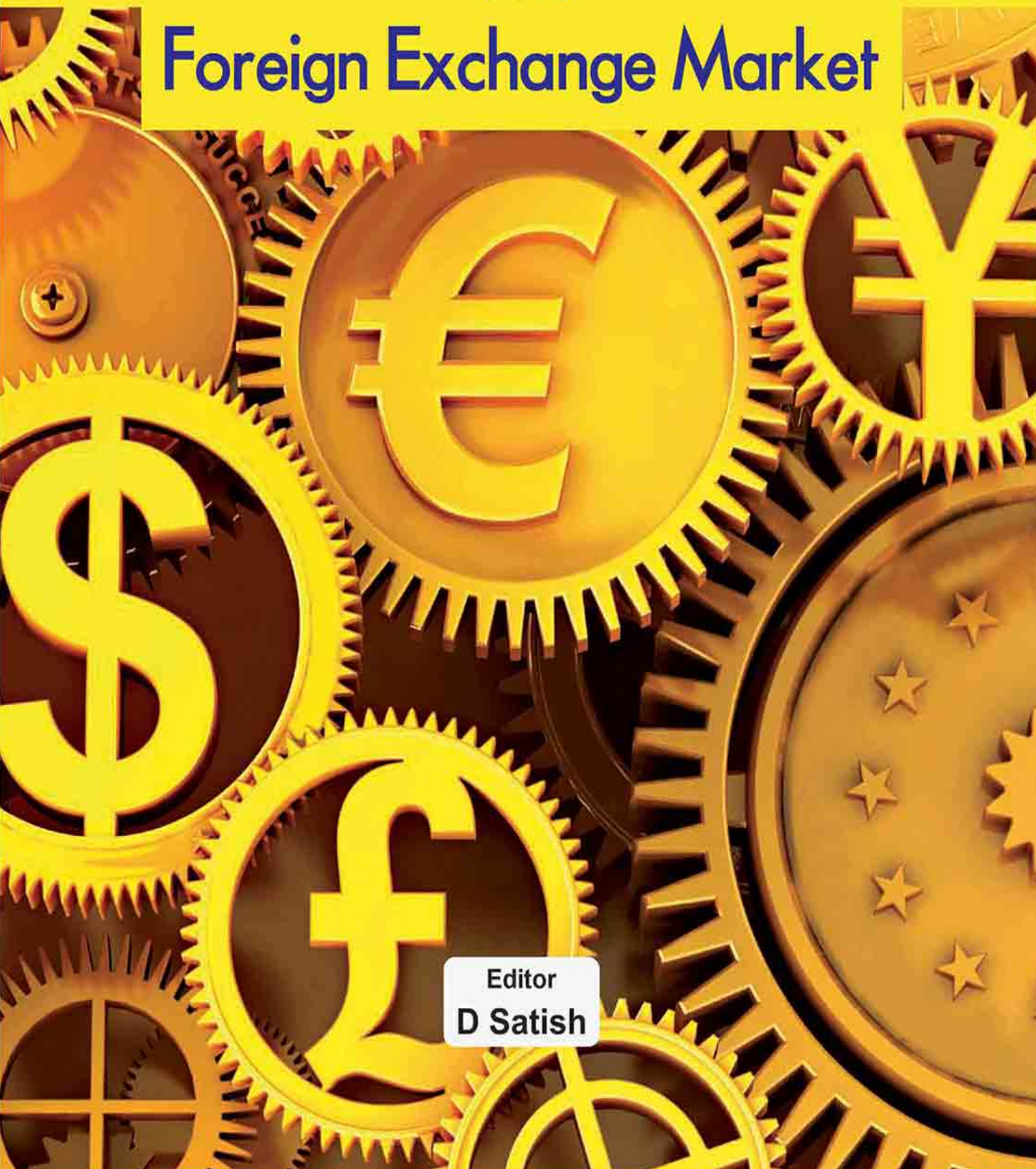
Asset-Backed Securities

An asset-backed security (ABS) is an instrument whose income payments is derived from and is backed by a specified pool of underlying assets. The pool of assets is typically a group of small and illiquid assets which are unable to be sold separately. Pooling the assets into the financial instruments allows them to be sold to investors through securitization. This allows the risk of investing in the underlying assets to be diversified because each security will represent a fraction of the total pool.

Asset-backed Securities (ABS) though relatively new to the market, have witnessed significant growth in past decade. Asset-backed securities were first issued in 1985. The ABS Market, from its initial position has grown manifold in recent years. It is observed that the total market of asset-backed securities have grown manifold from $1.2 billion in 1985. Some of the benefits of asset-backed securities are:

- **Better Yield:** Asset-backed securities provide better yield than the bonds or mortgage-backed securities of similar quality and maturity.
- **Better Credit Quality:** Because of certainty of payments and lesser probability of default, asset-backed securities have a better credit quality. Moreover, the presence of collateral as guarantee for payment increases their creditworthiness.
- **Diversity and Internal Diversification:** Existence of various sources of underlying assets such as credit cards, auto loans, housing loans, etc., represent

Mutual Funds and Foreign Exchange Market



Editor
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Mutual Funds and Foreign Exchange Market

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Chapter 1: Mutual Funds

(Satish and Mousumi Singha Mahapatra)

Introduction

The concept of Mutual Fund is not new. Mutual Funds are financial intermediaries in the investment business. In a Mutual Fund, the resources of many investors are pooled and invested to create a diversified portfolio. Thus, the savings of many investors are combined to form a fairly large and well diversified portfolio of investments.

Originating in the USA and moving on to the UK in the 1930s, this culture started in India only in 1960s, with the setting up of UTI in 1964. In early 1990s, Government allowed public sector banks and institutions to set up mutual funds. In the year 1993 SEBI notified regulations for the mutual funds. Thereafter, mutual funds sponsored by private sector entities were allowed to enter the capital market.

As far as mutual funds are concerned, whether promoted by public sector or private sector or foreign entities, SEBI formulates policies and regulates the mutual funds. The regulations were fully revised in 1996 and have been amended thereafter from time to time to protect the interests of investors.

Objectives and Different Types of Mutual Funds

The objectives of a Mutual Fund are as follows:

- To provide an opportunity for lower income groups to acquire assets without much difficulty in the form of units.
- To cater mainly to the need of individual investors whose means are small. A small investor can invest in mutual fund with as little as ₹ 500.
- To manage investors' portfolios in a manner that provides regular income, growth, safety, liquidity and diversification.
- To invest in international markets.

Mutual Funds can be classified into the following four broad categories:

i. Portfolio Classification of Mutual Funds.
ii. Functional Classification of Mutual Funds.
iii. Geographical Classification of Mutual Funds.
iv. Investment Style Classification of Mutual Funds.

Portfolio Classification of Mutual Funds

Mutual Funds differ with reference to the type of instruments in which the money has been invested as per the requirements of the investors. These are specified Mutual Funds structured for feeding a particular investible purpose. Therefore, different Mutual Funds are designed to meet the objectives of different types of savers and are named as such.

Chapter 2: Commodity Markets

(Satish and Mousumi Singha Mahapatra)

Introduction

Commodities are tangible goods that can be used for various purposes. Commodities include all goods and articles except financial assets. Commodities are traded around the world for various purposes and in various modes. Trading of the commodities can take place in several ways. Commodity trading in its most simple form involves two persons, a buyer, and a seller; besides, it may contain three persons including a middleman to bring producers (sellers) and consumers (buyers) together. Commodities are traded in both the organized and unorganized market. There are various commodity exchanges, which deal in different commodities.

Evolution of Commodity Markets

Ever since the dawn of civilization, commodities trading have become an integral part in the lives of mankind. The very reason for this lies in the fact that commodities represent the fundamental elements of utility for human beings. The term commodity refers to any material, which can be bought and sold. Commodities in a market's context refer to any movable property other than actionable claims, money, and securities. Over the years, commodities markets have been experiencing tremendous progress, which is evident from the fact that the trade in this segment is proving to be a boon for the global economy today. The promising nature of these markets has made them an attractive investment avenue for investors.

The early commodity contracts were carried out using clay tokens as medium of exchange. Animals are believed to be the first commodities, which were traded, between individuals. The internationalization of commodities trade can be better understood by observing the commodity market integration occurred after the European Voyages of Discovery. The development of international commodities trade is characterized by the increase in volumes of trade across the nations and the convergence, and price related to the identical commodities at different markets. The major thrust for the commodities trade was provided by the changes in demand patterns, scarcity, and the supply potential both within and across the nations.

Commodity Market in India

Commodity trading is not a new phenomenon in India. References of commodity markets date back to Kautilya's Arthashastra. Since that time commodity trading has been active in India but limited to very few markets. The first formal commodity futures market came into existence with the establishment of Bombay Cotton Trade association in 1875 to trade in cotton contracts.

Despite a long history of commodity markets, commodity markets in India are still in their initial stages of development. The essential contributors of this scenario include stringent regulatory restrictions, intermediate ban on commodity trading, and policy interventions by the government. Commodity markets have a huge potential in the Indian context particularly because of the Agri-based economy. With the government's

Chapter 3: Foreign Exchange Market

(Satish and Mousumi Singha Mahapatra)

Introduction

The existence of a number of currencies gives rise to the need to transact in these currencies for settling international payments. As we know, in international transactions, at least one of the parties would be dealing in a foreign currency. For example, if an Indian exporter sells some goods to an American resident and the price of the goods is denominated in dollars, the exporter would be dealing in a foreign currency. As it happens for other commodities, it would be difficult for buyers and sellers of currencies to find each other. This fact resulted in the development of a market which deals specifically in currencies, called the foreign exchange market. This is an OTC (Over-The-Counter) market, i.e., there is no physical marketplace where the deals are made. Instead, it is a network of banks, brokers and dealers spread across the various financial centers of the world. These players trade in different currencies through (and are linked to each other by) telephones, faxes, computers and other electronic networks like the SWIFT system (Society for Worldwide Interbank Financial Telecommunications). These traders generally operate through a trading room.

The Structure of Forex Market

The main players in the foreign exchange market are large commercial banks, forex brokers, large corporations and the central banks. Central banks normally enter the market to smoothen out fluctuations in the exchange rate (as under dirty float) or to maintain fixed exchange rates.

Large commercial banks deal in the market both for executing their clients' (both corporates and individuals) orders and on their own account. They act as the market makers in the forex markets, i.e., they stand ready to buy or sell various currencies at specific prices at all points of time. The commercial banks give, on demand, a quote for a particular currency against another currency; i.e., the rate at which they are ready to buy or sell the former against the latter. At these rates they stand ready to take any side of the transaction (buy or sell) that the customer chooses. These rates may not necessarily be applicable to amounts smaller or larger than those acceptable according to the going conventions. In the forex markets there are numerous market makers, and all of them would be giving different quotes for the same pair of currencies simultaneously, at any point of time. It would be very difficult for a player to keep track of all the quotes available in the market, and hence choose the one which is considered the most favorable. As a result, a number of trades may be taking place simultaneously at different exchange rates. The market-making activity of the commercial banks, along with speculation, makes the market extremely liquid, especially for the major currencies of the world.

The foreign exchange brokers do not actually buy or sell any currency. They do the work of bringing buyers and sellers together. Though they deal in most of the major currencies, generally they specialize in a pair of currencies and hold exhaustive

Chapter 4: Derivative Markets

(Satish and Mousumi Singha Mahapatra)

Introduction

In this era of globalization, we are witnessing innovations in financial engineering, resulting in the evolution of a new set of products in the banking and financial sector named derivatives. The growth of these products in the last 20 years has been one of the most extraordinary and important features of the financial market place. Although, commodity forwards and futures have been traded actively since the turn of the century, the historians find antecedents for the options contracts in ancient Greek writings. However, it was not until 1972 that the market for modern derivatives was born.

The Rise of Derivatives Market

In the 1980s, the process of liberalization and deregulation of the financial markets gained momentum when the British and American leadership led what could perhaps be considered as the worldwide deregulatory movement. While the liberalization drive under the Reagan administration in the USA brought about major changes, London's pre-eminent position in the world's financial arena was further elevated by the "Big-Bang" of 1986, which allowed increased presence of foreign firms. This resulted in what is known as integration and the securitization of the world financial markets. The arrival of Information Technology (IT) facilitated the process of integration on an unprecedented scale. Cross-border activities in finance flourished and the access to different markets in the world increased manifold while transfer of resources from one market to another became rapid and almost cost free.

It was also at this juncture that trends in disintermediation manifested manifold compelling banks to create new products and services. The prescription of capital adequacy norms by the Bank for International Settlement (BIS) resulted in increased costs of loans to banks and as an off-shoot of this development, banks found securitization, an off-balance sheet activity, an attractive route to expand assets. With the integration of the financial markets and free mobility of capital, risks also multiplied and risk diversification came to occupy the center stage. This logically led to the evolution of risk hedging mechanisms, first in the forex markets and later in the other segments of financial service industry; and these have come to be known generally as 'Derivatives'. After emerging in the USA, the derivatives business expanded rapidly and flourished in the European markets.

The important developments in the derivatives markets also occurred in the early 1980s. In May 1972, the International Monetary Market on the Chicago Mercantile Exchange began trading futures contracts on the British pound, Canadian dollar, Deutsche mark, Japanese yen and Swiss franc. Currency swaps were next appearing. Option contracts on foreign exchange followed closely on the heels of swaps. In December 1982, the Philadelphia stock exchange introduced an option contracts on the British pound. Although exchange-traded options on individual equities were available in the US, it

Introduction to Portfolio Management



Editor
Satish Kumar

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Chapter 1: Introduction to Portfolio Management

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

An investment is an agreement for a current outflow of money for some period of time in anticipation of a future inflow that will compensate for the changes in the purchasing power of money, as well as the uncertainty relating to the inflow of the money in future. This understanding describes well all the possible investments, like stocks, bonds, commodities or real estate by all classes of investors like individuals, institutions, governments, etc. In all these investments, the trade-off is between a known amount that is invested today, in return for an expected amount in future. While the amount being invested is certain, as it is now in our hands or rather is going out of our hands, the expected future inflow carries with it uncertainties regarding its realization; and its real worth will be known only when it is due for realization.

Managing the investment is a dynamic and an ongoing process. This process starts with planned initial investment and the real task is monitoring and updating the investments in the wake of new developments. The entire process calls for a systematic approach suitable to the investor's needs.

The Necessity of Investment Policy

An investment policy is a policy statement that assists the portfolio manager in managing an investor's portfolio in accordance with investment goals, constraints and objectives. The necessity for the policy statement arises out of the need to manage the portfolio in a disciplined manner, so that at the end of the investment horizon, the returns on the portfolio matches the investor's expectations.

An investment policy statement actually seeks answers to the following questions:

i. What will happen to an investor in case of adverse financial situations?
ii. What will be the investor's reaction to such adverse outcomes?
iii. How aware is the investor about investments and markets?
iv. Will there be any legal restrictions affecting the investor's investments?

A well defined policy statement should seek to answer these questions. Though it is not certain that following an investment plan will lead to successful investment all the time, it will however make the portfolio management process more disciplined. If the investor is prone to risk taking abilities, the portfolio manager will construct his portfolio with more risky stocks in accordance to his risk tolerance level. Absence of a policy statement may result in poor performance of a portfolio and may not meet investors' expectations. This may lead to investor dissatisfaction. So, policy statement acts as a tool in helping the individual investors to realize their real goals, to understand the constraints and risks in investing. It also helps preventing investors from making inappropriate investment decisions.

Having spoken so much about the importance of a policy statement, can we say that constructing a policy statement becomes the investor's compulsion? Well, it may not be compulsory, but definitely a necessity. With the help of a well defined policy

Chapter 2: Investment Policy

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

To determine an investment program suitable to any investor, it is first necessary to lay down in clear terms two things – the return objectives and the risk tolerance. These two together form the goals of the investment, which have to be achieved, always, within the constraints and preferences of the investor. Investment constraints are generally in terms of predetermined levels of liquidity, tax savings, legal compliance, investment horizon, etc. Preferences, on the other hand, are generally imposed on the portfolio by the investor himself, such as a desire to invest at least 25 percent of the total funds in sectors such as information technology or in the other areas at the other extreme in government securities. The investment policy should be a fine blend of the goals with the constraints and preferences. Portfolio managers commonly put down the investment policy of an investor thus obtained on paper either in the form of a statement or a set of guidelines.

To put it differently, each investor has his/her own set of objectives and constraints. While most of these are known only in qualitative terms, they will eventually lead to form quantitative objectives and constraints by the investment manager, which, in turn, form the basis for the formulation of the optimal portfolio.

Implementing Investment Strategies

Investment management process can be broken into two steps (i) information process, and (ii) implementation process. The former deals with the selection of the stocks, whereas the latter deals with the proper execution of investment ideas and maintaining the values of the stocks. The proper mix of these two processes leads to a well-defined investment process.

Portfolio management decisions result in equity trading. Trading strategies are to be handled with care; it has to be seen that the trading strategies adopted by an individual investor are not the same as those adopted by an institutional investor. Trading is different from portfolio management, in that the stocks selection does not need others' cooperation. Trading needs some counterparty to trade with.

It involves the following steps.

- Finding the motivation to trade
- Predicting market conditions and stock's liquidity
- Establishing trading strategies
- Trade information
- Flexibility
- Appraise effectiveness when the trading is complete.

Chapter 3: Capital Market Expectations

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

There are some important macroeconomic variables that affect the value of the securities in the market. The future expectations about the key macroeconomic variables are the biggest deciding factors in determining the expected returns of the securities. Establishing future expectations is a two-step process. The first step deals with forming macro or capital market expectations and the next step relates to forming micro or individual asset expectations in the various securities markets such as stock, bond and real estate. The goal of this chapter is to give a broad outline of the capital market expectations, the economic, social and political market factors affecting these expectations and the forecasting models that form these expectations.

Forecasting the Capital Market Environment

Basically, there are two requirements for forecasting the future expectations. The first one is the requirement of research analysts who have to calculate the return and risk of the individual securities. The second requirement relates to the need of the portfolio manager, who should evaluate the investors' investment objective and the security's return and risk in constructing and maintaining the portfolio.

To establish a general model for all the securities, the primary requirement is the development of the forecast of total cash flows generated by the securities. This total cash flow should be discounted by a proper discount factor to bring the cash flows on par with the present cash flows. The standard valuation model is a two-step model. It is used by market players as a means to take current cash flows and increase them at some abnormal rate for some period after which normal growth would be seen. This model concentrates on the occurrence of the future expected cash flow to the investors.

The calculation of the future cash flows to be generated by the underlying firm and its allocation towards several cost inputs such as raw material, rent, interests, taxes and profits is an important process in forecasting cash flows. Forecasting of cash flows demands calculation of the future revenue flow to be generated by the underlying firm and its appropriation towards various cost inputs like raw materials, rents, interests, taxes and profits. Since these components require fair estimate of the general macroeconomic conditions, a future prediction of the general economy condition will give an idea about the demand of the firm's product as well as the supply-demand interrelationship of various inputs. The forecast of the general economic conditions also gives insight into the future expectations of several sectors of the economy.

Sectoral growth can be further scanned to get an idea about the industry growth. After having the knowledge about the industry, the security analyst can predict the revenue and resultant future cash flows of a particular company. The security analyst is then required to calculate the rate at which cash flows should be discounted. This rate is normally decided by taking into account the following three rates:

Discount Rate = Real Risk-free Interest Rate + Premium for Inflation + Risk Premium

Chapter 4: Asset Allocation

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

Asset allocation is one of the crucial steps in the process of portfolio building. It is only after considerable thought that an individual should decide on the structure and content of his portfolio. Rather, it is possible to make reasonable decisions on this front only after spending considerable time to figure out what the future might have in store. Individuals having the resources to do so, often seek professional guidance in this matter, considering its significance and complexity. Not that the professionals can play the role of God, but that better knowledge and experience may bring out better results.

The process of asset allocation may take place afresh for a new investor or through a review for an existing investor. The review of the pattern of allocation may take place on a continuing basis or periodically. In the process of asset allocation or review of the current pattern of allocation, many steps are involved. The process involves two independent approaches to analysis, both of which ultimately merge into the process of optimization of the return and risk of the investor.

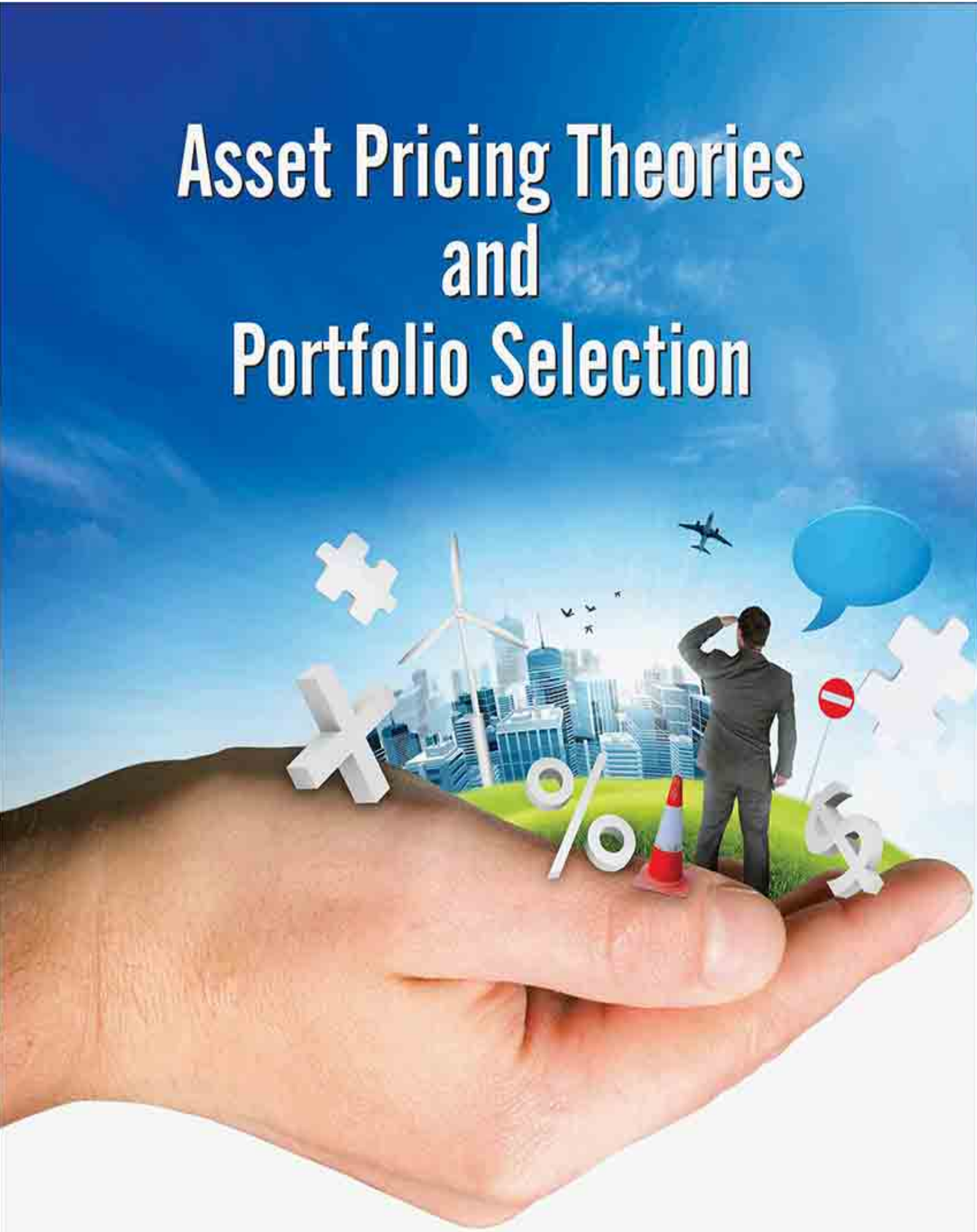
Asset Allocation Process

One of the two approaches is the determination of the risk-tolerance of the investor. The first step is to determine the assets, liabilities and net worth of the investor that are available for investment. If the goal of the investor is to maximize the assets, the goal should be determined in terms of the assets required to be accumulated by the end of the investment period. If it is in terms of the net worth or the surplus of the assets over liabilities, like in the case of institutional investors such as pension funds, the goal should be in terms of the surplus.

Next step is to understand the risk-tolerance of the investor. Generally, the current available assets or net worth will determine the investor's tolerance towards risk. The utility of the investor for each unit of return should be estimated and a policy should be formulated in this regard. The output of this line of analysis should be in the form of a statement that clearly indicates the investor's preferences regarding return and risk.

The other approach to analysis, carried on simultaneously, is the analysis of the investment opportunities in the capital markets. The first step is to study the current state of the capital markets. This study should include current levels of stock and bond indices, their historical changes, inflation projections and also studies of the real estate values. The output of this study will be useful for estimating the returns that can be expected from various asset classes in future and correlations among their returns. If liabilities are also relevant for the investor, the changes in the values of the liabilities and their correlations with the returns from the asset classes should also be estimated. A well tested estimation or prediction model should be used for this purpose. The final output of this analysis should be the information regarding the expected changes in value, risks and correlations.

Asset Pricing Theories and Portfolio Selection



Editor
Satish Kumar

Asset Pricing Theories and Portfolio Selection

Editor:

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Asset Pricing Theories and Portfolio Selection

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Chapter 1: Capital Market Theory

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

A risk-averse and rational investor would like to maximize the expected return for a given risk or would like to minimize the risk for a given expected return. Portfolio theory provides a normative approach for the analysis and identification of such risk-minimizing portfolios. Using Markowitz or Sharpe single-index model, an investor can identify the set of portfolios that maximize expected return at each level of risk. The set of efficient portfolios thus obtained is the efficient frontier. Every investor, in analyzing the risk and return of individual securities, should choose a portfolio, which lies on the efficient frontier.

Capital market theory relates to the pricing of financial assets and the equilibrium relationship between risk and expected return that results from the aggregate behavior of investors seeking to maximize expected return. The capital market theory is actually an extension of the portfolio theory, and it makes an attempt to develop a model to price the risky assets. In fact, the final outcome of the process, i.e., the capital asset pricing model determines the required rate of return for any risky asset.

Markowitz Model and Efficiency Frontier

The Markowitz model of portfolio analysis generates an efficient frontier, which is a set of efficient portfolios. A portfolio is said to be efficient if it offers the maximum expected return for a given level of risk or if it offers the minimum risk for a given level of expected return.

The concept of efficient portfolio can be illustrated with an example. Suppose you have three portfolios A, B and C. Risk-return characteristics of these portfolios are:

Portfolio	Expected Return $E(r_i)$ %	Standard Deviation of $E(r_i)$ %
A	8	12
B	8	18
C	10	18

If you are to choose between portfolios A and B, you would choose portfolio A since it gives you the same return as B, but has a lower risk than B. That is, portfolio A dominates B and is considered to be superior or efficient. In the same way, portfolio C dominates B and is considered to be efficient. If you can identify all such efficient portfolios and plot them, you will get what is called the efficient frontier.

In Figure 1.1, EF is efficient frontier, which is a set of efficient portfolios. Portfolios lying above the efficient frontier are desirable but are not available. Portfolios below the efficient frontier are attainable but not desirable since they are dominated by efficient portfolios.

Chapter 2: Arbitrage Pricing Theory

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

In the previous chapter, we have discussed about Capital Market Theory. One of the important constituents of the chapter is Capital Asset Pricing Model (CAPM) that establishes the relationship between risk and expected return for securities. In the basic CAPM, investors consider only the means and variances of portfolios. The equilibrium predictions of this theory assert that investors form portfolios consisting of the riskless asset and the market portfolio, the exact combination varying from investor to investor depends on unique individual preferences for expected return and risk. The primary prediction of the basic CAPM is that equilibrium expected returns should be a linear function of the return on the riskless asset (r_f) plus a market portfolio risk premium [$E(r_M - r_f)$], which is proportional to the beta of the security. In the zero beta version of the CAPM, the risk-free rate, r_f, is replaced with the minimum-variance zero beta security's expected return, $E(r_Z)$.

The present chapter discusses about Arbitrage Pricing Theory. One of the important constituents that the chapter deals is the Arbitrage Pricing Model, an alternative approach to CAPM model that explains the pricing of risky assets.

Arbitrage Pricing Model

Ross has proposed an alternative approach to explain the pricing of risky assets. His model, the Arbitrage Pricing Theory (APT), asserts that asset prices are determined through an arbitrage relationship. The APT is based on the premise that two or more securities or portfolios that provide the same pay-offs to their investors are same and must therefore sell at the same price. That is the law of one price. Put differently, if there are two securities that have the same risk but different expected returns, investors will arbitrage, or eliminate, these differences by buying the security with the higher expected return (lower price), and selling the one with the lower expected return (higher price). This process of buying and selling the two securities by investors will cause the price of the security of the higher expected return to raise relatively to the one with the lower expected return. This trading activity will continue until the two securities have the same expected returns.

Assumptions

One of the main criticisms against the CAPM is the assumptions on which it is based. APT proposed by Stephen Ross does not require some of the strong assumptions made by the CAPM. The APT does not assume the following assumptions made under CAPM:

a. There is a single period investment horizon.

b. There are no taxes.

c. The investors can freely borrow and lend at the risk-free rates.

d. The investors select portfolios based on the expected mean and variance of return.

Chapter 3: Portfolio Analysis

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

In the previous chapters we have discussed capital pricing theory and the arbitrage pricing theory (an alternative approach to capital pricing theory. While, the present chapter discusses about the portfolio analysis that analyzes the risk and return of different portfolios.

We know that the risk and return of a portfolio is not a simple aggregation of the risk and return of the individual securities that form the portfolio in most of the cases. Portfolio analysis deals with the calculation of risk and return of different portfolios. In this chapter, we shall analyze the risk and return of different portfolios that can be constructed with the help of a given set of stocks. We will also try to understand the portfolio diversification process for risk reduction and will finally analyze the various portfolio management strategies.

Components of Risk and Return

Portfolios are constructed to be held over some time period. We can calculate portfolio's expected return using the historical data or using the probability of future returns on the constituent securities. Portfolio theory is primarily concerned with the *ex-ante* events which indicate expected future events. All portfolio decisions are for future, and hence we should consider *ex ante* values. Conversely, if we want to evaluate portfolio performance, we should calculate the actual return and risk for past periods i.e., *ex post* values. It is important to understand that *ex ante* values will always be projected values, while *ex post* values will always be actual values.

Ex Ante Return of a Portfolio

The expected return on any portfolio can be calculated as a weighted average of the individual securities expected returns. The weights used must be the proportions of total investible funds in each security. The total portfolio weight will, therefore, be 100%.

For a portfolio of two securities:

Expected portfolio return (E_p) = $W_1 E_1 + W_2 E_2$

Where,

E_1 is the expected return on security 1

W_1 is the proportion of money invested in security 1

E_2 is the expected return on security 2

W_2 is the proportion of money invested in security 2.

Similarly, the expected return of a portfolio of n securities, E_p, is given as:

$$E_p = \sum_{i=1}^{n} W_i E(R_i) \; E(R_i) \qquad \text{.... Eq. (1)}$$

Chapter 4: Optimal Portfolio Selection

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

In the previous chapter we have discussed about portfolio analysis that analyzes the risk and return of different portfolios. Now, in the present chapter we discuss on the optimal portfolio selection.

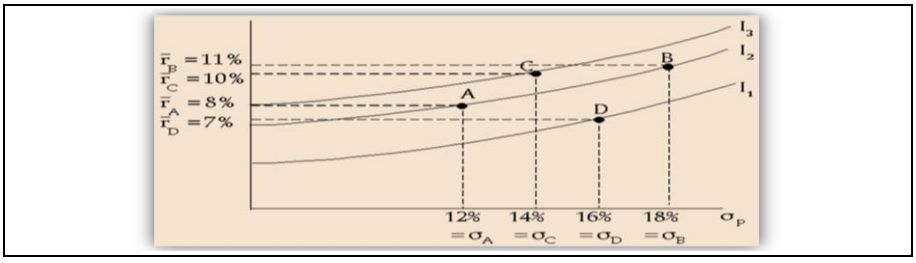
In 1952, Markowitz proposed the modern portfolio theory approach to investing. He assumed that an investor has a fixed amount to invest at the present for a particular time horizon which is known as the investor's holding period. After the expiration of the holding period, the investor will sell the securities that were purchased at the starting of the holding period. Subsequently the investor can either consume or reinvest or, partly consume and partly reinvest. This approach can be viewed as a single-period approach, where the starting period is denoted as $t = t_0$, while the ending period is denoted as $t = t_1$. The investor is required to take a decision on the type of the securities he would like to purchase at $t = t_0$ and hold until $t = t_1$. Since a portfolio contains various securities, this decision can be viewed as equivalent to selecting an optimal portfolio from a set of probable portfolios. In deciding about where to invest at $t = t_0$, the investor should estimate the expected returns on various securities under consideration and then invest in the one with highest expected returns. At the same time the investor should also consider the uncertainty attached with the realization of the return.

Concept of Indifference Curves

The main substance in portfolio theory is to find an efficient frontier or locus of possible portfolio opportunities. After determining this locus, the next question that arises is, how should investors select the most suitable option?

The most appropriate way to know about the best option on the efficient frontier is to assess the satisfaction an investor receives from the investment opportunities. The risk-return trade-off on any portfolio determines an investor's perception towards that portfolio. We will try to judge how the risk of a portfolio affects the investor's preference. Indifference curves or utility functions represent an investor's preference for risk and return and can be drawn on a two-dimensional figure, where the horizontal axis indicates risk as measured by standard deviation (denoted by σ_p) and the vertical axis indicates benefit measured by the expected return (denoted by r_p). Let us draw a set of preferences or indifference curves for a hypothetical investor as shown in the Figure 4.1.

Figure 4.1: Indifference Curves for a Risk-Averse Investor



Source: ICFAI Research Center

Chapter 5: Other Portfolio Selection Models

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

In the last previous two chapters we have discussed about portfolio analysis and the optimal portfolio selection. In the present chapter we will discuss upon the other portfolio selection models.

Existence of a single optimal portfolio for each investor, irrespective of his preference function means that a portfolio manager can choose a portfolio of risky assets for a client without any reference to the preference function of the investor. The question that arises is what is the significance of the preference function of the investor? Is there no role to be played by it? The answer to the question is that the preference function of the investor is important, but its role is in deciding what part of his portfolio should be invested in risky assets and in risk-free assets. It also has a considerable role to play in deciding how much of his income does the investor consume and how much he invests. The present chapter starts the discussion with a general introduction on what preference functions are. Then we will move onto the desirable economic characteristics of the preference function and the types of preference functions that possess these characteristics.

Investor Preference Functions

To facilitate our discussion, let us start with an example. Consider the following information about the returns from two investments, A and B.

Investment A		**Investment B**	
Return	**Probability of Return**	**Return**	**Probability of Return**
16	0.33	21	0.33
12	0.33	13	0.33
6	0.33	5	0.33

Comparing the above investments, we find that the average return is higher for B. But, the variability of the return is also high for B. In such a situation, how to decide whether B is more desirable than A? There are two ways to do so. The first is to ask the investor which one he prefers or whether he is indifferent between the two investments, given the information about the return and risk of the two investments. The second approach is quantitative – finding the value placed on higher returns as compared to lower returns, and calculating the expected value of the additional returns.

Before we move on to how exactly the second approach can be applied, let us discuss and consider a simpler example. Consider the following information relating to two cricket teams, X and Y.

	X	Y
Wins	65	50
Draws	20	45
Losses	15	5
Total	100	100

Portfolio Management Techniques



Editor
C. Anita

Portfolio Management Techniques

Editor:

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Portfolio Management Techniques

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Chapter 1: Portfolio Management Using Futures

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

An index futures contract is basically an obligation to deliver as settlement an amount equal to 'x' times the difference between the stock index value on the expiration date of the contract and the price at which the contract was originally struck. The value of 'x' which is referred to as the multiple is predetermined for each stock market index. For example, futures contracts of Nifty Index use a multiple of 75 while the futures contracts on BSE Sensex use a multiple of 50.

The multiple enables us to calculate the monetary value of an index futures contract. For example, if the settlement price of the Nifty futures contract is ₹ 8,120, the value of contract in monetary terms is 75 x 8,120 = ₹ 6, 09,000.

Features of Index Futures Contracts

The salient features of the index futures contract are as follows:

i. The most important feature of the index futures contracts is that these contracts are cash settled; there is no delivery of the underlying stocks.

ii. An investor can either buy or sell an index futures contract. When an investor goes long in the index futures contract, he will receive a cash settlement on the expiration date, if the closing price exceeds the contract price. On the other hand, if the closing price is less than the contract price, the investor will be required to pay the difference.

iii. For example, if the investor has bought the Nifty Index futures at ₹ 8,120 and on the expiration day, the value of the contract is ₹ 8,200, the investor will receive ₹ 6,000=(8,200-8120,120 x 75). On the other hand, if the index closes at ₹ 8,100 on the expiration date, the buyer will be required to pay the difference of (8,100-8,120)*75 = ₹ 1,500.

iv. Since index futures contracts are listed and traded on futures exchanges, the investor can offset his position on any day prior to the expiration day. For example, an investor who has gone long on an index futures contract can offset his position by going short on the contract and vice versa.

v. The performance of all index futures contracts are guaranteed by the exchange's clearing house. As in the case of options exchanges, the clearing house becomes the counterparty to both the buyer and the seller.

vi. The index futures contract carries the margin requirements which are applicable to both the buyer and the seller. The purpose of maintaining margin money is to minimize the risk of default by either party. The payment of margin ensures that the risk is limited to the previous day's price movement on each outstanding

Chapter 2: Portfolio Management Using Options

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

Options and Futures are the result of an unrelenting search for better financial instruments. They are classified as 'Derivatives' because they derive their value from an underlying commodity or a financial asset. The underlying commodities and financial assets range from agricultural products like wheat and cotton to precious items like gold, silver, petroleum and financial assets like stocks, bonds and currencies. Options on commodities have existed in different forms since 1860 for products as diverse as gold, wheat and tulip bulbs in the US. An active over-the-counter market in stock options had also existed there for nearly a century. However, investors incurred heavy losses when intermediaries resorted to large-scale manipulations in the absence of any standardized contracts. As a result, the commodity options disappeared from the listing of many exchanges by 1968. It was only in 1973 that organized exchanges began trading options on equities. In 1982, futures on equity and options on bonds were introduced in stock exchanges.

An option means a choice. An option in a financial market is created through a financial contract. This financial contract gives a right to its holder to enter into a trade at or before a future specified date. The underlying assets in options include stocks, stock indices, foreign currencies, commodities and futures contracts. These are called stock options, index options, currency options, commodity options and futures options respectively. An option is different from other derivatives in that it provides a downside protection against risk and also an upside benefit from favorable movements in the underlying asset prices.

Generic Terms Used In Options

Option: Definition

An option is a contract in which the seller of the contract grants the buyer, the right to purchase from the seller a designated instrument or an asset at a specific price which is agreed upon at the time of entering into the contract. It is important here to note that the option buyer has the right but not an obligation to buy or sell. But, if the buyer decides to exercise his right, the seller of the option has an obligation to deliver or take delivery of the underlying asset at the price agreed upon. The seller of the option is also called the writer of the option.

Call Option

An option contract is called a 'call option', if the writer gives the buyer of the option the right to purchase from him the underlying asset.

Chapter 3: International Diversification

(C Anita, Manish Aggarwal and C Vijendra)

Introduction

The presence of a real, truly efficient and integrated world capital market will attract the interest of investors to form a true world market portfolio. However, a fully integrated world capital market is still a dream for everyone. Moreover, there are several constraints imposed by different governments to make domestic investments more attractive. Even if the currency hedging instruments are not accessible to each and every investor who is interested in investing in foreign markets, the main support for international diversification comes from the potential excess return at a lower risk offered by the international investments. In simple words, we can say that international diversification provides an opportunity to domestic investors to improve their portfolio performance and yield more return than a naive domestic portfolio. Investors are always interested in diversifying their domestic risk by spreading their portfolio exposure to various types of securities. For domestic investors, international capital markets provide vast opportunities for diversification of their portfolios.

International CAPM

To present the International CAPM in which Purchasing Power Parity is assumed to be not good, we shall first present another way to look at the traditional CAPM. The equation of the traditional CAPM is as follows:

$$E[r_i] = r_F + (E[r_m] - r_F)\,\beta_i$$

By replacing β_i by its value, the equation becomes:

$$r_F + \frac{E[r_m] - r_F}{Var[r_m]}\,Cov[r_i, r_m] = r_F + \lambda\,Cov[r_i, r_m]$$

λ is called the unit market price of risk. This concept needs some comments:

- 'Unit' refers to the fact that λ is a normalized value because of the division by VAR $[r_m]$.
- This unit price is common to all stocks. The risk premium for a particular stock is equal to the unit price of risk times of the quality of risk of this stock, which is measured by Cov $[r_i, r_m]$. The expected return is then equal to the risk-free rate plus the risk premium, as stated above. λ simply measures the trade-off between contributions to the market portfolio's variance and expected excess return.

But, if we consider international diversification in case of an Indian and an American investor investing in both the US and India, this imposes two modifications to the standard CAPM. Let us assume no inflation to keep things simple.

- First, the market portfolio is now the aggregate of the Indian and the US market.

Performance Measurement of Mutual Funds



Editor
VDMV Lakshmi

Performance Measurement of Mutual Funds

Editor:

VDMV Lakshmi

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Chapter 1: Risks and Return of Mutual Fund Investments

(Sandhya Rani Yamsani)

Introduction

The key factors in the evaluation of performance of the mutual funds are return and risk. As the units of the mutual funds are traded/redeemed at NAV related prices, the computation of return from mutual funds is based on the NAV of the units of the fund. Evaluating a fund based only on returns does not give the true picture of the performance of the fund. Evaluation should also consider the risk of the fund i.e. the possibility that an investor will lose money. Risk in relation to funds is defined as the fluctuations in the price of the asset i.e. NAV of the unit.

Return on Mutual Fund Investment

The return to the investor of the mutual funds is in the form of dividend, if any paid and the capital appreciation. Capital appreciation occurs when the investors sells/redeems the units at a price higher than their purchase price. The R_p can be calculated by the holding period formula $[(NAV_1 – NAV_0) + Div_1] / NAV_0$. Thus, the one period rate of return from the scheme can be calculated by taking the change in the value of the NAV over the period plus the dividend distributions as a percentage of the NAV at the beginning of the period.

Example 1: The NAV of a unit of a fund was ₹17.50 on January 01, 2014 and ₹20 on March 31, 2014. An investor purchases the units on January 01 and sells the same on March 31 at their NAVs. Assuming no loads and dividend declared is ₹1.50, the return to the investor is calculated as

Return from the mutual fund = $[(NAV_1 – NAV_0) + Div_1] / NAV_0$

$$= \frac{(20 - 17.5) + 1.5}{17.5}$$

= 22.86%

The above is the simple absolute return for the holding period of the investor. In annualized terms, the simple return will be

= 22.86 X 365/90

= 92.70%.

Simple Annualized return can be used to compute returns of the funds for less than one year period. However if such short term returns are used to extrapolate to longer periods it may give a wrong picture of the expected returns from the funds. To compute returns over a longer period of time, compounded annualized return can be used. This is the compounded rate at which the investment has grown from one point to another.

Chapter 2: Measuring and Evaluating Mutual Fund Performance

(Sandhya Rani Yamsani)

Introduction

Evaluating a fund's performance can't be done simply by checking the investment returns of the fund. Although that is a good starting point, one needs to evaluate the risk involved in the mutual fund schemes. Apart from evaluating the risk and return of the fund, an investor should also compare its returns with those of similar funds or with appropriate market indexes. Two issues that are often overlooked involve costs and taxes. Costs can significantly reduce earnings on a fund investment, while taxes reduce the earnings that you are allowed to keep. Moreover, one needs to understand that different types of funds have very different tax implications.

Factors for Comparison of Funds

Historical total return of the fund is the summation of the income return (i.e. dividends distributed by the fund) and the capital return (i.e. change in the price of the units of the fund). For proper performance measurement of the fund, an investor apart from computing historical returns should compare the returns with other funds.

The factors an investor should consider in comparing the fund's performance are:

Long Time Period: The longer the period covered by fund performance data, the more reliable the conclusions about the fund's record. In determining the relative merits of two funds, comparing returns over just one year is of little value while comparing year-by-year returns (to see how performance has varied over time) can reveal the trend in the performance of the funds.

Same Time Period: When comparing two funds, it is essential that total returns for the *same period* for the funds in comparison are considered.

Comparable Funds: The fund's performance should be compared with another fund whose investment objective is similar to that of the fund's investment objective. For example an equity fund should be compared with that of another equity fund, a money market mutual fund should be compared with another money market mutual fund and so on. If the fund's performance is evaluated against a bench mark, then the appropriate index would be one whose composition reflects the composition of the fund.

Benchmarking

Every mutual fund is mandatorily required to specify the benchmark to which its performance could be compared. A benchmark is a portfolio that generates an independent level of return representing an asset class or investment style. Commonly used benchmarks for mutual fund performances are Market Indexes, Peer Group Returns, Returns of other comparable financial products.

Market index tracks the total return of all the securities (stocks or bonds) in the market or some segment of the market. Peer group averages measure the average returns achieved by a group of mutual funds with similar investment goals and policies.

Chapter 3: Helping Investors with Financial Planning

(Sandhya Rani Yamsani)

Introduction

A diligent financial planning exercise is a must to ensure that adequate money is available at the right time. The reasons that are driving individuals towards financial planning may vary depending on the time or nature of the problem. For example, a person may need money for marriage of his son/daughter or any other medical emergency or for life after retirement.

Financial planning ensures that right amount of money is available at right point of time in the future to cater to individual's financial needs. A successful financial planning ensures that considerable contribution is made to an individual's wealth.

Importance of Financial Planning

Financial planning is a process that helps a person to cushion himself and find out various ways through which he can reach his defined and desired goals by gathering relevant information, examining his financial status and adopting suitable strategies. Financial planning is becoming one of the most lucrative and sought after professions. The United States has over 25,000 financial planners who have received formal certification and are proficient in giving financial advice to their clients. The Indian picture reveals that there are tremendous opportunities in financial planning and it is likely to register explosive growth because of various driving factors associated with it.

Huge Demand for Financial Service: The saving habit is ingrained in the Indian psyche and is a tradition in households, although there is a low level of awareness about various investment options available. The Indian financial market lacks an organized approach towards finances resulting in irrational and emotional investment methodologies mostly driven by market sentiments. A traditional view of household investments reveals that the major share of investment is in fixed deposits and fixed income instruments, although the present scenario is changing. Financial planner should induce/invite them to invest in financial markets and investment opportunities that are complex for the average investor. Thus, a financial planner with his expertise and knowledge can give good financial advice to clients so that they can take informed and right decisions consistent with their investment goals. Thus, a sound financial planning exercise enhances the financial well-being of clients, and makes their lives better in relation to their demands.

In India, financial planning as a profession is yet to take-off. Although, there are a number of intermediaries selling financial products to clients, none of them offer a complete range of financial planning services.

Role of a Financial Planner

It is said that 'Money invested is Money earned'. Therefore, it is necessary for a person to create adequate income to be used during his retirement phase. The role of a financial planner lies in following a financial planning procedure so that he can help the individual meet his or her life's goals.

Chapter 4: Recommending Financial Planning Strategies to Investors

(Sandhya Rani Yamsani)

Introduction

Investment planning or financial planning is a process that determines effective investment strategies to generate and pool financial resources by investing in current assets and future savings for achieving financial goals.

The purpose of investing may be different for different people. For example, some people may invest to meet their down payment needs for their newly purchased flat or car, while some may do so to make additional income and yet others may invest for a retirement plan or to secure expenses for their children's education. Good investment planning can turn dreams into realities and helps one realize one's goals. Investment planning is essential, as good investment strategies will help one to gain more from a competitive market.

Financial Planning Objectives

The most prominent financial planning objectives are:

a. **Higher current income:** Most people invest their money so as to enhance their current income. The main motive behind such an investment is to receive benefit from the current income either in the form of dividends or interest.

b. **Save money for major purchases:** Some of the major expenditures in one's life are purchasing a home, meeting his/her child's educational need, investing capital in a business, making a world tour, purchasing an expensive car, etc. However, in many cases, this expenditure cannot materialize only through one's current income. Therefore, people often save money for several years in order to meet this expenditure.

c. **Planning for the retirement:** Another important reason to save money by investing in appropriate avenues is to provide for one's needs after retirement. In order to maintain a decent lifestyle even after retirement, people plan and make appropriate investments.

d. **Shelter from taxes:** Tax treatment for all sources of income is not the same. For example, if a person owns a real estate property, he/she can avail certain deductions, thereby reducing his/her tax liability. Thus, real estate can serve as a very attractive investment vehicle for some people. Secondly, investment in real estate supports other investment objectives like retirement planning.

Financial Planning Strategies – Investing for Long-Term

Power of Compounding

Compound returns offer one of the most powerful ways to build wealth. Compounding is simply reinvesting rather than spending the interest gained on the invested amount. It means earning interest on interest or returns on your returns from prior periods. While

Chapter 5: Recommending and Developing a Model Portfolio-Fund Selection

(Sandhya Rani Yamsani)

Introduction

Throughout our life, our financial objectives and needs can change dramatically and the investment options or the investment portfolio should anticipate and keep pace with those changes. With so many Funds in the mutual fund industry, the retail investor faces problem in selecting Funds and in building their portfolio of investment. The objective of Mutual Fund investment is to safe-guard retail investors' money. In this scenario, the investor needs advice on not only how to choose from the variety of investment options available, but also on how to design a proper investment strategy that is suitable to the investor's situation and needs, to ensure that they are invested in the right Fund.

In this age of financial irregularities and misconduct, it is difficult to choose fund houses having very good track record. It is important to go for a Mutual Fund Sponsor with an impeccable track record in terms of compliance and investor welfare. Equally important is requisite experience with a well-established firm with track record in Fund/Asset Management. The Fund Distributor/Advisor has a greater role to play in helping the investor in not only offering advice or simply pointing out the features of the various Funds but in helping the investor develop the right approach to investing – in developing a model portfolio for each investor considering his life cycle stage and wealth cycle stages.

Methods of Building Model Portfolio

In the chapter "Helping Investors with Financial Planning" different phases of life cycle and wealth cycle were discussed. The stages of investor life cycle and his wealth stage can be considered for developing a suitable model portfolio. The Table 5.1 below depicts the risk tolerance of the investor in his life cycle, the return needs, the investment time period and the tax exposure.

Table 5.1: Life Cycle Investment

	Early Career	Middle Career	Late Career	Early Retirement	Late Retirement
Risk Tolerance	High	High	Moderate	Moderate	Low
Return Needs	Growth	Growth	Growth	Growth/ Income	Income
Time Horizon	Long	Long	Long	Short/ Long	Short/ Long
Tax Exposure	Lower	Higher	Higher	Lower	Lower

Source: www.aaii.com

An effective model portfolio for the investor should be based on a balance between the risks the investor is willing to take and the returns he needs to achieve his goals. An understanding of the various aspects of investor investment profile will allow the advisor to assess the proper balance of model portfolio.

Basics of Financial Management



Editor
Pranati Mohapatra

Basics of Financial Management

Editor:
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Basics of Financial Management

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Chapter 1: Introduction to Financial Management

(C Anitha, U L Sunitha and Kirthika)

Introduction

Financial management has tremendous importance in the modern economic world; and at the same time, it is becoming complex day-by-day. Finance managers who were confined to national markets, are now looking towards international markets for their financing and investment activities. Financial management deals with financial planning and decision-making and includes all the tools and analysis for planning and decision-making.

A common thread running through all the decisions taken by managers is money and there is hardly any manager working in an organization to whom money is not important. Businesses are confronted with situations where decisions, which have important financial implications, need to be taken. It may be R&D, expansion of business, replacement of equipment, advertising or rising of funds domestically or internationally. Thus, a finance manager is involved in most of the decisions in an organization.

Meaning of Financial Management

Financial management is an integral part of management. All organizations, legal entities, individuals, government/quasi government entities are required to manage their finances effectively and efficiently. This necessitates an understanding of the subject of Financial Management.

Let us look at the following examples:

Example 1

Early-stage investor[1] Kae Capital aims to invest in up to 25 companies during the entire lifecycle of its second USD 30 million fund, raised in February 2016, and will fund between six and eight companies in 2017, said founder and managing director Sasha Mirchandani. Kae Capital will invest the proceeds of the fund in the next two years (2018-2019) and plans to double the size of its investments in early-stage start-ups from the current USD 500,000 to USD 1 million[2].

Example 2

The Indian government was all set to raise up to ₹ 6,000 crore from sale of the second tranche of Central Public Sector Enterprise's (CPSE) Exchange Traded Funds (ETF)[3], to be launched on 17 January 2017. The issue size of the fund would be ₹ 4,500 crore, with the option of raising another ₹ 1,500 crore, a government official said on condition of anonymity. The issue would remain open till 20 January[4].

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[1] An early stage investor is described as an investment firm that invests in startups.

[2] Source: http://www.livemint.com/Companies/G4VNtqhImf0ZX1tBgrRRsI/Kae-Capital-plans-to-invest-in-up-to-eight-startups-in-2017.html

[3] Exchange Traded Fund is a type of investment fund that is traded on a stock exchange.

[4] http://economictimes.indiatimes.com/industry/banking/finance/centre-hopes-to-raise-rs-6000-crore-from-second-tranche-of-cpse-etf/articleshow/56464533.cms

Chapter 2: Indian Financial System

(C Anita, U L Sunitha and Kirthika)

Introduction

An important function of a finance manager is to help make better finance decisions. These decisions are not made in isolation but in the midst of a financial system that acts as a facilitator or sometimes may be a hindrance. Every finance manager thus needs to be aware of the financial system in which he/she is operating.

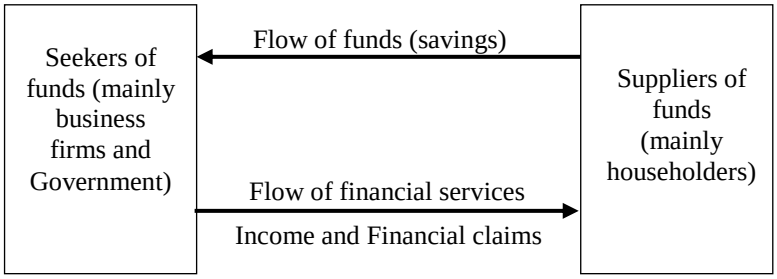
The financial system also helps determine both the cost and the volume of credit. The system can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Conversely, lowering the cost of credit can enhance all the above factors in the positive direction. Thus, we find that a financial system has an impact on the basic existence of an economy and its citizens.

Functions Performed by a Financial System

The financial system is one of the most important inventions of the modern society. The phenomenon of imbalance in the distribution of capital or funds exists in every economic system. There are areas or people with surplus funds and there are those with a deficit. A financial system functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A financial system is a composition of various institutions, markets, regulations and laws, practices, money managers, analysts, transactions and claims and liabilities.

The following Figure 2.1 depicts a financial system. By making funds available, the financial system helps in the growth of modern economies and increase in the standard of living among its citizens.

Figure 2.1: The Financial System



Source: ICFAI Research Center

The financial system helps determine both the cost and the volume of credit. The system can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Vice-versa, lowering the cost of credit can enhance all the above factors in the positive direction. Thus, we find that a financial system has an impact on the basic existence of an economy and its citizens.

(C Anita, U L Sunitha and Kirthika)

Introduction

The time value of money is an important part of financial management. Time value of money is all about compounding and discounting the rupee value. Suppose you can buy 10 mangoes for ₹ 100 today. After one year, the same amount of money may enable you to buy only 9 mangoes. You cannot buy the same quantity or more because the purchasing power of money has declined with the passage of time. This concept is referred to as time value of money. This whole idea when applied to the business world translates into financial decisions such as investing in the present market in those projects that yield higher return in the future or assessing the present value of a project based on its future yields. This chapter gives an overview of the concept of time value of money and its applications to financial decision making.

Meaning of Time Value of Money

To keep pace with the increasing competition, companies have to go in for new ideas implemented through new projects, be it for expansion, diversification or modernization. A project is an activity that involves investing a sum of money now in anticipation of benefits spread over a period in the future. How do we determine whether the project is financially viable or not? Our immediate response to this question will be to sum up the benefits accruing over the future period and compare the total value of the benefits with the initial investment. If the aggregate value of the benefits exceeds the initial investment, the project is considered financially viable.

While this approach *prima facie* appears to be satisfactory, we must be aware of an important underlying assumption. We have assumed that irrespective of the time when money is invested or received, the value of money remains the same. Put differently, we have assumed that value of one rupee now = value of one rupee at the end of year 1 = value of one rupee at the end of year 2 and so on. We know intuitively that this assumption is incorrect because money has time value. How do we define this time value of money and build it into the cash flows of a project? The answer to this question forms the subject matter of this chapter.

We intuitively know that ₹ 1,000 in hand now is more valuable than ₹ 1,000 receivable after a year. In other words, we will not part with ₹ 1,000 now in return for a firm assurance that the same sum will be repaid after a year. However, we might part with ₹ 1,000 now if we are assured that something more than ₹ 1,000 will be paid at the end of the first year. This additional compensation required for parting with ₹ 1,000 now is called ‘interest’ or the time value of money. Normally, interest is expressed in terms of percentage per annum for example, 12 percent p.a. or 18 percent p.a. and so on.***hy***

should Money have Time Value?

Here are some important reasons for this phenomenon:

Money can be employed productively to generate real returns. For instance, if a sum of ₹ 100 invested in raw material and labor results in finished goods worth ₹ 105, we can say that the investment of ₹ 100 has earned a rate of return of 5 percent.

Chapter 4: Risk and Return

(C Anita, U L Sunitha and Kirthika)

Introduction

As discussed in the chapter 1, while making the decisions regarding investment and financing, the Finance Manager seeks to achieve the right balance between risk and return, in order to optimize the value of the firm. Return and risk go together in investments. Everything an investor (be it the firm or the investors in the firm) does is tied directly or indirectly to return and risk.

This chapter discusses the concepts of risk and return, their components, sources of risk and the measurement of risk and return in an organization.

The Concept of Return

The objective of any investor is to maximize expected returns from his investments, subject to various constraints; primarily, that of risk. Return is the motivating force, inspiring the investor in the form of rewards, for undertaking the investment. The importance of returns in any investment decision can be traced to the following factors:

- It enables investors to compare alternative investments in terms of what they have to offer the investor.
- Measurement of historical (past) returns enables the investors to assess how well they have done.
- Measurement of historical returns also helps in estimation of future returns.

Types of Returns

The above factors reveal that there are two types of returns – Realized or Historical Return and Expected Return.

Realized Return

This is ex-post (after the fact) return, or return that was or could have been earned. For example, a deposit of ₹ 1000 in a bank on 1st January, at a stated annual interest rate of 10% will be worth ₹ 1,100 exactly a year later. The historical or realized return in this case is 10%.

Expected Return

This is the return from an asset that investors anticipate or expect to earn over some future period. The expected return is subject to uncertainty, or risk, and may or may not occur. The investor compensates for the uncertainty in returns and the timing of those returns, by requiring an expected return that is sufficiently high to offset the risk or uncertainty.

Components of Return

What constitutes the return on any investment? Return is basically made up of two components:

- The periodic cash receipts or income on the investment in the form of interest, dividends, etc. The term yield is often used in connection with this component of return. Yield refers to the income derived from a security in relation to its price,

Chapter 5: Leverage

(C Anita, U L Sunitha and Kirthika)

Introduction

Leverage is the use of borrowed funds or borrowed capital to increase the potential return on investment. Its use in the capital structure of the firm has the potential to increase the return and risk. In addition, laverage and capital structure are closely related concepts that are linked to capital budgeting decisions through the cost of capital. These concepts can be used to minimize the firm's cost of capital and maximize its owner's wealth. This chapter provides an insight into the concept of leverage, the various measures of leverage and its implications.

The Concept of Leverage

Leverage in the general sense means influence of power, i.e., utilizing the existing resources to attain something else. Leverage in terms of financial analysis is the influence, which an independent financial variable has over a dependent/related financial variable. These variables can be costs, output, revenue, earnings per share etc. Understanding the dependency of one variable on another helps the finance manager to assess the returns vis-à-vis the costs of a decision.

James Horne has defined leverage as, "the employment of an asset or fund for which the firm pays a fixed cost or fixed return".

When leverage is measured between two financial variables, it explains how the dependent variable responds to a particular change in the independent variable. To explain further, let X be an independent financial variable and Y its dependent variable, then the leverage that Y has with X can be assessed by the percentage change in Y to a percentage change in X.

$$LY/LX = \frac{\Delta Y/Y}{\Delta X/X}$$

where,

LY/LX – Measure of the leverage, which dependent Y has with independent X

ΔX – Change in X

ΔY – Change in Y

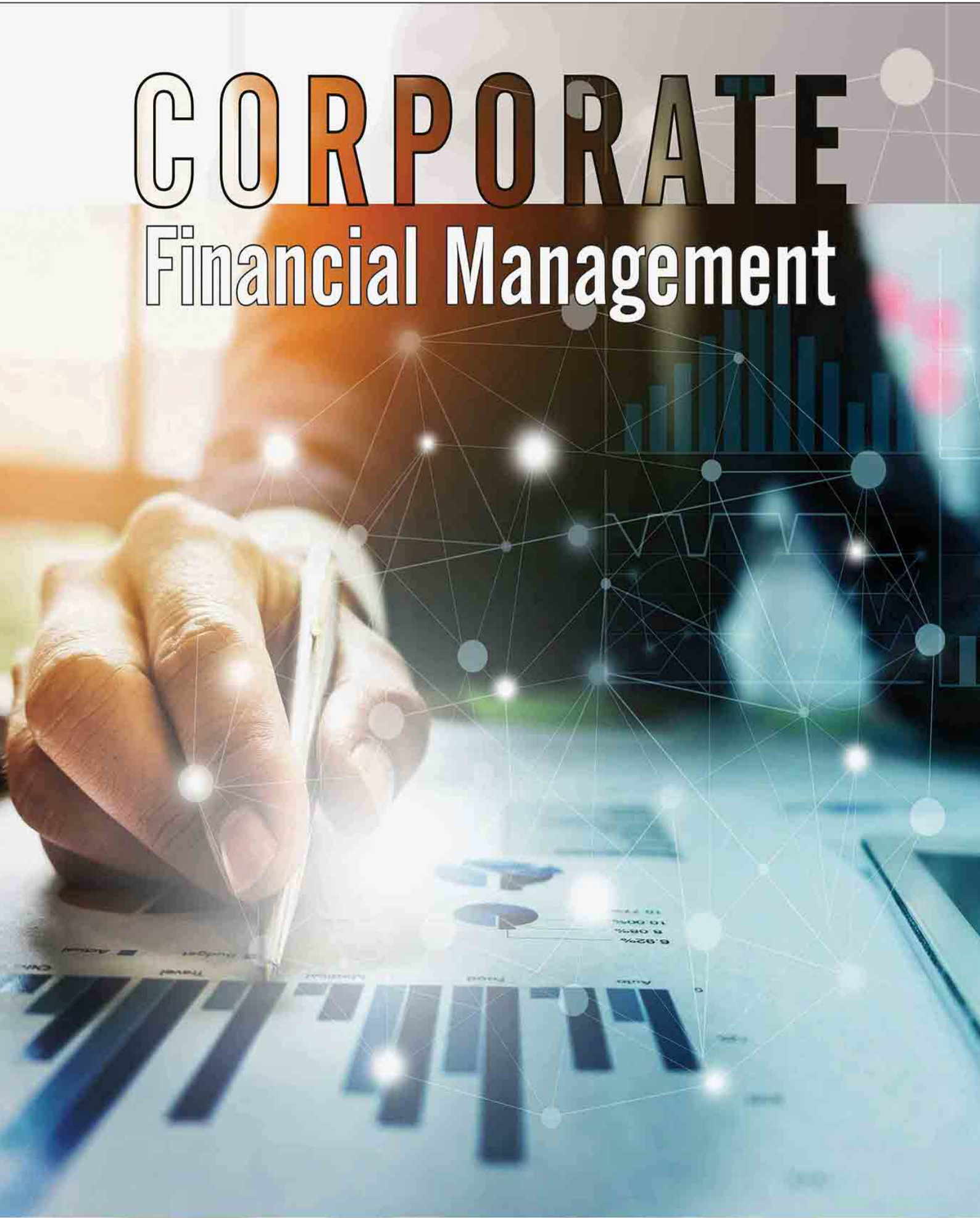
Δ X/X – Percentage change in X

ΔY/Y – Percentage change in Y

Measures of Leverage

The concept of leverage studies the inter-dependence between a company's EBIT (Earnings Before Interest and Taxes), Sales Revenue and EPS (Earnings Per Share). This inter-relationship is impacted by the presence of fixed operating costs that arise due to the use of borrowed funds. To understand this inter-relationship between the

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Chapter 1: Valuation of Securities

(U L Sunitha and Kirthika)

Introduction

The ultimate goal of any individual or a firm is maximization of profits or rate of return or the market value of one's investments. Thus, investment management is an on-going process that needs to be constantly monitored by way of information as this may affect the value of securities or rate of returns of such securities. Therefore, a finance manager needs to have basic knowledge and understanding of the framework of security valuation, which is essentially based on conceptual understanding of time value of money and risk-return relationship. Hence, while making valuation judgments about securities, the analyst constantly applies a process, which may achieve the following:

a. A true picture of a company over a representative time span

b. An estimation of current normal earning power and dividend payout

c. Estimate of future profitability and growth and the reliability of such expectations.

d. Translation of all these estimates into valuation of the company and its securities.

The concepts of time value of money studied in chapter 3 provide a fundamental background for the valuation of bonds and stocks.

Valuation Concept

An investor, who subscribes to the shares or securities of a company, has two main objectives:

- To ensure that his investment in the company grows
- To ensure that he receives a reasonable return on his investment

Valuation of securities is essential to check whether the above objectives are being realized or not. It also becomes the basis for the decision to buy, hold or sell the securities. This concept is also equally significant for a finance manager as knowledge of the values of stocks and bonds is a precursor to achieving the objective of maximization of the value of the firm.

A security can be regarded simply as a series of dividends or interest payments receivable over a period. Therefore, value of any security can be defined as the present value of these future cash streams i.e., the intrinsic value of an asset is equal to the present value of the benefits associated with it. Symbolically, it can be represented as:

$$V_0 \text{ (or } P_0) \text{ i} = \frac{C_1}{(1+k)^1} + \frac{C_2}{(1+k)^2} + \ldots + \frac{C_n}{(1+k)^n}$$

$$= \sum_{t=1}^{n} \frac{C_t}{(1+k)^t} \qquad \ldots\ldots(1)$$

Where, V_0 = Value of the asset at time zero

P_0 = Present value of the asset

Chapter 2: Sources of Long-term Finance

(U L Sunitha and Kirthika)

Introduction

The financial needs of an organization can be broadly classified into two heads: Short-term financial needs and long-term financial needs. Both these needs are financed either by short-term funds or long-term funds. It is prudent for an organization to meet its long-term fund requirement from long-term sources of finance rather than short-term sources.

The long-term decisions of a firm involve setting up of the firm, expansion, diversification, modernization and other similar capital expenditure decisions. All these decisions involve huge investment, the benefits of which will be seen only in the long-term. These decisions are also irreversible in nature. By nature of these projects, long-term sources of funds become the best suited means of financing. The long-term sources comprise shares, debentures and other long-term loans. A finance manager thus has to decide which of these sources is to be tapped to fund the company's long term investments as each of these sources have costs and benefits associated with them. This chapter explains the various sources of long-term finance, their features and how to analyses the costs and benefits of these long term sources.

Types of Capital

One of the most important considerations for an investment and financing decision is proper asset-liability management. Companies will have to face a severe asset-liability mismatch if the long-term requirements are funded by the short-term sources of funds. Such a mismatch will lead to an interest rate risk thereby enhancing the interest burden of the firm. It will also lead to a liquidity risk with the short-term funds being held up in long-term projects. Thus, it is important to fund long term projects with long term sources of finance.

Let us consider the following examples of costs and means of finance of a few projects:

Example 2.1

Ponni Sugars &Chemicals Ltd. is setting up a new sugar mill in Orissa, the details of the cost of the project and the means of financing are given below.

	Particulars	**₹in lakh**
Cost of the Project		
1.	Land and Site Development	102
2.	Buildings	543
3.	Plant and Machinery	2,959
4.	Miscellaneous Fixed Assets	176
5.	Fees for Consultants	55
6.	Preliminary and Pre-operative Expenses	445
7.	Provision for Contingencies	210
8.	Margin Money for Working Capital	60
Total		**4,550**

Chapter 3: Cost of Capital and Capital Structure Theories

(U L Sunitha and Kirthika)

Introduction

Now that we are familiar with the different sources of long-term finance, let us find out what it costs the company to raise these various types of finance. The cost of capital to a company is the minimum rate of return that it must earn on its investments in order to satisfy the various categories of investors who have made investments in the form of shares, debentures or term loans. Unless the company earns this minimum rate, the investors will be tempted to pull out of the company, let alone participate in any further capital investment in that company. For example, equity investors expect a minimum return as dividend depending on their perception of the risk undertaken based on the company's past performance or on the returns, they are getting from shares they have of other companies.

This chapter discusses the computation of the cost of capital of various sources of finance and explains the various theories of capital structure. Capital structure refers to the appropriate combination of debt and equity in long-term financing. Capital structure theories determine this optimal debt-equity mix with the help of cost of capital.

Meaning of Cost of Capital

The weighted arithmetic average of the cost of different financial resources that a company uses is termed as its cost of capital. Let us look at a simple example. A company has a total capital base of ₹ 500 lakh in the ratio of 1:1 of debt-equity[3] i.e., divided equally between debt and equity, ₹ 250 lakh of debt and ₹ 250 lakh of equity. If the post-tax costs of debt and equity are 7% and 18% respectively, the cost of capital to the company will be equal to the weighted average cost i.e.,

$$\frac{250}{500} \text{x } 7\% + \frac{250}{500} \text{x} 18\% = 12.5\%.$$

Thus, 12.5% is the minimum return that providers of capital will expect from the company. This minimum return is the cost of capital for the company. The concept of capital has extensive applications in the field of finance such as in evaluation of investment projects, for determining the capital structure, for assessing leasing proposals etc.

Assumptions

Given this definition of cost of capital, it must be noted that the use of this measure for appraising new investments will depend upon two important assumptions: (a) The risk characterizing the new project under consideration is not significantly different from the risk characterizing the existing investments of the firm, and (b) The firm will continue to pursue the same financing policies.

[3] This text is called the Debt-Equity Ratio which will be covered in detail later in this chapter.

Chapter 4: Capital Expenditure Decisions

(U L Sunitha and Kirthika)

Introduction

Capital expenditure decisions, also referred to as capital budgeting or investment decisions, may be defined as the company's decision to invest its current funds most efficiently in long-term assets in anticipation of an expected flow of benefits over a series of years. Capital expenditure decisions occupy a very important place in corporate finance as they are long-term decisions involving huge outlay.

This chapter gives an insight into the nature of capital expenditure decisions, the various steps involved in taking such decisions and the cost-benefit analysis associated with such decisions.

Nature of Investment Decisions

Let us look at the following examples:

Example 4.1

Power Grid Corporation Limited has commissioned projects for about 13,717 ckm (circuit kilo meter) of EHV (Extra High Voltage) transmission lines and 23,139 MVA transformation capacity with 15 new sub stations, which resulted in a record capitalization of ₹ 31,788 crores in 2015-16. These projects were started in the following areas - ±800 kV Biswanath Chariali - Agra HVDC Bi-pole, 765kV Jabalpur - Dharamjaygarh I & II, 765kV Meerut-Moga, 765kV D/C Aurangabad- Solapur line, 400kV D/C Barh-II TPS-Gorakhpur line (Quad) & 765kV Gwalior - Jaipur I & II[5].

Example 4.2

Lupin Limited, a leading generic pharmaceutical company, has invested ₹ 11,681 million in 2015-16 on creating new manufacturing facilities, ramping up existing facilities and investing in technology, automation and IT infrastructure. This investment is a 50% increase to its investment of ₹ 7,582 million in 2014-15[6].

The above items, which appeared in the annual reports of the respective companies, are typical illustrations of capital expenditure decisions, also referred to as capital budgeting or investment decisions. Such a decision may be defined as the company's decision to invest its current funds most efficiently in long-term assets in anticipation of an expected flow of benefits over a series of years. Capital expenditure decisions occupy a very important place in corporate finance for the following reasons:

- Once the decision is taken, it has far-reaching consequences which extend over a considerably long period, and influences the risk complexion of the firm.
- These decisions involve huge amounts of money.
- These decisions are irreversible, once taken.
- These decisions are among the most difficult to make when the company is faced with various potentially viable investment opportunities.

[5] Source: Annual Report of Power Grid Corporation 2015-16

[6] Source: Annual Report of Lupin Limited, 2015-16

Chapter 5: Dividend Policy

(U L Sunitha and Kirthika)

Introduction

We are aware that one of the important functions of a finance manager is to take the dividend decision. There are, basically, two options that a firm has while utilizing its profits after tax. Firms can either plough back the earnings by retaining them or distribute the same to the shareholders. The first option suits those firms, which need funds to finance their long-term projects. However, such projects should have enough growth potential and sufficient profitability. On the other hand, the second option of declaring cash dividends from the profits after tax may lead to maximization of the shareholders' wealth as it might reduce uncertainty, leading to increase in stock prices. This chapter explains the significance of dividend decisions and discusses the various models such as the traditional approach, Walter model, Gordon's dividend capitalization model, the Miller and Modigliani model and the Rational expectations model that are available to study the relationship between dividend decision and the return to equity shareholders.

Dividend Decisions - Introduction

The returns to the shareholders by way of either the dividend receipts or capital gains are affected by the dividend policies of the firms. This is mainly because the dividend policy decides the retention ratio and pay-out ratio (dividend as a percent of the profits). The dividend policy of a company is influenced by several factors such as investor preference for dividends, stock prices, capital budgeting decisions, etc. Investors prefer dividends as it is a source of income and also appreciates the market value of their shares. Companies however, have to look into their cash resources and other fund requirements before arriving at dividend decisions. For example, a report by Business Standard in 2013 said that nearly 40% of the companies paying dividend in cash are facing cash deficits. On the other hand, there are companies with cash surpluses, not paying sufficient dividend. SEBI in its Plan of Action for the year 2016-17 has encouraged companies to frame clear dividend distribution policies to ensure protection of investor interest. Exhibit 5.1 explains this initiative of SEBI.

Exhibit 5.1: The SEBI's Initiative to Encourage Listed Firms to Adopt their Own Dividend Policies

The basic function of Securities and Exchange Board of India is to protect the investor's interest in securities and to promote development of and regulate the securities market. In this regard, the board of SEBI has identified dividend distribution policy as a focus area for the year 2016-17 and efforts were made to encourage listed entities to adopt and put in their own dividend distribution policies to help investors in gaining a clearer picture on their returns. The proposal was formed as a part of SEBI's Plan of Action for the fiscal year 2017-2018, approved by the board of regulators. Earlier, SEBI's International Advisory Body had suggested that companies as a policy should not be forced to pay dividend and it is a better idea to explore mandating a dividend distribution policy for corporates.

Contd….

Chapter 6: Financial Forecasting

(U L Sunitha and Kirthika)

Introduction

Financial Forecasting describes the process by which firms think about and prepare for the future. The forecasting process provides the means for a firm to express its goals and priorities. The process will ensure that they are internally consistent. It also assists the firm in identifying the asset requirements and needs for external financing.

Firms also have goals related to Capital Structure (the mix of debt and equity used to finance the firm's assets), Dividend Policy, and Working Capital Management. Therefore, the forecasting process allows the firm to determine if its forecasted sales growth rate is consistent with its desired Capital Structure and Dividend Policy.

Need for Forecasting

Financial forecasting is a planning process with which the company's management positions the firm's future activities relative to the expected economic, technical, competitive and social environment. Financial forecasts are prepared to serve the following objectives:

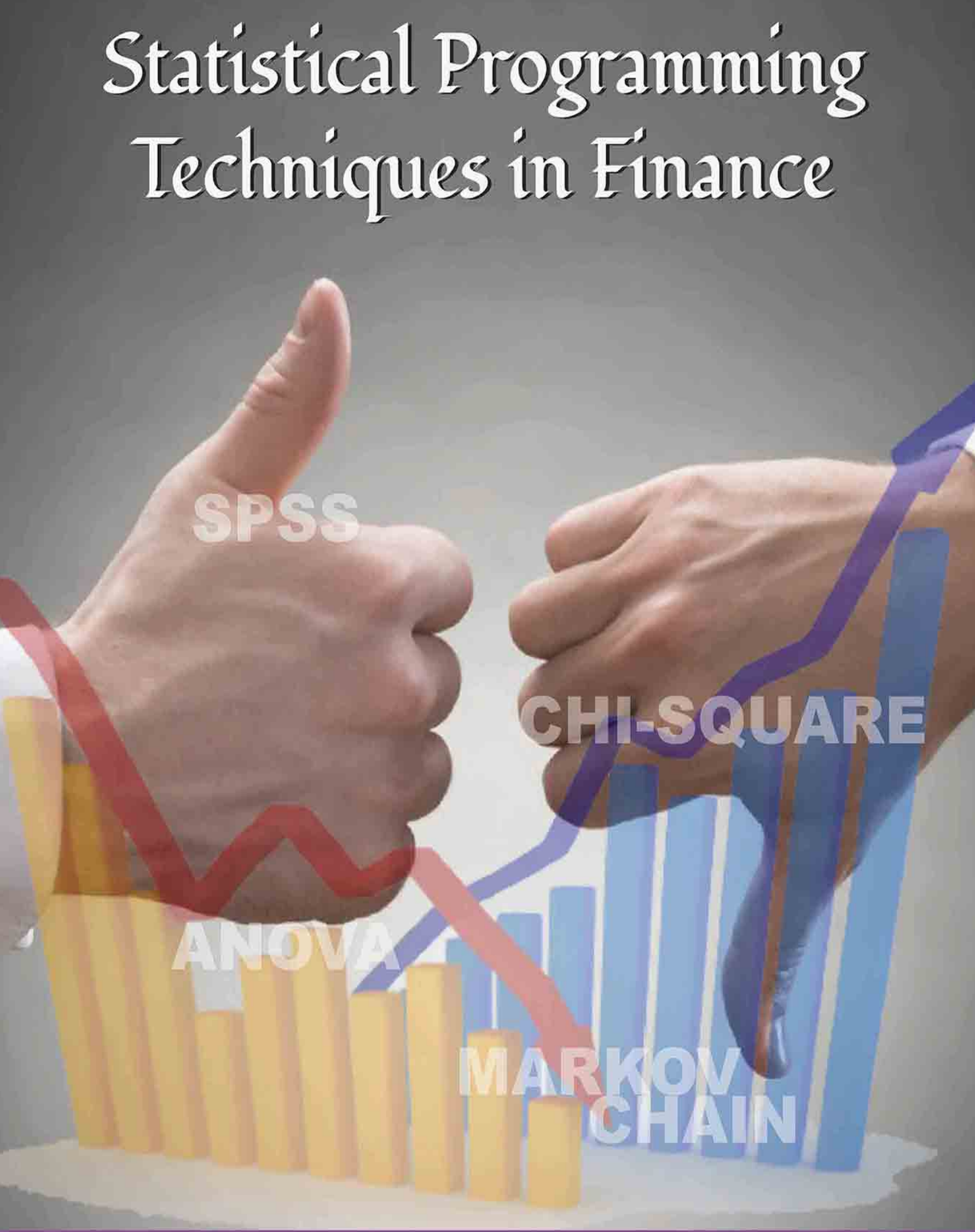
- To assess the financial viability of a new business venture. It permits a business to construct a model of how the business might perform financially if certain strategies, events and plans are carried out
- To guide the business in the right direction and undertake effective planning and control of cash flow
- To establish a benchmark against which to measure future performance
- To identify potential risks and cash shortfalls to keep the business out of financial trouble
- To estimate future cash needs and whether additional private equity or borrowing is necessary

Steps and Techniques in Financial Forecasting

Financial forecasting process involves the following sequential steps:

1. Identifying the economic variables and making assumptions about such variables. These variables can typically be the interest rate, tax rate, inflation rate, exchange rate etc.
2. Any financial forecasting process begins with preparation of sale forecast or budget. Based on the sales estimate, the costs to be incurred for generating the sales can be estimated.
3. Based on the sales estimates and the estimates of costs and expenses, the pro forma statements are prepared.
4. The preparation of pro forma statements, capital requirements can be projected and investment in fixed assets and working capital is planned.
5. Since the financial requirements are known, a comprehensive financial plan can be arrived at spelling out the sources of financing working capital and capital expenditures.

Statistical Programming Techniques in Finance



Editor
Kaushik Bhattacharjee

Statistical Programming Techniques in Finance

Editor:
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Chapter 1: Chi-Square Test and Analysis of Variance

(Kaushik and Kalyani D S)

Introduction

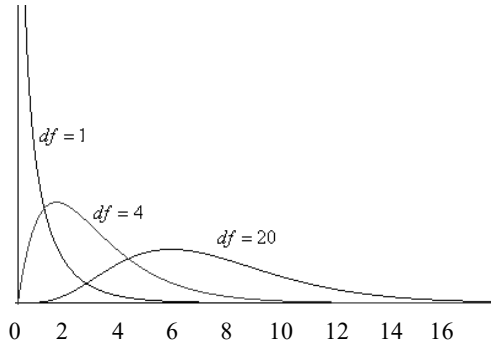
In managerial decision-making, often it may need to set up hypotheses which would test the equality of means or proportions belonging to more than two different populations simultaneously, based on random samples from each such distributions. In this chapter we study some of those techniques viz. the Chi square test (or often known as frequency Chi-square) and ANOVA. Chi-square test is used to determine whether the two attributes according to which a population is categorized in to two or more than two categories are independent of each other or not. It also serves as a test for equality of proportions which is known as test of homogeneity. Distributional goodness of fit is the other test which Chi-square performs. ANOVA or Analysis of Variance tests whether the difference between the sample means representing more than two populations is significant or not.

Chi-Square Distribution

If Z_1, Z_2… Zn are N (0, 1) then the distribution of $Z_1^2+Z_2^2+\ldots+Z_n^2$ is called as the Chi-Squared Distribution with degrees of freedom n.

The Chi-Square distribution, like the't' distribution has a single parameter called degrees of freedom. It's a distribution of a random variable called χ^2, and by definition it can assume only positive value. The total area under the curve for each of the degrees of freedom is one and the entire chi-square distribution lies on the right of the vertical axis. The shape of chi-square distribution depends on the degrees of freedom (dof). If the number of dof is small, the curve will be skewed to the right. As the number of dof increases, the curve also gradually tends to become symmetrical in nature (see Figure 1.1).

Figure 1.1: Chi-Square Distribution at Various Level of Degrees of Freedom



Source: ICFAI Research Center

Since probability distribution function (pdf) and hence the curve of a Chi-square variable is a function of its dof, it is difficult to have a table that would give us the areas under the curve for all possible values for all possible dof. Instead, Chi-Square

Chapter 2: Simulation

(Kaushik and Kalyani D S)

Introduction

This chapter deals with decision making process i.e. to choose an action from several available alternatives which would, in some sense, optimize the results obtained. The process of selection of the optimal alternative can be subjective or quantitative. Subjective approach decision is based on the previous experience. However, quantitative decision-making involves choosing an action from several available alternatives. In a business, the idea is to choose the course of action which would in some sense optimize the results obtained. When quantitative or mathematical methods are applied, we may adopt two approaches: Analytical approach and Simulation. Simulation technique is used when decisions are to be taken under conditions of complexity and uncertainty and no analytical solution is available readily. This chapter provides an insight into the analytical approach as well as of Simulation.

Analytical Approach

Analytical approach is a simple technique used in decision-making. For example, a vendor selling mangoes everyday wants to fix their price on a particular day. It could be equal to the competitor's price or above or below it. He has the following information about the historical sales.

Price (Rs.)	Quantity (Kg.)
16	60
15	80
17	40

The purchase cost of mangoes is ₹10 per kg and he has to pay ₹2 per kg as municipal tax. If he purchases more than 50 kg he can get a discount of Re.1 per kg and if he purchase 75 kg of mangoes he can get a ₹2 discount.

To find out the price that the vendor should charge, we must first determine his objective. Let us assume that his objective is to maximize profits.

To find out the price which would maximize the profits, we construct the following table:

Price (₹)	Sales Quantity (Kg.)	Sales Value	Cost (₹)	Profit (₹)
16	60	960	660	300
15	80	1,200	800	400
17	40	680	480	200

We thus find that the profits are maximized at the price of ₹15 per unit, and therefore this price should be chosen.

Chapter 3: Application of Statistical Software in Finance

(Kaushik and Kalyani D S)

Use of Computers in Finance

The discovery of computers has transformed the financial industry and how business deals are transacted. Computers influence both business and personal financial management. Computers enhance financial communication within members of an organization through a network system connecting various departments. With the use of computers, key financial decision makers are able to send financial reports and strategies instead of holding meetings. This system allows finance people to get updates on world stock exchange, and price changes affecting their business.

Data Storage

Computerization makes data storage manageable and less bulky. Computers enable organizations to store large amounts of files in a small space, allowing us to have a large track of historical transactions, while avoiding consumption of space that would otherwise be consumed by piles of files in cabinets. Keeping financial records is critical for organizations, as well as individuals, as it allows tracking of payment records, debts owed, purchases done and bank transactions made. Having detailed financial records helps an organization to continually audit and analyze business performance.

Financial Information

Computers have enhanced access to wide financial information through Internet access. Business operators or individuals can now access information on investment prospects, and conduct a detailed research on its profitability. There is also wide financial information available on the internet, such as world prices, tax changes, inflation rate and currency exchange rates making it easier for institutions and individuals to make informed financial decisions. The internet provides a wide source of information and access to specific financial reports of companies in trade.

Introduction to SPSS

SPSS is the acronym of Statistical Package for the Social Sciences. This package can perform highly complex data analysis using statistical and mathematical functions by means of simple instructions. SPSS for Windows provides a powerful statistical analysis and data management system in a graphical environment, using descriptive menus and simple dialog boxes. Statistical analyses carried out through SPSS can range from simple descriptive statistics like means and deviations to advanced analyses like regression and factor analysis.

SPSS is widely used for researchers in social science and statistics as well as business research. The package enables summarization and display of data with tables and graphs.The package comprises several modules with the SPSS Base System being the basic module. The package supports Macintosh, Windows as well as UNIX operating systems. To begin with the SPSS application we have to select the following Menu options from the Desktop: Start > All Programs > SPSS for Windows > SPSS 13.0 for Windows.


International Banking
Perspectives
Editor
D S Chary

International Banking Perspectives

Editor:
D S Chary

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Chapter 1: Trends in Banking: An Overview

(D S Chary and Katuri Nageswara Rao)

Introduction

The banking industry across the globe weathered several financial crises that have taken place such as currency crisis of 1997 and the subprime lending in US mortgage markets in 2007. This chapter provides a glimpse of the trends in banking in India and some selected economies. We start with a glimpse on Indian Banking scenario and banking scenario in major economies.

Indian Banking System consists of public sector banks, SBI Group, new generation private banks, old private banks, and foreign banks. It has a very predominant role in the nation's finance sector, accounting for over 85% of the financial assets. Theremaining is accounted by mutual funds, insurance sector, development of financial institutions etc. The Indian Banking System is controlled by the regulator (The RBI), with credit policies in consonance with the national level planning objectives and priorities. The system is a pure form of commercial banking, i.e., securities trading, investment banking, insurance underwriting and selling, and a host of other financial services.

The US banking system is regulated by the federal and state governments. The Federal Reserve System is the central bank of the United States. It performs five general functions to promote the effective operation of the U.S. economy. FDIC (The Federal Deposit Insurance Corporation) is a United States government corporation providing deposit insurance to depositors in US banks. There are different types of banks in US - economy savings banks, credit unions, commercial banks, savings and loans banks, and investment banks.

Banks and building societies operating in the UK (collectively known as UK monetary financial institutions – MFIs) comprise the largest banking sector in Europe and the 4th largest in the world. UK banks are subject to much tighter regulation. In the UK, the Financial Conduct Authority (FCA) is responsible for ensuring that financial markets work fairly.

Following the Financial Services Act (2012), a new regulatory authority - the Prudential Regulation Authority (PRA) was given authority to regulate UK financial services (individual firms in the financial sector) to ensure that they remain solvent and operate in the interests of consumers. The Act also created Financial Conduct Authority (FCA) to maintain high levels of competition in the financial sector.

We will discuss the banking system across different economies in the chapter.

Economic Reforms in India

The onset of economic reforms started in the year 1991 brought India out of financial collapse when India went into near default situation of the sovereign external debt of the nation during that time. Hence knowing the important developments of economic reforms started in 1991 is very important.

Chapter 2: Correspondent Banking

(D S Chary and Guru Ragahvan)

Introduction

Correspondent banking is the provision of banking services by one bank (the "correspondent bank") to another bank (the "respondent bank"). These services may include cash/funds management, international wire transfers, drawing arrangements for demand drafts and mail transfers, payable-through-accounts, cheques clearing etc.

A Correspondent Bank is a financial institution. It provides services on behalf of another, equal or unequal, financial institution. It conducts business transactions.

The ECB uses a similar basic definition in its correspondent banking survey, referring to "agreements or contractual relationships between banks to provide payment services for each other".

Domestic bank normally uses correspondent bank to perform service transactions of foreign origin because it cannot service its client accounts without opening a branch in another country. The correspondent bank acts as a domestic bank's agent abroad. This is done because the domestic bank may have restricted entry by limited access to foreign financial markets.

Banks will use a correspondent bank when it is not economically feasible to establish a branch in the correspondent bank's location.

For example, in the Indian scenario, the correspondent banks for an 'Indian Bank' for US dollars is Standard Chartered Bank in New York, for Euro is Citi Bank in Frankfurt, and for Japanese Yen is WELLS Fargo Bank in Tokyo.

These two banks – the principal and the agent banks – may also be located either in the same country or in two different countries.

Many larger banks perform backend banking service on behalf of smaller banks in the same country when they are having lesser operational expertise to perform such services.

The small bank lacks the financial and human resources wherewithal necessary to set up the systems and infrastructure it needs to comply with.

Correspondent Banking Transactional Flow

Through correspondent banking relationships, banks can access financial services in different jurisdictions and provide cross-border payment services to their customers, supporting international trade and financial inclusion. The main activity in this activity is financial transaction.

The flow of financial transactions in internal trade follows a particular pattern.

The Exhibit 2.1 below sketches out the main flows involved in correspondent banking payments and the interplay between correspondent banking services and payment systems. It shows the settlement of a payment from bank A to bank C via a correspondent bank. As banks A and C do not hold accounts with each other, they use the services of bank B as intermediary. In one case, bank B transfers the payment to C

Chapter 3: Overview of Exchange Risk in Trade Transactions

(D S Chary and K Seethapathi)

Introduction

All trade transactions in any business in any country will be denominated either in the domestic currency or in foreign currency. The financial transactions denominated in foreign currency are exposed to exchange risk. Many multinational companies operating in home and host countries are exposed to a variety of risks such as inflation risk, interest rate risk, tax risk, and foreign exchange rate risk.

However, foreign exchange rate risk is most critical as cash flows and profits are often affected due to adverse situations arising because of unexpected movements in foreign exchange rates. Variability in exchange rates results in foreign exchange exposure and risk.

Corporates, whether operating domestically or internationally, are exposed to risks of adverse movements in their profits resulting from unexpected movements in exchange rates. Foreign exchange exposure results in foreign exchange risk due to the unanticipated variability in exchange rates. Though these two terms -foreign exchange exposure and foreign exchange risk- are often used interchangeably, however in reality, they represent two different, yet closely related concepts. Let us first understand these two terms.

Factors affecting Exchange Rates

There are several forces behind exchange rate movements and its impact on a country's trading relationship with other countries. Strong currencies make a nation's exports more expensive and imports from foreign markets cheaper, whereas weaker currencies make exports cheaper and imports more expensive. Higher exchange rates adversely affect a country's balance of trade but lower exchange rates have a positive effect on it.

The following are some of the principal determinants of the exchange rates between two countries:

Inflation

A country with a consistently lower inflation rate exhibits a rising currency value, as its purchasing power increases relative to other currencies. Countries with higher inflation have more depreciation in their currency. Normally inflation is accompanied by higher interest rates.

Interest Rates

Interest rates, inflation and exchange rates are all correlated. Central banks can influence both inflation and exchange rates by manipulating interest rates. Higher interest rates offer lenders a return compared to other countries. Any increase in a country's interest rate causes its currency to increase in value as higher interest rates mean higher rates to lenders, thus attracting more foreign capital, which in turn, creates an increase in exchange rates.

Chapter 4: Risk Management in International Trade

(D S Chary and Srihari Krishna)

Introduction

Assets or liabilities denominated in foreign currencyare exposed to risk and the risk can be quantified. If we can quantify the exchange risk can we mitigate the risk? Let us understandthe methods or tools we use to mitigate the foreign exchange risk.

Human beings since the beginning of the civilization have always tried to manage risks faced in their day-to-day life. Keeping inflammable material away from fire, saving for possible future needs, creation of a legal will are all examples of attempts at managing risk. Although the terms "risk" and "uncertainty" are often used interchangeably, they are not synonymous to each other. There exists a proper distinction between certainty, uncertainty, and risk. Certainty is a situation wherein a clarity is provided about what will happen, happening or non-happening of an event and carries a probability of 1. Risk is the situation when there are many specific, probable outcomes, but it is not certain as to which one of them will actually happen. Hence, probability of occurrence of this event may be anywhere between 0 and 1. Uncertainty, on the contrary, is where even the probable outcomes are unknown. It reflects a total lack of knowledge of what may happen.

Risk is not an abstract concept. It is a variable which can be calibrated, measured, and compared. The degree of risk attached to an event is generally linked to the likelihood of the occurrence of that event. When the probability of the actual outcome is different from the expected outcome and is on the higher side, then the risk attached to it is also on the higher side. However, risk is a function of not only the probability of an outcome being different from that expected, but also its potential intensity, if it occurs. On 25th April 2015, at 11.41 a.m., a massive earthquake measuring 7.8 on the Richter scale took place in Nepal, killing around 10,000 people and rendering thousands homeless and injured. It is said that there have been no such intense earthquakes in Indian sub-continent in the past 80 years and even this one was not expected. This goes to prove the point that despite its high intensity, no one would have forecasted a proper riskiness of the same, as the probability of occurrence was very low. The magnitude of the probable outcomes and the probability of their occurrence, together determine the riskiness of an event. Hence, risk is generally measured using the concept of standard deviation.

As risk is a mix of both danger and opportunity, there is the possibility of the actual outcome which varies from the expected outcome. It comprises both downside risk and the upside potential. Downside risk is the risk wherein the actual outcome is highly adverse when compared to its expected outcomes. Contrary to it, upside potential means the actual results are better when compared to its expected results. In this chapter, we shall look at risk from the perspective of investors, corporates, and financial institutions.

Concept of Risk and Return

Risk implies the deviation of the outcome of an event from the expected outcome. Risk measures the probability of deviation. The investment of ₹1 lac in stock market may return much more than the investment or less than the investment. The

Chapter 5: Evolution of Basel Norms and Other Guidelines

(D S Chary and Katuri Nageswara Rao)

Introduction

Globally banks are highly leveraged financial entities. With a capital base of less than 7%, global banks look for the public deposits, re-finance funds and float funds. 93% of their balance sheet is funded by these sources.

This is the critical factor which compels the regulators (the Central Bankers), to closely supervise the banks in public interest, as their failure could cause massive loss to the depositors besides bringing down the economic growth drivers to a grinding halt. Bank failures therefore are perceived differently from the corporate failures.

Another reason to ensure safety and solvency of the banks is the all-important trust factor: Banks thrive on public trust, that's why banking is even defined as gigantic confidence trick, in the sense that banks just have only 7% of own funds to meet the demand for repayment of the remaining 93%. One should be cognitive to the fact that banks continuously deploy their total funds in loans and investments of different maturities and a very negligible amount in fixed assets, besides keeping some cash in hand and with the central banker, both the figures in total not exceeding 8% of the gross assets. Still the large numbers of small, medium and big depositors strongly believe in the ability of the bankers to be adequately liquid. Once this belief is lost, for whatever reasons, there could be a run on the bank, a situation where all the depositors join the queue before the cash and ATM counters of the bank for repayment of their money. No matter, however strong a bank otherwise is, it cannot survive this run for obvious reasons. Hence, it is the trust reposed by the depositors that sustain the banking model.

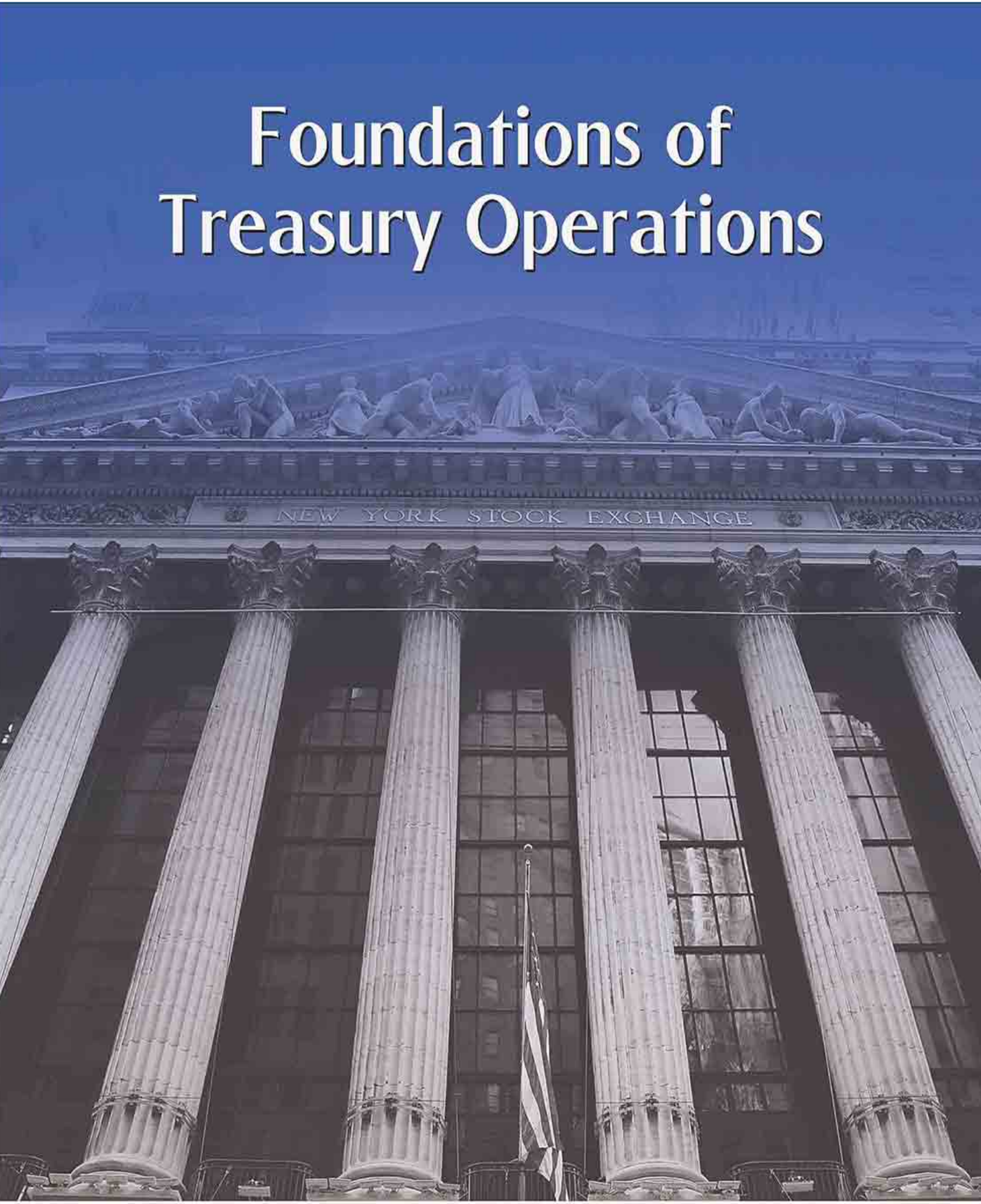
Another principal reason for the regulator to ensure safety and solvency of the banks is to preserve the integrity of the payment system of the nation, which essentially depends on the networked banking system.

G-10 Group's Initiative

Belgium, Canada, France, Italy, Japan, The Netherlands, The United Kingdom and the United States and the central banks of two others: Germany and Sweden are the G-10 group. G10 took initiative when Bretton Woods Monetary system collapsed.

With the collapse of Bretton Wood System of forex management (1973), the consequential problems of high leverage of US and German banks that led even to the failure of some of them, the central bankers of the G-10 group members in the year 1975 established a committee on banking regulations and supervisory practices known as Basel Committee on Banking Supervision (BCBS). The objective of this committee is to foster cooperation and coordination between the banks of the G-10 group nations, to prescribe the minimum standards for capital adequacy, regulatory overview and financial stability. The norms it framed are called 'Basel Norms'.

Foundations of Treasury Operations



Editor
VDMV Lakshmi

Foundations of Treasury Operations

Editor:

VDMV Lakshmi

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Foundations of Treasury Operations

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Chapter 1: Scope and Functions of Treasury Management

(C Anita and Aparna M)

Introduction

Traditionally, treasury managers have been focusing on cash management and investment decisions. For a treasurer, management of cash and other liquid assets like T-bills, CPs, etc., continues to be a key function in many organizations. In fact, treasury is a profit center in many banks and companies. Effective management of cash adds significantly to the liquidity and profitability of an organization.

The dynamics of financial markets of the world over are undergoing a transformation as businesses are increasingly getting globalized and more and more economies are becoming market driven. As a result of this changing scenario, one of the major consequences is the increasing volatility in the level of market (interest) rates, exchange rates, money supply and general level of prices.

In fact, the specialist treasury function is a recent development in many organizations but has grown dramatically since the early 1970s.

Definition

Many prominent financial practitioners and professionals – not surprising when the functions and operations of treasury differ widely from organization to organization, have defined treasury management differently. Depending on the size of the organization and nature of the business, the role of treasury can vary from simple cash management to all financial affairs excluding financial accounting, internal audit and other functions of a controller. For example, the functions of a treasury in a large textile unit are very different to a treasurer in a commercial bank. However, the fundamental elements of strategy, funds and risk management, tax planning, insurance, liquidity, internal controls and systems remain the same for all treasury departments. Treasury management can be defined as follows:

"Treasury management is the management of an organization's liquidity to ensure that the right amount of cash resources are available in the right place in the right currency and at the right time in such a way as to maximize the return on surplus funds, minimize the financing costs of the business, and control interest rate risk and currency exposure to an acceptable level."

In brief, treasury management is the efficient management of the financial risk and liquidity of the business.

Structure and Organization of Treasury Management

The organizational structure of finance department differs from organization to organization. There is no statutory pattern. Legally and theoretically, the right of managing a company vests in its shareholders, but their numbers being large and scattered, this task is entrusted to the board of directors. The main representative of the board of directors is the chief executive officer/managing director. He is the competent authority to take decisions on matters relating to the overall policy formulations and

Chapter 2: Financial Markets and Instruments

(C Anita and Aparna M)

Introduction

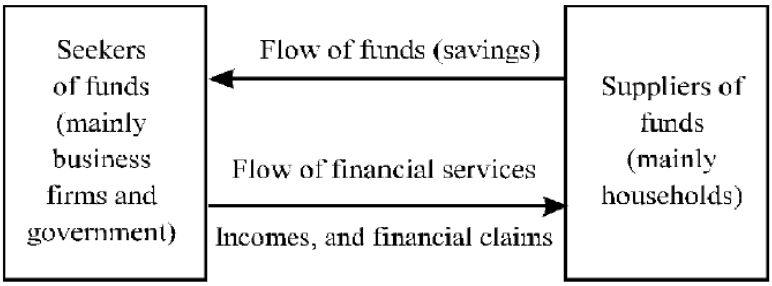
The financial system helps determine both the cost and the volume of credit. The system can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the economy. Vice-versa, lowering the cost of credit can enhance all the above factors in the positive direction. Thus, we find that a financial system has an impact on the basic existence of an economy and its citizens. This chapter provides an overview of the financial system, the role of financial markets and financial instruments.

Overview of Financial System

The financial system is one of the most important inventions of the modern society. The phenomenon of imbalance in the distribution of capital or funds exists in every economic system. There are areas or people with surplus funds and there are those with a deficit. A financial system functions as an intermediary and facilitates the flow of funds from the areas of surplus to the areas of deficit. A financial system is a composition of various institutions, markets, regulations and laws, practices, money managers, analysts, transactions and claims and liabilities.

The following Figure 2.1 depicts a financial system. By making funds available, the financial system helps in the growth of modern economies and increase in the standard of living among its citizens.

Figure 2.1: The Financial System



Source: ICFAI Research Centre

The financial system facilitates financial transactions between the entities. The financial transactions are done through cash or any other financial instruments. The system facilitates the flow of funds to various entities. The financial system is monitored by various regulatory agencies. Various macro economic factors influence the interest rate structure in the economy and raising interest rates can affect a raise in the cost of funds which adversely affects the consumption, production, employment and growth of the

Chapter 3: Time Value of Money

(C Anita and Aparna M)

Introduction

The time value of money is an important part of financial management. Time value of money is all about compounding and discounting the rupee value. If you can get 10 mangoes for ₹100 today, you may be able to buy only 9 mangoes of the same quality for the same amount after one year. You cannot purchase the same quantity or more because the purchasing power of money has declined with passage of time. This is called time value of money. Over a period of time, the value of ₹100 depreciates. This whole idea, when applied to the business world, means investing in the present market in those projects, which would yield higher return in the future market/period or comparing the future yields from the project to the present market. This chapter intends to provide an overview of time value of money and applicability of various concepts of time value of money.

Time Value

To keep pace with the increasing competition, companies have to go in for new ideas implemented through new projects be it for expansion, diversification or modernization. A project is an activity that involves investing a sum of money now in anticipation of benefits spread over a period of time in the future. If the aggregate value of the benefits exceeds the initial investment, the project is considered to be financially viable.

Here, we have assumed that irrespective of the time when money is invested or received, the value of money remains the same. We intuitively know that ₹1000 in hand now is more valuable than ₹1000 receivable after a year. In other words, we will not part with ₹1000 now in return for a firm assurance that the same sum will be repaid after a year. But we might part with ₹1000 now if we are assured that something more than ₹1000 will be paid at the end of the first year. This additional compensation required for parting with ₹1,000 now is called 'interest' or the time value of money.

Why should money have time value? Here are some important reasons for this phenomenon: Money can be employed productively to generate real returns. For instance, if a sum of ₹100 invested in raw material and labour results in finished goods worth ₹105, we can say that the investment of ₹100 has earned a rate of return of 5 per cent.

In an inflationary period, a rupee today has a higher purchasing power than a rupee in the future. Since future is characterized by uncertainty, individuals prefer current consumption to future consumption.

Let us understand this example with one more example.

Effectively rupee on hand today will be rupee + some additional amount after 1 year. If someone gets one rupee after one year from now, he would have deposited little less than one rupee today. The term rupee is used to indicate a quantifiable specific monetary value. This concept is brief in the following Exhibit 3.1.

Chapter 4: Fixed Income Securities – Bond Valuation

(C Anita and Aparna M)

Introduction

In comparison to equities, bonds at first sight appear less glamorous and exciting. But bonds too have their subtleties and pitfalls for the investors. In general, there is less uncertainty about the cash flows accruing to the bond-holders as compared to the share-holders. The emphasis is, therefore, more on fine-tuned calculations and analysis. Such careful computations may not be worthwhile in equities because there is greater uncertainty about the numbers that one is working with. Typically, bond prices fluctuate less than equity prices, and the investor who desires superior performance has to be on the lookout for even small differentials in prices and returns. In this chapter, we look at the nuances of bond valuation in detail.

Strategic Role of Bonds from an Investor's Point of View

While constructing a portfolio, it is quite important to consider the risk-return profile of an investor. The portfolio of an investor who is willing to take high risks to earn high returns might consist of common stock. On the other side, the portfolio of an investor whose only objective is to minimize the risk might consist wholly of securities issued by government and other bodies whose default risk is almost nil.

Most of the investors adopt a middle path. These investors find that their investment needs are modest and usually prefer less volatility in returns. These investors will be at an advantage if corporate bonds are incorporated into their portfolios. We know that each and every security in the portfolio contributes to the total risk. Some securities individually or as a group tend to increase the risk while some others tend to decrease it. That is, there can be different constituents of a portfolio so that their returns move in opposite directions negating the effect of one on the other so that a portfolio of little or no risk can be constructed. Quantitatively, this association is measured by correlation. Therefore, the correlation between the constituents should be as low as possible if not negative. It has been observed that the correlation of risk although positive is very low between common stock and corporate bonds. This fact should be taken into consideration while constructing a portfolio, as bonds which normally not only possess lower risk than common stocks but also tend to reduce the portfolio's risk more than proportionately than the reduction in the overall returns.

The interest paid on bonds is a tax-deductible expenditure unlike dividends which are not only post-tax expenditure, but also attract additional tax in terms of the current guidelines.

Consequently, an issuer will be able to offer better interest rates on bonds, an advantage to the investor.

Unlike the stock-holder who faces uncertainty regarding the rate as well as returns on his investment, a bond-holder receives interest payments regularly irrespective of the profits of the firm since payment of interest is an obligation on the part of the issuer

Chapter 5: Financial Forecasting

(C Anita and Aparna M)

Introduction

Financial forecasting describes the process by which firms think about and prepare for the future. The forecasting process provides the means for a firm to express its goals and priorities and to ensure that they are internally consistent. It also assists the firm in identifying the asset requirements and needs for external financing.

Firms also have goals related to Capital Structure (the mix of debt and equity used to finance the firm's assets), Dividend Policy and Working Capital Management. Therefore, the forecasting process allows the firm to determine if its forecasted sales growth rate is consistent with its desired Capital Structure and Dividend Policy.

Need for Forecasting

Financial forecasting is a planning process with which the company's management positions the firm's future activities related to the expected economic, technical, competitive and social environment. Business plans normally show strategies and actions for achieving desired short-term, intermediate, and long-term results. These are quantified in financial terms, in the form of projected financial statements (pro forma statements) and a variety of operational budgets.

There are three main techniques of financial projections. They are pro forma financial statements, cash budgets and operating budgets.

By developing pro forma statements, a comprehensive look at the likely future financial performance of a company can be obtained. These statements comprising P&L statement and a balance sheet are extended into the future. The pro forma operating statement (P & L) represents an 'operational plan' for the business as a whole, while the pro forma balance sheet reflects the anticipated cumulative impact of assumed future decisions on the financial condition of the business at a selected point of time. Both statements are prepared by taking the most readily available estimates of future activity and projecting, account by account, the assumed results and conditions. A third statement, a pro forma funds flow statement, adds further insight by displaying the various funds movements expected during the forecast period.

An example on financial forecasting is provided in the following Exhibit 5.1.

Exhibit 5.1: Will the Financial Forecast on Reliance Jio Be Attainable?

KR Choksey Shares and Securities, a popular stock brokerage firm in India, has made a prediction that Reliance Jio is stated to be the next member of 'Club One Crore' in the next two-five years. This is based on its study of 'Reliance Jio'.

The prediction made is on two pre-conditions-

1. Telecom Industry's maintenance of compound annual growth rate (CAGR) of 12% for the next five years.
2. R Jio proposed adoption of subscriber based model in contrast to Revenues Per

Financing International Trade



Editor
Aruna Kumar Dash

Financing International Trade

Editor:

Aruna Kumar Dash

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Financing International Trade

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Chapter 1: International Economics and International Finance

(Aruna Kumar Dash and M Aparna)

Introduction

International finance or international macroeconomics is a wide subject that covers contemporary issues such as: Why is the INR (Indian National Rupee) so volatile against the USD (US Dollar)? Should we liberalize our domestic capital markets to accept FDI (Foreign Direct Investment) and FPI (Foreign Portfolio Investment)? What is the impact of higher FDI and FPI on domestic inflation? Is the CAD (Current Account Deficit) at a record high of $87.80 billion in 2012-13 sustainable? Similarly, at a corporate level, finance managers of MNCs who try to maximize shareholder wealth by playing across geographical markets have to live with the harsh reality of varying tax rates, interest rates, inflation rates and exchange rates of the host countries. The competitiveness of an MNC depends on how they manage their international finance function effectively. Hence, MNCs want to know answers to questions like: Should we invest in China? Should we serve US/European markets? In today's globalized world, international trade, investments, and aid will influence the movement of exchange rates. Volatile exchange rates influence revenues, costs, cash flows, profits, and thereby the market capitalization (measure of shareholder wealth).

Every student of finance should gain mastery over this subject of international finance as it deals with causal factors of changing exchange rates and its impact on global trade and investments.

International Trade Theories

A well-developed global financial system is essential for supporting increased international trade. The international payment system, the availability of international credit and credit guarantees (all forming a part of the international financial system), form the backbone of international trade. International trade theories can be seen as a measure to solve a nation's economic problems. Adam Smith advocated free trade as it leads to economic welfare of the society. Trade theories explain characteristics of trading countries and from that they deduce:

- Why a country engages in an international trade?
- Why a country specializes in a certain kind of commodity exports or imports?
- What are the effects of trade on the domestic economy?
- Why is the intensity of trade more between any pair of countries?
- Should a country promote exports and avoid imports?

International trade theory deals with the different models of international trade. They are developed to explain the diverse ideas of exchange of goods and services globally. Some major theories of international trade are:

i. Theory of Absolute Advantage

ii. Theory of Comparative Advantage

Chapter 2: Balance of Payments

(Neeraj Kumar and M Aparna)

Introduction

The Balance of Payments (BoP) is defined as 'a systematic accounting record of all economic transactions during a given period of time between residents of a country and foreign countries or non-residents of a country'. In other words, it is an accounting statement that takes into account all economic flows coming in and going out of country. Balance of Payments account aims to maintain a systematic record of all economic transactions between the home country and the Rest of the World (RoW) for a specific period of time which is usually a year. Every country participating in international trade records its transactions in an account called Balance of Payments (BoP) account. International transactions include all payments made by the country for its imports, gifts and investments abroad and payments received for exports, gifts and investments by foreigners.

The United States and some other nations including India also keep such record on a quarterly and yearly basis. In India, The Reserve Bank of India (RBI) keeps record and makes official estimates of all international transactions: merchandise exported and imported, money lent or borrowed abroad, tourist expenditure, interest and dividends paid abroad or received, shipping services, and so forth. Together, these make up balance of payments -which is an overall measure of flow of goods, services and capital flows between a country and the rest of the world. If Telangana government provides some goods or services to West Bengal government, then it will not be considered in India's balance of payments because the transactions occurred within the country's geographical boundary. They cannot be considered as exports. On the other hand, if Indian farmers exports some basmati rice to United States, then it will be included in India's balance of payments because the transactions occurred beyond the country's geographical boundaries. International institutions such as International Monetary Fund (IMF) the United Nations (UN), the World Bank, the World Trade Organizations (WTO) are not residents of the nation in which they are located.

Any International transactions are classified as credit or debits. All credit items are recorded as positive signs (+ve) in balance of payments and all debit items are recorded as negative sign (-ve) in the balance of payment. Debit transactions are those transactions that involve making of payments to foreigners. For example, if India imported cars from United States, then India need to pay US dollar and money will be debited from India's account. Hence, it will be recorded as debit items of India's balance of payments and credit items of United States balance of payments. On the other hand, if India exports tractors to the United States, then money received by India is recorded as credit items of India's balance of payment and money paid by the United States is recorded as debit items of United States balance of payments. Hence, credit transactions are those transactions that involve the receipts of payments from foreigners. Credit items provides us the foreign currencies. On the other hand, debit items reduce the foreign currencies.

Chapter 3: Financing of International Trade

(Neeraj Kumar and M Aparna)

Introduction

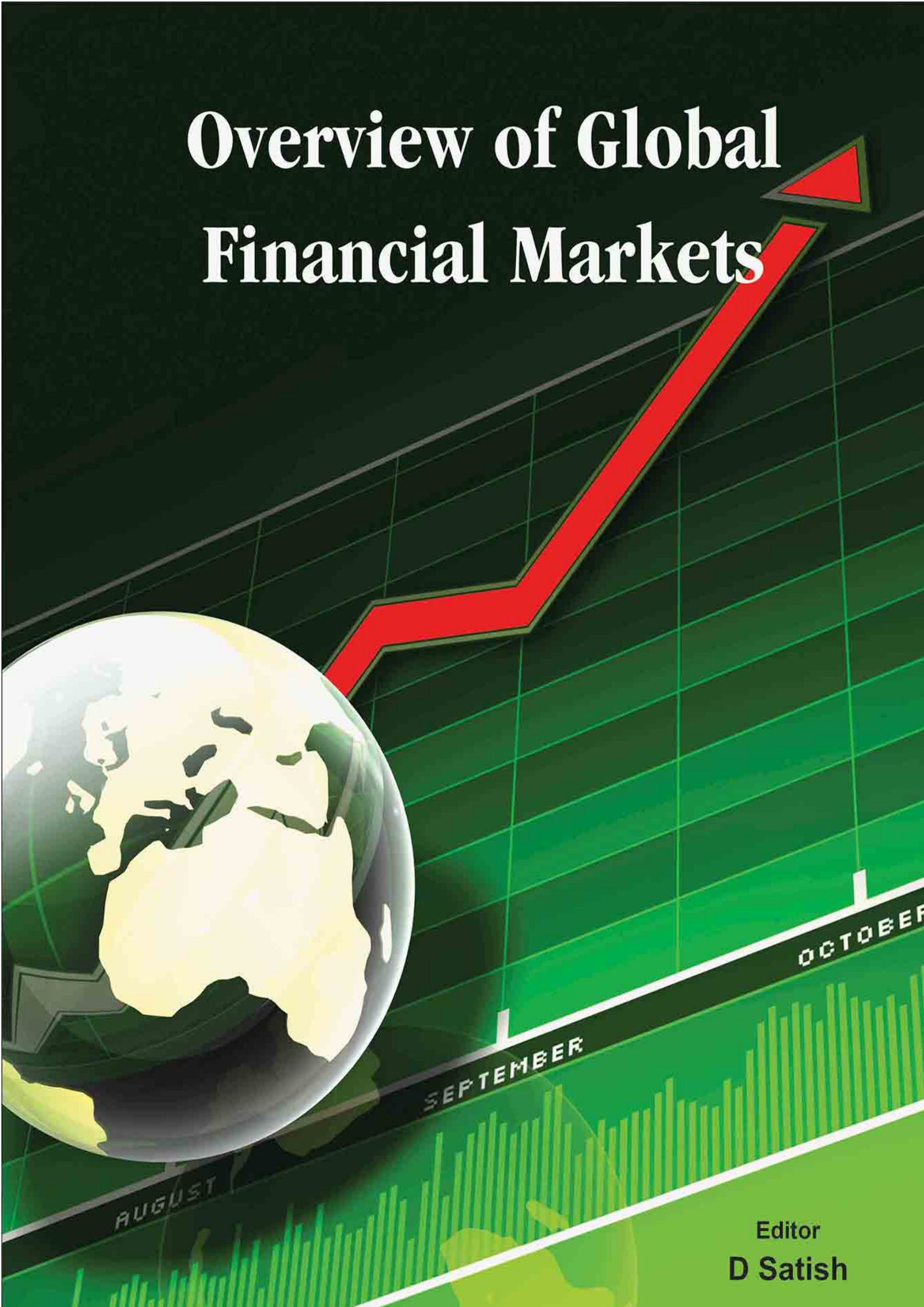
Trade finance, especially international trade includes support services provided by the government, trade bodies and trade promotion councils. In Indian scenario, the role of Export Import Bank of India is pivotal. Export-Import Bank of India (EXIM Bank), one of the top financial institutions in the country, was set up to promote and finance international trade through the Export-Import Bank of India Act, 1981. The main objective is for providing financial assistance to exporters and importers, and for functioning as the principal financial institution for coordinating the working of institutions engaged in financing export and import of goods and services with a view to promoting the country's international trade.

Evolution of EXIM Bank*

Indian exports during the fifties and the early sixties consisted of primary commodities and traditional manufactures like jute and cotton textiles. The dominant viewpoint was that in India's case, expansion in domestic demand alone could realistically serve as the engine for economic growth, since export expansion opportunities were limited and there were fundamental constraints (like inadequate infrastructure) to export growth. The ideology relating to the manufacturing sector was to promote industrialization through import substitution. As a result, the export sector remained neglected with a small share in India's GDP. Nevertheless, the process of industrial development in India promoted through the import substitution strategy provided an impetus to the growth of a large and diversified industrial base, particularly the engineering industry. A number of emerging industrial sub-sectors also proved to be internationally competitive. The change in India's export profile commenced slowly in the sixties with a growing share of non-traditional manufactured goods and value-added products. During 1978-79, the Ministry of Finance convened meetings to discuss the proposal regarding setting up of an Export-Import Bank. At these meetings, it was agreed that there was a justification for a separate institution on the ground that it would be able to devote concentrated attention to the needs of exporters and explore new methods for augmenting credit on reasonable terms. It could also concern itself with investment finance required for export production. By 1980, engineering goods exports had grown to constitute 13 per cent of Indian exports. Project exports were also buoyant. The growing demand of project exporters for an EXIM Bank, vigorous support from the Ministry of Commerce and increasing emphasis on export promotion combined to push the government into taking a final view. On June 18, 1980, in his budget speech in Parliament, the then Finance Minister, Shri R. Venkataraman, announced the important decision to establish an EXIM Bank. Export-Import Bank of India was thus born after two decades of debate on the need for a specialized export credit agency for India and the role of international trade in India's economic development. The Export-Import Bank of India Act was passed in September 1981 and the Bank commenced its operations in March 1982.

**Source: https://www.eximbankindia.in*

Overview of Global Financial Markets



Editor
D Satish

Overview of Global Financial Markets

Editor:
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Overview of Global Financial Markets

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Chapter 1: Introduction to Global Markets

(Satish and K.Nageswara Rao)

Introduction

In this Chapter you will learn about global financial markets. Global financial markets consist of financial institutions, instruments and regulatory system and business players operating across various international markets.

In financial markets investment is lifeline – investment for expansion of business, investments in financial instruments, investment in other countries. Hence while introducing the global financial markets issues related to foreign direct investment in India, global bond market, corporate bond market, private and venture capital, strategies of investments by private equity firms, hedge funds, external commercial borrowings and trade credit, and trade finance are discussed.

This chapter also discusses the various issues and challenges in global financial markets. The beginning of 1990's heralded globalization process across all emerging economies. The financial markets have started picking up trading volumes and introduction of newproducts in all parts of market segments has gained momentum. Globalization has influenced all the economies. The main features of globalization are integration of financial markets, large capital flows across the economies through FDIs, private equity, venture capital, foreign portfolio and other modes of funding.

Globalization

Globalization makes the world a global village as the geographical boundaries for trade literally vanish. Globalization facilitates increased trade and business with the rest of the world. The globalization process opens free movement of capital among the different countries and helps the economies to take speedy path for the growth.

Globalization is a process of interaction and integration among the people, companies and governments of different nations, a process driven by international trade and investment and aided by information technology. Globalization is not restricted to finance, banking, trade and production alone. It includes cultural confluence as well, though the popular definitions generally do not consider this aspect.

"Globalization" in particular related to financial sector is movement of people, goods, services, technology and finance (long, medium and short term) across countries and continents, with minimal restrictions in the form of taxes or tariffs or embargoes. In a sense, every country enjoys financial globalization without isolation. It is a question of difference in degree of globalization.

The term 'Globalization' has multiple definitions. Globalization is the concept of inter-connected economies, interlinked technological, cultural, environmental, and political processes across the countries.

The intention of capitalists of advanced nations in the early 1980s was to expand into greener pastures, and this started the globalization process. Multinational Companies

Chapter 2: Macro Issues Impacting Global Markets

(Satish and Guru Ragahvan)

Introduction

In the previous chapter, we studied about basic instruments in global financial markets, global bond market, corporate bond market, private equity and venture capital, strategies of investment by private equity firms, hedge funds, external commercial borrowings and trade credit, carry trade and trade finance.

In this chapterwe will be discussing some of the important issues like the impact of the political scenario on financial and commodities markets, the market dynamics in price setting in various markets and how the carry trade is playing an important role in global trade. We will also be studying how the yield curve reacts, the quantitative easing introduced by various economies to smoothen the market sentiment and risk management in global markets.

Financial markets will create a strong base in all economies – whether it is developed economy or developing economy. Financial markets are impacted by many macro factors or issues day in and day out. This chapter will make an attempt to bring out all these macro aspects, briefly discussing each of them.

The main function of a financial market is facilitating capital formation). The prevailing political scenario is the first and foremost factor to influence such activities. At any point of time the political scenarios *stable or unstable* - will decide investment pattern. Capital flows between countries are triggered by such evolving political scenario. Since additional cash flows lead asset creation and consequent wealth creation, asset valuation techniques are very important for capital formation and investment decisions. Large scale participation in investment activity in any economy by the investing community will trigger strong capital formation in that economy. Hence let us understand some of the important aspects in the markets which will impact the decision making by the investing community.

What is the price discovery method applicable or available and how is the price set? In the same breadth, what is the level of prevailing interest rates and how it is going to change during the course of the investment?

The level of development of local financial market-place can be ascertained by looking at arbitrage opportunities present for the financial assets. The factors like yield curve, liquidity of the market, inflation in the country and the effective capital gains etc. will enable evaluation and ascertain the future direction of the market-place.

The financial markets get impacted by the factors like:

- The size of the market
- Measures taken for cross border capital flows
- Quantitative easing monitor by central bank
- Transparency in the financial markets

Chapter 3: Multilateral Institutions

(Satish and Srihari Krishna)

Introduction

In the previous chapter, we studied the impact of political scenario on business, and the impact of carry trade on global financial markets and related topics.

In this chapter, we will study Bretton Woods System, World Trade Organization and Bank for International Settlement.

By the end of the World War II, the economies of all countries that took part in the war, were in shambles and needed revival. An international conference was convened in Bretton Woods, New Hampshire, United States in July 1944. The goal of the conference was to establish a framework for economic cooperation and development that would lead to a more stable and prosperous global economy. The International Monetary Fund and the World Bank were created.

One of the recommendations of the Bretton Woods Conference (July 1944) was the establishment of an International Trade Organization (ITO). After various rounds of discussions between the major economies, the final Act of the General Agreement on Tariffs and Trade (GATT) was signed by its 23 members on 30th October 1947. GATT continued its functions among the member countries despite its institutional deficiencies, The GATT managed to function as a de facto international organization, sponsoring eight rounds of multilateral trade negotiations. The Uruguay Round, conducted from 1987 to 1994, culminated in the Marrakesh Agreement, which established the World Trade Organization (WTO).

The World Trade Organization (WTO) has emerged as the most important instrument of globalization. It has produced stringent new regulations and rules of global economic engagement. It has centralized within its ambit, the most important instruments of regulating global trade - investment, production and capital flows.

The other international organization is Bank for International Settlements. BIS was established in 1930 to serve central banks in their pursuit of monetary and financial stability, to foster international cooperation in those areas and to act as a bank for central banks.

Though all these international organizations are working for the overall growth of the economies across the globe, regional disparities continue to exist. Economic disparity in Asian continent is one of the main concern in this regard. In a Ministerial Conference on Asian Economic Cooperation held by the United Nations Economic Asian Economic Cooperation in 1963 the idea to establish Asian Development Bank became a reality to foster economic growth and cooperation in Asia, one of the poorest regions in the world.

Let us see how these multilateral organizations facilitated various economies of the world to weather the turbulent times of financial crises that are erupting every now and then.



International Trade

Editor
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International Trade

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Chapter 1: Trade Blocks

(T Koti Reddy, Srihari Krishna and UL Sunitha)

Introduction

The post-World War II period has seen a growing interest in integrating national economies at regional levels. Efforts to create regional groupings, trade bloc and treaties have often floundered due to political differences and unforeseen economic hurdles. The motivation for these efforts arises out of the realization of the limitations imposed by national frontiers and the expected benefits of a wider market, comprising several national economies. This has resulted in increased trade, investment and economic efficiency.

This chapter deals Trade Blocks.

We begin this chapter by discussing World Trade Organization (WTO), which was created to replace the GATT. The WTO is working on the lines of GATT by limiting harmful trade practices.

World Trade Organization (WTO)

The World Trade Organization (WTO), which began its operations in 1995, is a successor of General Agreement on Trade and Tariffs (GATT). The GATT was a forum where the member countries used to meet from time to time to discuss and solve world trade problems. The WTO differs from GATT in the sense that it is a chartered trade organization. The WTO has a legal status and enjoys privileges or immunities on the same footing as the International Monetary Fund (IMF) and the World Bank. The number of governments that became members of the WTO on its first day was 76. The membership of WTO increased to 148 by February 2005 and as on July 2016, the number of member countries had increased to 164. India is one of the founder members of the WTO. The WTO is based in Geneva, Switzerland.

Its main functions are to:

- Administer and implement the multi-lateral and pluri-lateral trade agreements
- Limit harmful trade practices
- Act as a forum for trade negotiations
- Cooperate with other international institutes working in global policy-making
- Oversee national trade policies
- Administer the understanding on rules and procedures governing the settlement of disputes under 'Dispute Settlement Understanding' (DSU).

Structure of WTO

The World Trade Organization (WTO) is headed by the ministerial conference which meets at least once in every two years. The ministerial conference works for greater coherence in economic policy-making at the global level. The ministerial conference is the supreme authority of the WTO. WTO is the authority to take decisions on all matters under any of the 'Multi-lateral Trade Agreements'. There is a 'General Council' constituting representatives of all the members to oversee the operations of the WTO agreement and ministerial decisions on a regular basis. It also acts as a 'Dispute

Chapter 2: Foreign Trade Policy

(T Koti Reddy, C Anitha and UL Sunitha)

Introduction

In the previous chapter, we dealt with various issues related to nature and scope of World Trade Organization (WTO), some of the important Multilateral Trade Negotiations, the formation of international cartels / trade bodies like OPEC, EC and UNCTAD.

In this chapter, we deal with the genesis of the trade policy important features of trade policy and its impact on foreign exchange earnings.

Foreign Trade plays a vital role in economic development of any nation and India has been no exception. In a globalized world, no country is self-sufficient. Every country depends upon others for their exports and imports of goods and services. Foreign trade in India comprises of all exports and imports of goods and services to and from India. In India, the Government of India, the Ministry of Commerce and Industry announce the export-import policy, which is called as EXIM policy and foreign trade policy. Earlier the foreign trade policy used to be announced annually. However, w.e.f. 1.4.1992, the Government of India came out with Foreign Trade Policy which is valid for 5 years period to afford continuity, stability and thereby minimize the uncertainties for exporters and importers. Foreign trade policy is announced after every five years and updated on 31st of March every year aims at regulating and managing imports and promoting and maintaining exports. Though the policy is for 5 years, it is periodically reviewed to adopt to the changing domestic and international scenario. The foreign trade policy 2015-20 determines India's foreign policies concerning commerce, business, and trade. The foreign trade policy (2015-2020) provides a framework for increasing exports of goods and services as well as generation of employment and increasing value addition in the country, in keeping with the "Make in India" vision of our Hon'ble Prime Minister. The focus of the government is to support both the manufacturing and service sectors, with a special emphasis on improving the 'ease of doing business' (Foreign trade policy report, 2015-20, Government of India, Ministry of Commerce and Industry). In new trade policy, the major focus areas are trade facilitation and enhancing ease of doing business and commitment to move towards paper less processing. Due to which, the number of mandatory documents required for exports and imports of goods from/into India have come down to three, which is comparable with international benchmark. Foreign trade policy does not allow exporting the goods that are scarce and needed within the country.

Foreign trade policy 2015-20 introduces two new schemes - "Merchandise Exports from India Scheme" (MEIS) for exports of specified goods to specified markets and "Services Exports from India Scheme" (SEIS) for increasing exports of notified services. There would be no conditionality attached to any scrips issued under these schemes. Duty credit scrips issued under MEIS and SEIS and the goods imported against these scrips are fully transferable (Foreign trade policy report, 2015-20, Government of India, Ministry of Commerce and Industry). This will promote the domestic capital goods manufacturing industry. Such flexibility will help exporters to

Chapter 3: Documentary Credits

(T Koti Reddy, C Anitha and UL Sunitha)

Introduction

In the previous chapter, we discussed Foreign Trade Policy which provides framework for export and import activity in the country. This chapter deals with how international trade takes place through letters of credit mechanism.

Any trade involves two parties - in a domestic trade both parties are domiciled in the same country and in international trade one of the parties is a foreign national. So, trade takes place between nationals of two different countries and two different political boundaries, different legal frameworks, different trade policies. Also, the currencies of the two countries are different. Further, trade and exchange regulations applicable to both the parties may differ. In such a situation, a seller who ships goods will be apprehensive whether he/she will receive payment from the buyer or not. However, the buyer will be concerned whether the seller will ship the goods ordered for and deliver them on time. Given these complexities, a need for an ideal method of settling international trade payments was felt and consequently the usage of 'Documentary Credits', commonly known as 'Letter of Credit' (LC) came into vogue.

Initially, even this arrangement created discomfiture as parties involved in the transaction have been using different terminologies/interpreting the arrangement in different ways. Subsequently, ICC came up with a set of guidelines in the name of 'Uniform Customs and Practice for Documentary Credits' (UCPDC) to facilitate uniform interpretation of terminology used under 'Documentary Credit' by all concerned. The UCP first appeared in 1933 and since then is getting refined with the experiences gained from time to time. The latest revision of UCP took place during 1993. The latest version of rules that govern the Letter of Credit transactions worldwide is UCP 600 prepared by 'International Chamber of Commerce (ICC) Commission on Banking Techniques and Practices' approved on 25th October 2006. These rules came into effect from 1st July 2007 and its full name is 2007 revision of 'Uniform Customs and Practice for Documentary Credits, UCP 600[33].' The UCPDC has thus attained universal acceptance and the local courts too are referring to these articles while settling trade disputes.

The different methods of payment in international trade are given for a comparative analysis. Every method has its utility, depending on the contractual obligations of the parties, the market practices, demand and supply of goods, mutual trust both the parties to the contract repose on each other. The common methods of payment in the international trade are given in Table.3.1.

[33] *http://www.uscib.org/ucp-600-ud-4465/*

Chapter 4: Export Finance and Exchange Control Regulations Governing Exports

(T Koti Reddy, Srihari Krishna and UL Sunitha)

Introduction

In the previous chapter we have discussed various issues on Letters of Credit, one of the important instruments in international trade and finance. We briefly discussed the nature and significance and characteristics of Letter of Credit. We also discussed the rights and responsibilities of parties to a Letter of Credit and some of the operational details of Letters of Credit.

As discussed earlier, exports play a key role in the Indian economy. Exports help in augmenting the country's foreign exchange reserves, besides generating employment. Exports give a boost to the economic activity in the country ultimately improving the standard of living. As the international trade grows with an accelerated pace, there is a need to support it with export-import finance. To further encourage the exporters, and to give a boost to this sector, governments offer several incentives.

Undoubtedly, exports play a very crucial role in a developing economy like India. Hence, any effort to promote exports cannot ignore the vital aspect of finance. The requirement of finance for an exporter may arise either at the pre-shipment stage or the post-shipment stage. Timely availability of credit at competitive rates enables an exporter to produce quality goods and ship it within the delivery schedules prescribed by the overseas buyer. Further, timely availability of credit simply enhances the credibility of Indian exporters and also increases their share in the market. Thus, in the present chapter, we discuss various regulations and incentives provided by the government through various measures.

Scope of Export Finance

In the era of globalization, countries have entered an intense competition in international trade. This heightened competition in international trade compels the governments to support their exporters to aggressively compete in the global markets. To be highly competitive in the global markets, one of the important requirements for the exporters is to provide attractive terms of credit to their overseas buyers. Export finance is a key competitive factor with several advantages for the exporters.

1. **Adequate finance to boost the competitiveness of exporters:**

   The exporters experience huge liquidity constraints on their firms while providing such attractive credit to overseas buyers. To overcome such liquidity strains and boost the exporters' financial credibility, it is very important to make available adequate export finance facilities for the exporters both from the national, foreign, and multinational financial institutions. Well-designed export finance helps the exporter in not tying-up the firm's assets but helps in avoiding credit-risk, currency-risk, and interest-rate risks during the settlement periods. Furthermore, export finance saves the exporter from the use of the expensive administrative resources in collecting the payments from the debtors.

Chapter 5: Import Finance and Exchange Control Regulations Relating to Import Finance

(T Koti Reddy, C Anitha and U L Sunitha)

Introduction

In the previous chapter, we have discussed the exchange control guidelines relating to exports and various types of funding facilities available to exporters. We have also discussed the regulations that are currently in force for the exports at length, under the Foreign Trade Policy 2015-2020 of Chapter II. In the present chapter, we shall discuss the scope and facets of import finance, and the exchange control regulations that govern the imports into the country.

In India, imports into the country are regulated as per the provisions in Foreign Trade (Development and Regulation) Act, 1992, where the central government announces from time to time policy guidelines governing imports.

Import Finance

As the structure of the global economy is changing steadfast, import finance assumes greater significance as it benefits the countries in acquiring goods and services that are available in foreign countries. More often, countries resort to import of goods and services when such goods/services are not domestically available or their domestic production is not cost-effective. For example, certain countries import raw materials such as crude oil and commodities such as metals that are not available at affordable costs in their national dominions. On the other hand, most of the countries import a range of consumer goods such as clothing, car, confectionery, televisions, etc., to meet the domestic demand. However, the import of goods and services is strictly regulated by the national governments as it can adversely affect the balance of payments and foreign exchange positions of the countries. For example, in India, the import policy is announced annually by the Government of India and is regulated by the office of the Director-General of Foreign Trade in coordination with the Reserve Bank of India. Export-Import Bank of India (EXIM Bank) and Commercial Banks (both the public sector and private sector) play a crucial role in the provision of import finance in India.

Import finance is the finance that helps to bring foreign goods into a country. Over the last three decades, the upsurge in globalization has resulted in the liberalization of economies which has led to the rise in the demand for imports. The provision of import finance, more specifically in developing and least-developed countries, has a vital role in facilitating globalization. Imports have certain clear benefits to the countries such as speeding up of their industrialization, meeting the domestic demand, improving the standards of living, overcoming the natural disasters, and ensuring national defence.

The need for import finance arises due to the challenges in overseas trade, where the risk of uncertainty of payment and moving of the goods is ever-present. Import finance thus, helps the businesses smoothen their cross-border transactions. Import finance involves the different types of credit facilities that facilitate the importers in managing their cash-flow problems. In some regional contexts, it is also termed as trade, stock, or inventory finance. Essentially, import finance in the form of a credit facility enables the importer to acquire the financial resources to further the business objectives. In simple terms, import finance funds the gap between receiving the goods and making the

Financial Systems and Financial Markets



Editor
Naseem Ahamed

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Chapter 1: Constituents of Financial System

(Rajneesh Ranjan Jha, TV Rao and Aparna M)

Introduction

The economic development of a nation is reflected by the progress of the various economic units, broadly classified into corporate sector, government and household sector. While performing their activities, these units will be placed in surplus/deficit/balanced budgetary situations. While the corporates will have a surplus arising from the retained earnings, their need for funds will be for investment in new projects, for expansion/ diversification/modernization, etc. On the other hand, the government which is always in a deficit budgetary situation will be in need of funds for public expenditure, to finance its developmental projects and other PSUs, etc. Apart from these two economic units, even the household sector will require funds for varied purposes for example, for acquiring assets. However, the surplus funds of the households will normally be more when compared to the other units. Hence, it can be observed that, at any given point of time there would be some units having idle funds and a few others which would be in need of funds. The volume of funds required for the investment activity of corporates and for the public expenditure of the government is very large when compared to the household requirements. And if funds are not provided for these activities, it will hinder economic progress. On the other hand, there are surplus budget units which have excess funds in the form of savings. Mere act of saving will, however, not guarantee economic progress. This is due to the fact that savings and investments will usually be carried out by different groups, savings come from the household sector and the investments are being made by the corporate sector. Hence, there should be a mechanism to ensure that savings flow from those who save to those who wish to invest. This process would enable the utilization of excess idle funds, thereby enhancing their value. Enabling such a transfer of funds from the savers to the borrowers is the Financial System.

Financial System

A system is a set of interrelated parts working together to achieve some purpose. So financial system refers to a set of complex and closely connected institutions, agents, practices, markets, claims and so on in an economy. The economic development of a nation is reflected by the progress of the various economic units, broadly classified into corporate sector, government and household sector. While the corporates will have a surplus arising from the retained earnings, their need for funds will be for investment in new projects, for expansion/ diversification/modernization, etc. On the other hand, the government which is always in a deficit budgetary situation will be in need of funds for public expenditure, to finance its developmental projects. Apart from these two economic units, even the household sector will require funds for varied purposes, for example, for acquiring assets. However, the surplus funds of the households collectively will be more when compared to the other units.

Hence, it can be observed that, at any given point of time there would be some units having idle funds and a few others which would be in need of funds. The volume of funds required for the investment activity of the corporates and for the public expenditure of the government is very large when compared to the household requirements. And if funds are not provided for these activities, it will hinder economic growth.

Chapter 2: Credit Market

(Rajneesh Ranjan Jha, TV Rao and Aparna M)

Introduction

The financial system enables supply of funds to support purchase of goods and services and to finance capital investments. In this way, it provides funds both to the demand side (consumers) and the supply side (manufacturer) of the economy. In a well-developed market with adequate infrastructural facilities, transfer of funds takes place directly from the savers of funds to the users of funds. Thus, the transfer takes place either through the disintermediation or the reinter mediation processes. When the market allows direct flow of funds, it is known to be in disintermediation stage. Such direct flow of funds will be made by the issue of financial assets in the form of securities. Differentiating itself slightly from the disintermediation process is the reinter mediation process, where the funds flow to an intermediary which invests in the securities issued by the corporates. For instance, individuals invest in mutual funds, which in turn invest in the securities issued by the corporates. However, in economies where there is no adequate infrastructural support for such direct flow of funds to take place, they generally operate through the intermediation process. Operating in an intermediation stage to fulfill the credit requirements of the different sectors of the economy is the Credit Market. Intermediaries like banks, financial institutions and Non-banking Finance Companies (NBFCs) provide credit for the varying requirements of the consumer and corporate sectors of the economy. This credit extension will mostly be in the form of loans.

Importance of Credit Function

On the demand side of the economy are the consumers of goods and services who require funds basically for acquiring certain consumer durables. The credit facility offered to the households will generally be in the form of auto-finance, educational loans, credit card loans, housing loans and for the purchase of other consumer durable items. Loans will also be provided to individuals against other financial and real assets. Except for the housing loans all the other types of individual loans range from short- to medium-term. Similarly, on the supply side also, the credit market provides funds to the corporates, though for entirely different purposes.

Corporates basically require funds for project finance while initiating an investment plan and working capital finance for their day-to-day operations. Credit extended for project finance would enable the corporates to acquire real assets, plant and machinery, technological expertise, etc., required for expansion/ modernization/ diversification purposes. It can be observed that the funds required for these purposes will be large in amount and for periods ranging from medium to long-term. In certain cases, where the project is very large and the funds cannot be provided by a single institution, consortium lending will be resorted to. In this facility, two or more intermediaries will join together to finance large project proposals. Such funding requirements will generally arise while financing large infrastructure projects, petroleum projects, etc.

Chapter 3: Debt Market

Rajneesh Ranjan Jha, TV Rao and Aparna M

Introduction

This chapter covers the various debt market instruments like Govt. Securities Markets, Repurchase Agreements, Public Deposits and Financial Guarantees. It includes the features, development and the regulatory aspects of these markets. Various features of government securities markets, different types of issuance of government securities, secondary market dealings of government securities, development and the role of RBI in this market are covered. Repos-Repurchase Agreements are a very important tool of Monetary Policy. Hence the primary and secondary markets of repos including the players in the market are discussed at length. Also covered in this chapter are matters relating to Public Deposits and financial Guarantees.

The importance of a liquid and vibrant debt market is a vital component of a mature securities market. On one side, we find that there have been increased activities in primary debt issues; the secondary market for debt is still waiting for highly active involvement. The entry of the FIIs into the debt market, the launching of fixed income schemes and money market schemes by the mutual funds is expected to activate the debt market, but further steps would need to be taken to make the debt markets vibrant. For the development of debt markets, we need the progressive deregulation of interest rates, the greater reliance on borrowing at market rates by the government, the greater use of open market operations as a tool for monetary policy and improved procedures for the trading, clearing and settlement of debt securities

Features of Government Securities

Issuers

The government securities are issued by the central government, state governments, and semi-government authorities like municipal corporations and municipalities, autonomous institutions like the port trusts, improvement trusts, state electricity boards, metropolitan authorities, public sector corporations, and Government agencies such as the IDBI, SFCs, SIDCs, NABARD, housing boards, etc.

Eligible Investors

Individuals, firms, companies, corporate bodies, institutions, state governments, provident funds and trusts are allowed to invest in government securities. The Non-resident Indians, overseas corporate bodies and Foreign Institutional Investors (FIIs) registered with SEBI and approved by RBI are also eligible to invest in government securities. Though different segments are permitted to invest, commercial banks, insurance companies and Non-Banking Financial Companies (NBFCs) are the major buyers of gilts in the market.

Government securities play a vital role in the open market operations conducted by the Central Bank of the country. These instruments facilitate implementation of the fiscal policy of the government. The major investors such as commercial banks, NBFCs,

Chapter 4: Money Market

(Rajneesh Ranjan Jha, TV Rao and Aparna M)

Introduction

The evolution of different financial markets has been mostly due to the varied financial requirements. Business units in their day-to-day operations will be placed generally in a surplus or a deficit position in terms of liquidity or cash. This liquidity mismatch is inevitable in the short-run since the timing of the cash outflows rarely synchronizes with that of the inflows. For instance, when the statutory reserve requirements are increased, banks may experience a short-term funds deficit to meet the requirements while the accumulated funds for paying tax liability by the corporate suggests a short-term cash surplus position. Since this short-term liquidity mismatch is a regular feature of the business activity, it is all the more important for corporates to manage the same. Any delay in taking timely and appropriate action in managing the mismatches may seriously impact on the business unit's liquidity and to a certain extent on its profitability also. When short-term deficits are not adjusted immediately, it may eventually lead to a liquidity crisis. The situation will be worse for financial institutions and banks since their transactions generally involve large sums of money. Further, if the deficit of funds is in large proportions and is not tackled properly, it will add on to the costs of the firm.

On the other hand, in a surplus short-term funds situation, the businesses will be left with idle funds for short periods of time making them non-interest bearing. This goes against the fundamentals of financial management, which does not suggest the maintenance of a high level of idle funds as they eat into the profitability of the firm. The effect of this will be felt greatly on banks/financial institutions and other finance companies, which earn profits through spreads. To avoid idle maintenance of funds, there should be proper avenues to deploy them. Similarly, funds should also be available to tackle short-term liquidity crisis. These short-term fund requirements of the individuals/corporate houses were initially met by small time lenders or consortium lenders. This transfer of short-term funds in the unorganized sector could not, however, meet the rising volume of transactions and also the quantum of funds required. This paved the way for the evolution of Money market, a formal financial market that deals with short-term fund management.

Need for Money Market

The evolution of different financial markets has been mostly due to the varied financial requirements. Business units in their day-to-day operations will be placed generally in a surplus or a deficit position in terms of liquidity or cash. This liquidity mismatch is inevitable in the short-run since the timing of the cash outflows rarely synchronizes with that of the inflows. For instance, when the statutory reserve requirements are increased, banks may experience a short-term funds deficit to meet the requirements while the accumulated funds for paying tax liability by the corporate suggests a short-term cash surplus position. Since this short-term liquidity mismatch is a regular feature of the

Chapter 5: Call Money Market

(Rajneesh Ranjan Jha, TV Rao and Aparna M)

Introduction

A financial market can be defined as the market in which financial assets are created or transferred. Financial assets represent a claim to the payment of a sum of money sometime in the future and/or periodic payment in the form of interest or dividend. Financial markets are sometimes classified as primary and secondary markets. But, more often financial markets are classified as money markets and capital markets. The distinction between the two markets is based on the differences in the period of maturity of the financial assets issued in these markets. Money market deals with all transactions in short-term instruments (with a period of maturity of one year or less like treasury bills, bills of exchange, etc.) whereas capital market deals with transactions related to long-term instruments (with a period of maturity of above one year like corporate debentures, government bonds, etc.) and stock (equity and preference shares).

One of the important functions of a well-developed money market is to channel savings into short-term productive investments like working capital. Call Money Markets, Treasury Bills Market and Markets for Commercial Paper and Certificate of Deposits are some of the examples of a Money Market.

The call money market is a part of the money market and refers to the overnight funds lent and borrowed, mostly by banks for daily liquidity management. Call/Notice money is an amount borrowed or lent for a very short period. If the period is more than one day and up to 15 days it is called 'Notice Money', otherwise the amount is called 'Call Money'. Under call money market, funds are transacted on overnight basis and are also known as overnight money and under notice money market, funds are transacted for the period between 2 days and 15 days.

The call money market is most liquid of all short-term money market segments and it is also the most sensitive barometer measuring the liquidity conditions prevailing in financial markets. The call money is the money repayable on demand. The money that is lent for more than 15 days is referred to as 'term money'. In call money market, any amount could be lent or borrowed at an interest rate, which is acceptable to both borrower and lender. These loans are considered as highly liquid; as they are repayable on due date which is usually the next day.

Money Market

One of the important functions of a well-developed money market is to channel savings into short-term productive investments like working capital. Call Money Markets, Treasury Bills Market and Markets for Commercial Paper and Certificate of Deposits are some of the examples of a Money Market.

Financial Instruments



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Financial Instruments

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Chapter 1: Treasury Bills

(Richa Gupta, TV Rao and Aparna M)

Introduction

Corporate short-term requirements are met through raising short-term funds with various instruments like CPs, Bill Finance, FDs, etc., and long-term needs through equity and long-term debt. Similarly, government issues Treasury bills (T-bills) and dated securities as a means to raise funds, in short-term and long-term markets respectively. T-bills constitute a major portion of short-term borrowings by the Government of India. T Bills are issued as Promissory notes under discount. The interest received on them is the discount which is the difference between the price at which they are issued and their redemption value. They have negligible risk of default and assured yield

Features of Treasury Bills

Treasury Bills are short-term, rupee denominations issued by the Reserve Bank of India (RBI) on behalf of the Government of India. T-bills are issued in the form of promissory notes or finance bills (a bill which does not arise from any genuine transaction in goods is called a finance bill) by the government to tide over short-term liquidity shortfalls.

Treasury bill is a promissory note issued by the government under discount for specific time duration. It is a written promise made by government to pay a specific amount to the bearer of the instrument on a specific date. Treasury bills are available for three different maximum maturity periods i.e. 91 days, 182 days and 364 days. The minimum maturity period is 14 days.

These short-term instruments are highly liquid and virtually risk-free. These are the most liquid instrument after cash and call money, as the repayment guarantee is given by the central government.

Treasury bills do not require any grading or further endorsement like ordinary bills, as they are claims against the Government. These instruments have distinct features like zero default risk, assured yield, low transactions cost, negligible capital depreciation and eligible for inclusion in Statutory Liquidity Ratio (SLR) and easy availability, etc., apart from high liquidity.

Issuer

The Reserve Bank of India acts as a banker to the Government of India. It issues T-bills and other government securities to raise funds on behalf of the Government of India, by acting as an issuing agent.

Investors

Though various groups of investors including individuals are eligible to invest, the main investors found in treasury bills are mostly banks to meet their Statutory Liquidity Ratio (SLR) requirements. Other large investors include:

- Primary Dealers

Chapter 2: Commercial Paper

(Richa Gupta, TV Rao and Aparna M)

Introduction

The money market is relevant to the corporate world in terms of short-term surplus or deficit of funds, which it experiences. If a corporate has a short-term surplus, it invests and if it faces deficit, then it borrows. A corporate needs short-term funds to manage its working capital requirements, pay taxes and meet other short-term commitments. These needs are fulfilled, usually, by obtaining short-term finance from banks, trade credit from creditors, loans from Inter Corporate Deposits (ICDs) market, bill discounting and factoring, etc. Corporates are always in search of new instruments to raise funds that provide them with an optimal combination of low cost, flexible and desired maturity. Commercial paper was introduced in 1990.The commercial paper has become an effective instrument for the companies to avail short term funds from money market within the shortest time.

Overview of Commercial Paper Market

Commercial Paper (CP) is an unsecured usance money market instrument issued at a discount in the form of a promissory note, and is transferable by endorsement and delivery and is of fixed maturity. It is a short-term money instrument issued by a corporate, which has a high credit rating and has a strong financial background. It is an unsecured obligation issued by corporate to finance its short-term credit requirements like accounts receivable and inventory. In other words, the commercial paper is an unsecured, short-term loan issued by a corporate typically to finance accounts receivable and inventories and it is usually issued at a discount reflecting the prevailing market interest rates.

Issuers

Companies, All-India Financial Institutions (FIs) and Primary Dealers (PDs) can raise funds through the Commercial Paper. But, the issuer has to satisfy the eligibility criteria prescribed by RBI as discussed later. Satellite dealers are not permitted into the market with effect from 2002. The conditions laid by the RBI restrict the entry of issuers into the CP market.

Investors

Commercial Papers (CP) may be issued to and held by individuals, banking companies, other corporate bodies registered or incorporated in India and unincorporated bodies, Non-Resident Indians (NRIs) and Foreign Institutional Investors (FIIs). However, investment by FIIs would be within the limits set for their investments by Securities and Exchange Board of India (SEBI), FEMA, etc., as given by the RBI. When NRIs subscribe to CP issue, the conditions regarding non-reparability and non-enforceability are indicated on the CP. Though the market is open to the above segments, usually,

Chapter 3: Certificate of Deposit

(Richa Gupta, TV Rao and Aparna M)

Introduction

The primary function of banks and financial institutions is to mobilize funds from the surplus economic units and lend them to the users or the deficit spending economic units. In the process, banks charge interest or brokerage based on the type of transaction. They pay interest to the saving public, and receive interest from the borrowers and in the process make a spread.

The depositors/savers maintain account with banks in the form of demand and time deposits. Savers (who need high liquidity) generally opt for demand deposits as they consider them to be as liquid as cash. Banks invest these deposits in short-term instruments to gain a return over them. Otherwise, they have to maintain idle funds losing the interest on those funds. The banks are exposed to interest rate risk when they deploy their demand liabilities in short- or medium-term investments/credit because of maturity mismatch.

The RBI introduced Certificates of Deposit (CDs), in 1989 based on the Vaghul Committee recommendations. The CDs were introduced 'with a view to further widen the range of money market instruments and give investors greater flexibility in the deployment of their short-term surplus funds'. The RBI had assigned FIMMDA (Fixed Income Money Market and Derivative Association for India), the task of framing standardized procedures and documentations for CDs in consultation with depositories and market participants. The RBI taking into FIMMDA's recommendation issued the final guidelines for the issue of certificates of deposit. Certificate of Deposit (CD) is a negotiable money market instrument and issued in dematerialized form or as a usance promissory note against funds deposited at a bank or other eligible financial institution for a specified time period. Exhibit 3.1 traces the evolution of CD Market in India.

Exhibit 3.1: The Evolution of CD Market in India

In the early 80s, the Tambe working group examined the feasibility of introducing CDs. The group did not recommend CDs because of the absence of a secondary market, and administered interest rate structure on bank deposits. Another reason was the scope for the misuse of CDs that might give rise to fictitious transactions. Later in 1987, the Vaghul Committee was set up to study the development of money markets in India, and this group recommended to introduce CDs, among others, as a money market instrument to enhance the development of the money market. The committee also opined that such introduction would not be appropriate unless short-term interest rates are aligned with other rates in the system, and a system for development of secondary market is in place.

Based on the recommendations of the Vaghul Committee, the interest rates on short-term deposits were rationalized, and then, RBI formulated a scheme in June 1989 for the scheduled banks (excluding RRBs) to issue Certificates of Deposit (CDs).

Source: ICFAI Research Center.

Chapter 4: Bill Financing

(Richa Gupta, TV Rao and Aparna M)

Introduction

Availability of finance in adequate quantity at the right time and at a reasonable cost helps to produce economic goods, either for immediate consumption or for capital formation and thus, fosters economic development. Finance is made available by the financial system of the country which comprises financial institutions, financial markets and financial instruments created from time to time.

Money markets comprising banks and other financial institutions and government cater to the short-term credit requirements of trade, commerce and industry in the form of cash credits, overdrafts and purchase/discounting of commercial bills.

Out of the modes of financing, the banks and financial institutions rely mostly on cash credit form of lending. Up to the mid-eighties, the development of a bill market was not a reality despite its well-known advantages to lenders and borrowers alike. The various impediments in the way of developing a bill market were payment of stamp duty, difficulty in obtaining supplies of stamp paper, reluctance on the part of government departments and other large buyers to accept bills, predominance of the cash credit system of lending and the administrative work involved in handling documents of title of goods. However, in comparison with other methods of supplying credit, the method of bill finance is believed to impart flexibility to the money market and balance liquidity within the banking system. Considering its importance, the RBI has made efforts to enlarge the use of bills of exchange as an instrument of credit and develop the bill market. New Bill Market Scheme in 1952 and the Bill Rediscounting Scheme in 1970 were introduced. To provide a secondary market and to ensure and promote the extensive use of bills, Discount and Finance House of India (DFHI) was established.

Concept and Features of Bills of Exchange

Commercial bill had its origin in Europe as an early medieval financial innovation evolved over centuries from a personal bond executed by debtor before a Court or a public notary to its present form of a commercial financial instrument, acquiring at various stages of evolution its distinctive characteristics of easy transferability and negotiability, and thus lending itself to discounting by banks to provide liquidity to the holder.

In India, too, indigenous bankers and other business houses have been historically using some kind of Bill-like instruments written in vernacular languages, known as ‘Hundies’ in their many variants to pay and receive the value of goods exchanged in the course of trade. However, with the development of organized financial markets over the years, and the spread of commercial banking, the role of indigenous bankers in the financial system diminished in importance and Hundies too gradually started losing their status

Strategic Capital Structure



Editor
Y.Ramakrishna

Strategic Capital Structure

Editor:
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Strategic Capital Structure

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Chapter1: Capital Structure

(C Anita)

Introduction

An optimal capital structure of a company can be properly defined as that security mix, which minimizes the firm's cost of capital and maximizes its values. The capital structure should be balanced with adequate equity cushion to absorb the shocks of business cycle and afford flexibility. As a finance manager, you can achieve this by identifying the factors affecting capital structure, both internal and external, keeping the capital cost at the minimum level to assist financing and reduce the hazards of insolvency. This chapter explains the theories of capital structure and the various factors affecting capital structure decisions, in both perfect markets as well as imperfect markets. This includes cost of capital, tax shield and strategic determinants of the capital structure.

Theories of Capital Structure

There are broadly two schools of thought. One school believes that the composition of the financing mix does not affect the cost of capital. This school does not believe in the existence of an optimal capital structure. Hence, the capital structure has no relevance in the valuation of the firm. The proponents of the other school believe that the cost of capital is determined by the composition of the capital structure. The application of leverage results in a change in the cost of capital. They try to determine the optimal capital structure, at which level the overall cost of capital is minimal. They conclude that it is the capital structure which determines the valuation of the firm. A brief write-up on various capital structure theories is given below:

Net Income Approach

This approach postulates that the cost of debt and equity of a firm remains constant. Hence, the overall capitalization rate can be changed by varying the financing mix in the capital structure. Hence, the valuation of the firm is a function of its capital structure. The valuation of the firm can be increased by the application of leverage, provided the cost of equity is greater than the cost of debt.

Net Operating Income Approach

This theory is built on the premise that a firm is valued by capitalizing its net operating income at an appropriate discount rate. The value of the firm remains constant irrespective of its degree of leverage. The market value of the equity is obtained by deducting the market value of the debt from the total value of the firm. The breakup of the firm's value between the value of debt and equity is a matter of distribution. It has no impact on the firm's valuation.

The theory assumes that each firm has a predetermined capitalization rate. The cost of debt is also constant at all levels of leverage. In case a firm increases the leverage by employing more debt, it becomes more risky. The advantage of using 'cheaper debt',is that the financing will be offset by higher cost of equity (i.e., higher risk).

Chapter 2: Dividend Policy

(C Anita)

Introduction

In the previous chapter we have discussed about the capital structure of a firm and now we discuss upon a firm's dividend policy in the present chapter.

The dividend policy of a firm determines what proportion of earnings is paid to shareholders by way of dividends and what proportion is ploughed back in the firm for reinvestment purpose. Thus, the dividend policy affects both the long-term sources of finance and the market price of shares. A firm should treat its dividend policy as relevant because shareholders bother a great deal about the dividends. As a finance manager, one must carefully evaluate the circumstances and the environment in which the firm is operating in order to determine its dividend policy. Recognizing the importance of dividend policy, the present chapter highlights the importance of dividend decisions, Modigliani and Miller's dividend irrelevance theory, and financial signaling.Also, the consequences of stock re-purchase and bonus issue of stocks is discussed in this chapter.

Importance of Dividend Decisions

Dividends refer to that portion of a firm's net earnings, which are paid out to the shareholders. Since dividends are distributed out of profits, the alternative to the payment of dividend is the retention of earnings/profits. The retained earning constitutes an easily accessible important source of financing for the investment requirements of the firm. There is an inverse relationship between retained earnings and cash dividend, i.e. larger the retention, lesser are the dividends; and smaller the retention, larger are the dividends.

The dividend policy of a firm refers to the views and practices of the management with regard to distribution of earnings to the shareholders in the form of dividends. The portion of the earnings which is undistributed is called retained earnings. The retained earnings are often used as means of financing the capital expenditure of the firm. The higher the dividend pay-out, the lower will be the retained earnings. This would entail the dependence on other sources of financing by a firm. Hence the dividend policy has implications on the financing decision of the firm. As the ultimate objective of any company is to maximize the wealth of the shareholders, amount of dividends declared and amounts retained greatly influence the performance of the company.

The Irrelevance of Dividends and Stock Repurchases in an Ideal Capital Market

The Miller and Modigliani (1961) proposition of dividend irrelevance in an ideal capital market put forth the argument that, in an ideal capital market dividend policy is irrelevant as long as the firm's capital investments and debt policy are kept constant.

Chapter3: Allocating Capital and Corporate Strategy

(C Anita)

Introduction

In the previous two chapters we have discussed about the capital structure and dividend policy of a firm, and now we discuss upon the allocating capital and corporate strategy of a firm. In the present chapter we will discuss how to allocate the collected funds (capital) in various projects. Investment in long term projects is not a simple task. The survival of the firm depends on long term investments. The investments made in projects must be evaluated at strategic points. There are various methods and models which help inallocating capital and building corporate strategy.

Valuing Strategic Options with the Derivatives

Generally, the generation of the net present values of the firms arise due to the existence of investments that are made earlier in the project. It is a general practice of the firms to discount only those cash flows that are directly attached to the project, in doing so they sometimes ignore the total value of the project as such. Thus they fail to recognize that adopting an investment project may successfully lead to the generation of future investment opportunities. But at the same time, it has been observed that many companies tend to grow as a result of the benefits they reap out of past investments.

Sources of Competitive Advantage

Usually, the ability of a company to generate profits in a competitive market can be attributed to the competitive advantages it enjoys over its competitors. These competitive advantages arise out of certain factors that may be due to barriers to entry, economies of scale, economies of scope, discounted cash flow, and options. Barriers to entry help in preventing competition by other firms from eroding profits. Economies of scale facilitate a company in taking advantage of larger production by decreasing cost per unit. Economies of scope are perhaps the most important source of competitive advantage to a firm.

Abandoning Projects

Many times, companies do not consider the past costs of projects while making any decision regarding its future. This may hold good in those situations where a project is already in progress and the company decides to continue with it or even go on considering that it has to abandon the project in mid-way. In such cases the relevant costs will be the future costs that have to be compared with the future revenues so as to determine whether it is viable to abandon the project.

For example, a particular project is undertaken which, through subsequent years, generates positive cash flows.

Period	**0**	**1**	**2**	**3**	**4**	**5**	**6**

Chapter4: Financial Distress and Restructuring

(C Anita)

Introduction

In the previous chapter we have discussed about the allocating capital and corporate strategy of a firm. In that we discussed how to allocate the collected funds (capital) in various projects and, the various methods and models which help inallocating capital and building corporate strategy. However, sometimes, the company faces business failures leading to financial distress and it's restructuring. The present chapter discusses upon such distress and restructuring.

The basic causes of business failure can be categorized into four major heads – the economic factors, the financial factors, factors relating to neglect, disorder and fraud and some other factors. The economic factors relate to industry weakness and poor location of the firm. The financial factors relate to the over burdening debt capacity and insufficient capital. The importance of the different factors varies over the time, depending on such things as the state of the economy and the level of interest rates. Apart from this, sometimes some factors produce a combining effect so as to make the business unsustainable. Studies have provided further evidence that the causes of financial distress are a result of a series of errors, misjudgments and interrelated weaknesses that can be attributed directly or indirectly to the management of the firm. This Chapter highlights factors leading to failure of business and models to predict bankruptcy and financial distress.

Meaning of Bankruptcy

A firm is said to be bankrupt if it is unable to meet its current obligations to the creditors. Bankruptcy may occur because of a number of external and internal factors.

Definitions

Sick Industrial Company

The Sick Industrial Companies (Special Provisions) Act, 1985 or SICA defines a sick industry as "an industrial company (being a company registered for not less than five years) which has at the end of any financial year accumulated losses equal to or exceeding its net worth".

Weak Unit

A non-SSI industrial unit is defined as 'weak' if its accumulation of losses as at the end of any accounting year resulted in the erosion of fifty percent or more of its peak net worth in the immediately preceding four accounting years. It is clarified that weak units will not only include those which fall within the purview of Sick Industrial Companies (Special Provisions) Act, 1985 (of industrial companies) but also other categories such as partnership firms, proprietary concerns, etc. A weak Industrial Company should be termed as "potentially sick" company.

Credit Rating and Regulatory Framework



Editor
Y. Ramakrishna

Credit Rating and Regulatory Framework

Editor:
Y.Ramakrishna

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Credit Rating and Regulatory Framework

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Chapter 1: Credit Rating

(Ramakrishna and Senapathy)

Introduction

The investors invest mainly with two aims viz. safety and assured return. It becomes very difficult for them to choose the right investment options without any guidance as the data available is quite difficult to comprehend. A simple and objective opinion is sought by investors in this context. Credit rating helps the investors by providing an independent and expert opinion about the capability of the issuer of debt instruments to meet their financial obligations. Rating in itself is not a recommendation to buy/sell or hold a particular investment. Further, rating is onetime and has validity only for a particular reporting period.

This chapter attempts to explain the concept and meaning of credit rating and, its features besides deliberating on the business application of rating.

Concept and Meaning

The concept and meaning of credit rating can be understood by looking at some definitions offered by well-known credit rating agencies.

Moody's': "Ratings are designed exclusively for the purpose of grading bonds according to their investment qualities."

Australian Ratings: "A corporate credit rating provides lender with a simple system of gradation by which the relative capacities of companies to make timely repayment of interest and principal on a particular type of debt can be noted."

CRISIL: "Credit rating is an unbiased and independent opinion as to issuer's capacity to meet its financial obligations. It does not constitute a recommendation to buy/sell or hold a particular security."

ICRA: "Ratings are opinions on the relative capability of timely servicing of corporate debt and obligations. These are not recommendations to buy or sell…..neither the accuracy not the completeness of the information is guaranteed."

From the above definitions it is understood that:

i. Credit rating is an assessment of the capacity of an issuer of debt security, by an independent agency, to pay interest and repay the principal as per the terms of issue of debt.

ii. The ratings are expressed in code number which can be easily comprehended even by the new investors.

iii. Credit rating is only a guideline to the investors and not recommendation to a particular debt instrument.

iv. The important element for investment decision making in debt security are (a) yield to maturity, (b) risk tolerance to investor and (c) credit risk of the security. The opinion of the credit rating agencies is considering any one of these aspects.

Chapter 2: Sources of Finance and Regulatory Environment of Financial Services

(Y.Ramakrishna, Senapathy and A Suresh Babu)

Introduction

Companies involved in providing financial services in India are many. Non-banking Finance Companies are regulated by the Reserve Bank of India and perform various activities such as leasing, hire purchase, bill discounting, etc. Apart from NBFCs, banks and financial institutions do offer some of the financial services that the NBFCs offer but a different set of guidelines and regulations specified by the RBI and Ministry of Finance are in play for them. There are also Nidhi and Chit Fund Companies in India. NBFCs, Banks and Financial Institutions do take part in fundraising activities to provide funds for operations. These include fixed deposits, bonds and private placement. This chapter would dwell on each of the services as viewed by the regulator and also discusses on how NBFCs, banks and financial institutions raise funds for their operations, the RBI regulation for public deposits by NBFCs and other provisioning.

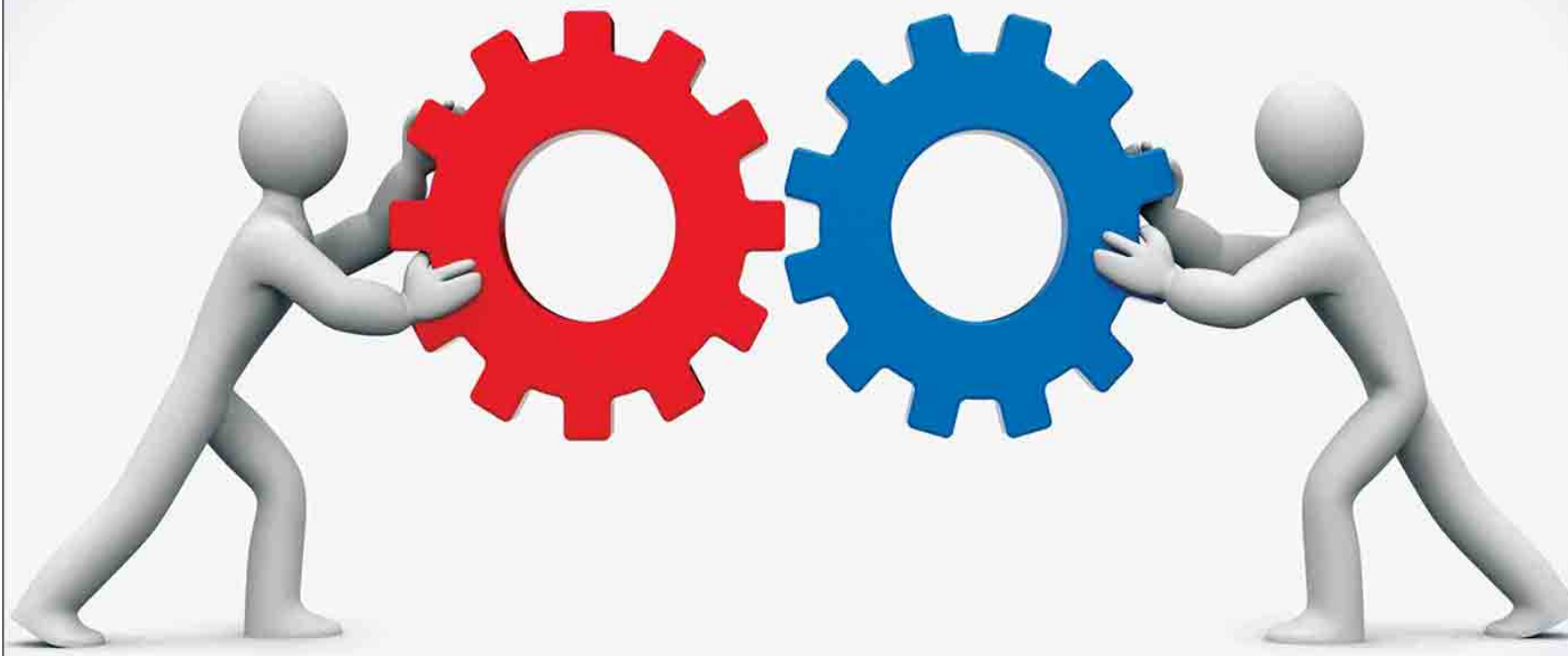
Importance of Fixed Deposits

Fixed deposits form the main source of funds for the NBFCs, financial institutions and banks. The cost of deposits for NBFC is normally found to be less than the cost of funds. Also, they being unsecured debts, the company need not provide any security by way of mortgage or hypothecation of its assets. For NBFCs, deposit mobilization is an activity unto itself. Application of such money is done in activities like hire purchase, leasing, etc. Fixed deposits are accepted by almost all the entities that are in the area of financial services. NBFCs, banks and financial institutions accept deposits. The acceptances of fixed deposits by companies are subject to the provisions of the Indian Companies Act, 1956 and the rules presented by the RBI. Section 58A of the Companies Act, 1956 prohibits acceptance of deposits by companies without issuing an advertisement.

The advertisement should contain a statement showing the financial position of the company in the form that is specified. Also, in an Amendment in 1997, companies that have defaulted once in the repayment of any deposit have been prohibited from accepting any deposits, in terms of Indian Companies Act, 2013.

Deposits are defined in Rule 2(b) of Companies (Acceptance of Deposits) Rules, 1975. The term public deposit has been defined on the lines of the definition provided in the notification framed under the Companies Act, 1956 and the Reserve Bank of India Act. Public deposit will include fixed, recurring, etc. deposits received from public deposits received from relatives and friends, deposits received by public limited company from its shareholders and the money raised by issue of unsecured debentures/bonds. It should be noted that the term public deposit excludes money raised by NBFCs by way of issue of secured debentures/bonds, borrowings from banks/financial institutions, deposits

Issues and Challenges of Mergers and Acquisitions



Editor
Meher Pramod Mantravadi

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Editor:
Meher Pramod Mantravadi

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Issues and Challenges of Mergers and Acquisitions

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Chapter 1: Management Guide for Mergers and Acquisitions Activity

(C V Mohan Rao)

Introduction

Successful mergers are few and studies show that 50 per cent to 75 per cent of acquisitions actually destroy rather than create shareholder value. Given these discouraging statistics, managements have to check what elements make some mergers succeed and others fail. Failure is usually blamed on poor strategic rationale, overpayment, lack of planning, the absence of executive leadership at critical times or a serious mismatch in company cultures. However, effective leadership is the one persistent characteristic of a successful merger. Effective leaders are skilled at identifying great deals, communicating their potential to investors, customers and employees and creating value through a new entity. The leader's role as a stimulant cannot be overlooked in maintaining morale among groups as diverse as shareholders and customers.

Establishing a sound merger and acquisition program involves following of two basic principles. To begin with, merger and acquisition activity of a firm must be related to the diversification program and secondly, both the diversification and the mergers & acquisitions programs must be a part of the strategic planning process of the firm.

Mergers in the Long Range Strategic Planning

Mergers have to be a part of the general long range strategic planning of any firm. The success of a merger depends on the merger plan. A wide variety of models and tests have to be employed to develop a plan for a merger. The model depends on the initial assumptions and the results are influenced by the choice of variables, how they are measured and how they are combined. The selection and interpretation of the chosen model/plan is influenced by the idea of the underlying processes involved.

Long range strategic planning process is nothing but a behavior and a way of thinking requiring diverse inputs from all segments of the organization. Essentially, it involves the following elements:

i. Assessment of the environment.
ii. A consideration of capabilities, missions, and environmental interface from the point of view of the acquiring firm and its divisions.
iii. An emphasis on the process rather than particular goals or objectives of the firm.
iv. A need for coordination and consistency among the individual divisions, product market activities and optimization from the viewpoint of the firm as a whole.
v. A need to relate effectively to the firm's changing environment and constituencies.

Chapter 2: Post-Merger Issues

(Abhishek Sinha)

Introduction

Mergers and Acquisitions bring a company into news. Generally merger and acquisition is welcomed with a lot of fanfare. This is because mergers are assumed to be successful even before merger process begins. Stock markets move up and down based on how the merged entity would gain market share post-merger. However, mergers, acquisitions and takeovers are many times unsuccessful. Hence the successful completion of the merger process in itself does not entail successful post-merger integration. The post-merger integration can fail. There can be many reasons for the same. They include the company's inability to predict the challenges faced in integrating the operations of the two merged entity. Integrating the operations of two companies would lead to facing a lot of challenges which the company might not be prepared to face.

The merged entities might be culturally diverse. Every organization has a culture and the success or failure of the organization depends on the culture that the organization has. There can be a feeling of distrust between the employees of the two organizations. Employees are unaware of future strategy that the new entity wants to achieve going forward; hence they feel de-motivated due to the lack of direction. There is also change in market dynamics brought about by the merger. The consolidated merged entity should be equipped to react to the changed environment. One of the important synergies that emanates for a lot of mergers is sharing of resources. However due to distrust among the employees, sharing resources is not an easy task. On the other hand, human beings also behave differently when organizational dynamics differ. Hence change in organizational dynamics also leads to individuals experiencing change in their level of productivity.

There might also be ambiguity on how the leadership will face the challenges of post-merger integration. The leadership of both the companies has to integrate their thought process to provide a future road map for growth. The merged entity must have a single line of thought. However at the time of merger, companies often try and optimize the cost by reducing workforce. This would lead to employees of both the erstwhile organizations getting together so as to prevent the employees of their erstwhile organizations being removed. If the employees of the merged entity get conflicting signals from the management of the two erstwhile companies they would lose focus and this would lead to factions within the organization. This would lead to companies further breaking up and delineating in the long term, which would prevent the organization from working as one independent entity. It would finally culminate into the failure of merged entity. Thus, the role of leaders is very important in the whole process.

Risks Relating to Mergers and Acquisitions

Mergers and acquisitions have for long been a method of growing inorganically in an environment where there are opportunities and there exist players who could help the company leverage on the growth opportunity. The outcome of M&A can be either side

Chapter 3: Takeover Models

(Abhishek Sinha)

Introduction

Diversification and mergers are necessarily a part of the overall long range planning of any firm. The success of a merger depends on the strategic intent of the merger plan and its effective execution. Researchers have developed and published many models/tests to ensure the success of a merger. Each of these models has its own set of assumptions and obviously the results are influenced by the choice of variables, how they are measured and how they are combined.

M&A activity is dependent on many factors. The success or failure of M&A is dependent on many variables. Let us go into the details.

Some of the critical variables that are identified as having influence on the success or otherwise of a merger are listed hereunder:

- Microeconomics – competition or market power; bargaining – Game theory.
- Form of auction: English, Dutch or other.
- Form of equilibrium: Pooling, Separating, Sequential.
- Incentives for Shareholders, Managers and Bidders.
- Friendly/Unfriendly Merger.
- Form of tender – Unconditional bid for any or all shares; conditional bid on acquiring a specified number of percentage shares or control.
- Form of two-part bids: front and back-end bids; only front-end bids; competition from multiple bidders.
- Degree to which bids provide information or signal to shareholders, managers and bidders.
- Atomistic versus finite shareholders.
- Kinds and amounts of transaction costs in multiple or successive bids.
- Investigation costs of first bidder and subsequent bidders.
- Degree of synergy.
- Extent to which target could restructure, all by itself.
- Quantum and value of the information provided by the target.
- Effects of taxes.
- Degree to which the prices paid incorporate earn-outs and bonuses.
- Impact of leverage funds on acquisition.
- Potential to eliminate some bidders and the advantages or disadvantages thereof.

Each model has got its own unique feature fitting into a particular situation. Incidentally, these models are found to give conflicting results. It is generally perceived that no model published till date could give results that are consistent with broad economic evidence. Nevertheless, these models can give better insight into the whole

Chapter 4: Corporate Control – Buy-back of Shares and Exchange Offers

(Abhishek Sinha)

Introduction

The previous chapter discussed about takeover models. Corporates resort to maintain control through different modes. One is buyback of the shares and the second is exchange offer. Both models will increase the promoters' stake and effect the management controlling.

At times companies are sitting on cash waiting for an opportunity to invest in right businesses to grow inorganically through mergers and acquisitions. However, when they do not find an opportunity to buy the right businesses, they might plan to distribute the profits. There are two methods of ploughing back profits to the investors. The company can either issue dividend or buy back shares.

Investor who receives higher dividends once would crave for a higher dividend always. Hence, companies do not want to pay one time high dividends to avoid high expectations. This is known as signaling effect. Hence, companies prefer buyback of shares if they are sitting on huge pile of cash. Share buybacks enhance shareholder value in many ways.

Furthermore, shareholders often prefer capital gains over the current income that comes in the form of dividends. Moreover, in some countries dividends are double taxed since all the profits which a company earns are taxed at the corporate level besides being taxed in the hands of the receiver. (In the Indian context, dividends are exempted from tax in the hands of the receiver.) If a company wishes to pay out some of its profits in the form of a dividend, the shareholders also have an income tax liability. Another reason which justifies the operations of open market repurchases is related to free cash flow. Free cash flow gives rise to conflicts between shareholders and managers when the latter have incentives to invest in projects other than those which give positive net present value. By distributing the free cash flow to shareholders, repurchases lessen these conflicts. Repurchases are an extremely reliable means of distributing free cash flow because funds are distributed immediately. Other methods of distributing free cash, such as dividends, involve an obligation to make distributions in the future. Also, open market repurchases are often a more flexible and efficient means of distributing free cash flows. This is in reverse to major leverage increasing transactions like debt-for-equity swaps and leveraged recapitalizations.

The free cash flow hypothesis implies that firms with high levels of excess cash flow and firms with low marginal financing costs will repurchase more stock. Firms with high levels of excess cash flow are at a greater risk of over investing, and hence, derive greater benefits from distributing cash to shareholders. Firms with relatively low marginal financing costs can distribute more cash to shareholders. This is on an

Chapter 5: Cross-Border Mergers and Acquisitions

(Abhishek Sinha)

Introduction

In the last few years, Indian companies have been involved in some large cross-border mergers. Conglomerates such as Aditya Birla Group, Cognizant Technology and Tata Group have made their presence felt in the international scenario through these takeovers. Further, with multi-nationals entering India in the last two decades, it has become imperative for American and European companies to takeover companies in India. However, not all the mergers and acquisitions that take place are successful. Hence, there is a need to understand the challenges and issues in cross-border mergers.

Some of the major challenges (that these transactions face) are related to integration of cross-border culture and work ethics of the concerned organizations. Regulations and tax issues of the related economies add to the woes. As most companies now have their footprint in the international market with large base of international clients, the impact of global events though not directly related to India, also have bearing on the individual companies. This is more evident in the case of companies that have exposure to international mergers and acquisitions. Thus, the riskiness of overall business also increases due to cross-border mergers and acquisitions. However, if companies want to go global and act local, then cross-border mergers and acquisitions seem to be one of the most viable solutions.

Theory of Multi-national Enterprise

To better understand international mergers, acquisitions and tender offers, let us first look at the theory of a multi-national enterprise.

A firm that operates in more than one country, other than import/export operations, is called a multi-national company. The fundamental issue in the theory of a firm is what factors determine whether the firm would use external markets to operate its business or use managerial coordination within the firm. The cost and the revenue conditions of a firm are the important factors which determine whether a firm should go for external markets for its business operations or use only internal managerial co-ordination. A firm uses internal managerial co-ordination rather than the external market when the costs are lower or when the net productivity is higher domestically.

Cost and revenue functions play a key role in case firm's export or import activities or firm to acquire licence for international transactions or to use joint ventures rather than have a plant abroad by the firm. A multi-national company may not be familiar with the foreign labor markets, foreign suppliers, or the culture and customs of foreign lands. Hence, its costs are likely to be higher and revenue productivity is lower than that of the local firms with which it competes. In such a case a question arises as to why a company has to set-up a plant outside its country when it can produce in a much familiar domestic environment and sell abroad through an agent. In this context, they can also

Chapter 6: Takeover Defenses

(Abhishek Sinha)

Introduction

Mergers, acquisitions, and takeovers have been a part of the business world for centuries. In today's dynamic economic environment, companies often face decisions concerning acquisitions or mergers. The job of management is to maximize shareholder's value. In most cases, the use of mergers and acquisitions strategy can help a company develop a competitive advantage and ultimately increase shareholder value. There are several ways that two or more companies can use to combine their efforts. For example, they can partner on a project, or mutually agree to join forces and merge, or one company can acquire another company completely. Among all these, the instruments of takeover are crucial for corporate growth.

The purpose of this chapter is to discuss the most commonly used takeover tactics to acquire a company in a hostile takeover bid and to evaluate the effectiveness of the various takeover defenses commonly employed. Takeovers may be friendly or hostile. In the case of hostile takeovers, there may be resistance from companies. Globally, the phenomenon of hostile bid is increasing as seen in deals discussed in the chapter.

Friendly versus Hostile Takeovers

Takeover bid may or may not be acceptable to the target company. The following paras deal with issues related to hostile and friendly takeovers.

Friendly Takeovers

Negotiated settlements often involving bargaining are called friendly takeovers. Here, the acquirer does not have to resort to aggressive tactics like the bear hug, proxy contest or the tender offer etc., because both the companies are in a mood to go for such a merger driven by individual interests or strategies.

For example, Johnson & Johnson, a leading healthcare company took over Crucell, a Netherlands based leading vaccine manufacturer in a friendly takeover in 2011 for $2.37 billion.

Hostile Takeovers

A hostile takeover is an unwanted offer made by a potential acquirer, that is, strongly opposed by the target firm. These types of takeovers are usually bad news since the employee morale of the target firm can quickly turn to enmity against the acquiring firm.

One of the earliest cases of hostile acquisition in India was the hostile takeover of Shaw Wallace by Manu Chabria in 1987. The then existing management led by S P Acharya had strongly but unsuccessfully opposed the takeover of the company.

Disinvestments, Joint Ventures and Leveraged Buyouts



Editor
Meher Pramod Mantravadi

Disinvestments, Joint Ventures and Leveraged Buyouts

Editor:
Meher Pramod Mantravadi

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Disinvestments, Joint Ventures and Leveraged Buyouts

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Chapter 1: Sell-offs and Divestitures

(Abhishek Sinha)

Introduction

Companies do not grow only through Mergers and Acquisitions (M&As).They also grow through contraction. In other words, conglomerates and public sector companies at times might increase their profitability by selling a business unit. This chapter deals with shareholders' wealth and the impact of several forms of corporate restructuring. It also deals with strategies that allow the firm to maximize shareholders' value by redeploying assets through contraction and downsizing of the parent corporation.

Divestitures, spin-offs, equity carve-outs, split-ups, and split-offs are the commonly used strategies to exit businesses.

Factors involved in Divestment Decision

A number of factors play a role in making divestment decisions. They are grouped under three general categories:

i. Opportunistic

ii. Planned

iii. Forced

Opportunistic considerations are totally optional and are to be implemented in a reactive manner. Taking the example of profit motivation, consider a successfully operating division that receives an unsolicited cash bid from a suitor, which would translate into an extraordinary profit. While there may be no immediate use for the cash, the profits to be obtained from selling off this division are such that it would not be advisable on the part of the management to turn down the offer. The profit motivation under opportunistic consideration is slightly different from profit motivation under planned considerations (referTable 1.1). Under the scenario of planned consideration, a company may have a profitable, well run division, but may go in for divestment to raise the necessary capital to invest in something new, or out of concern about the division's long-term future. While profit motivation is the same in both the instances, different circumstances lead to the divestiture decision.

Another example to highlight the differences in considerations under these categories is shown in Table 1.1.Inthe planned sell-off scenario(column 2, Table 1.1),the seller recovers some capital. This refers to a faltering situation in which, as a result of an ongoing portfolio review, the division is sold off in time to "recover some capital". On the other hand, in the forced scenario, under column 3 of the Table, the extent of capital recovered would generally be much less since a forced liquidation of assets is most likely to occur only after much erosion of assets.

Some amount of overlap does take place between the three basic scenarios that trigger or motivate a divestiture. Likewise, there is interchangeability among the individual factors.

Chapter 2: Joint Ventures

(Abhishek Sinha)

Introduction

In the previous chapteryou have studied the 'Sell-offs and Divestitures'. In this chapter, you will study 'Joint Ventures' as another type of merger and acquisition.

India is establishing itself as a bellwether in the field of mergers and acquisitions (M&As) deals globally.

During 2017, Corporate India's deals covering M&As and private equity, amounted to $60.5 billion. According to assurance, tax and advisory firm Grant Thornton, there were 1,147 deals (M&A and PE) worth $60.54 billion during 2017.[6] During 2016, there were 1,485 such transactions worth $57.85 billion. This being the size of the M&A activity, let us discuss another related activity ─Strategic Alliance or Joint Venture(JV).

Sometimes M&A may not be a feasible business transaction from the company's point of view due to various reasons. On such occasions, business alliances or strategic partnerships represent an attractive alternative to mergers and acquisitions. This chapter will explain the students about Joint Ventures as an alternative to mergers and acquisitions and help them in understanding the nuances of JV as a financial tool.

Alternatives to Mergers and Acquisitions

Mergers and Acquisitions are an important tool that companies use for growth. However, at times both the companies might want to leverage on each other's strength without losing their identity. Strategic Alliance or Joint Venture is an important tool that helps companies increase the share-holder value by changing the composition of their assets, equity, liabilities, and operations. Business alliances or strategic partnerships represent an attractive alternative to mergers and acquisitions as they are akin to a relationship without complexities. In other words, companies do not have to change their organizational culture to make business alliances work. Business alliances take the form of a variety of different legal structures.

The alternative to M&As is 'strategic partnership' wherein two or more firms develop a relationship that combines their resources, capabilities and core competencies for certain business purposes. This chapterexplores the potential of various means to maximize share-holder's value without resorting to mergers and acquisitions. There are four major types of strategic partnerships: (i) Strategic alliances, (ii) Long-term contracts, (iii) Equity partnerships,and (iv) Joint ventures.

Strategic Alliances

In this form of strategic partnership, two or more companies jointly share resources, capabilities, or distinctive competencies to achieve some business goals. These

[6] Source: https://www.thehindubusinessline.com/markets/corporate-indias-ma-e-deals-cross-60-bn-in-2017/article22540615.ece published on Jan 28th 2018

Chapter 3: Going Private and Leveraged Buyouts

(Srinivas Yeldi)

Introduction

In the previous chapter you have studied the 'Joint Ventures'. In this chapter, you will study 'Going Private and Leveraged Buyouts' as another type of merger and acquisition.

The business and legal climates have changed dramatically from the year 2000. Public companies recorded a loss in their market capitalization. The collapse in market valuations has affected the finances of public companies. While a public company should still generally be able to raise capital more easily than a private company, the advantage is diminished if the company cannot easily tap the capital markets at an acceptable price.

The recent developments have affected the costs and risks of public entities to stay public. Increase in cost of periodical reporting, requirement of disclosures such as operating data etc.,declaration requirements of dealing with closely held companies, illiquid shares of the entity and in some cases less than 50% of management control along with availability of a large pool of capital with relatively low interest rates paved way for public companies going private.

This has led to increasing number of companies 'going private' from the year 2010 onwards.

'Going Private' Transactions

The transformation of a public company into a privately-held firm is called a going private transaction. In other words, it can be termed as the repurchasing of some or all of a company's outstanding stock by a private investor or sometimes by the employees. During 2001-16, transactions involving public companies turning private have grown dramatically the world over. One of the significant elements in a going private transaction is justice to minority or outside shareholders, thus, avoiding allegations of security fraud against the controlling share-holders. But the most important aspect of going private is getting the finance. Going private requires a great deal of financial planning than going public. Most going-private deals are structured as Leveraged Buyouts (LBOs) involving a company's management, an equity player and a lender. Let us look at leveraged buyout transactions in more detail.

Methods for 'Going Private'

A company can go private in a variety of ways, including a merger, a tender offer and a reverse stock split. A privatization typically commences when a prospective buyer approaches a public company, which may form a special committee to consider the proposal. The special committee retains legal and financial advisors and negotiates with the prospective acquirer.Some of the methods for 'Going Private' are discussed hereunder-

Capital Markets and Their Structures



Editor

Anita C

Capital Markets and Their Structures

Editor:
Anita C

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Chapter 1: Investment Scenario

(C Anita and Manish Aggarwal)

Introduction

We can define investment as the process of 'Sacrificing something now for the prospect of gaining something later'. An investment is an agreement for a current outflow of money for some period of time in anticipation of a future inflow that will compensate for the changes in the purchasing power of money as well as the uncertainty relating to the inflow of the money in future. This understanding describes well all the possible investments like stocks, bonds, commodities or real estate, by all classes of investors like individuals, institutions, governments, etc. In all these investments, the trade-off is between known amounts that is invested today in return for an expected amount in future. While the amount being invested is certain, as it is now in our hands or rather is going out of our hands, the expected future inflow carries with it uncertainties regarding its realization; and its real worth will be known only when it is due for realization.

Concept of Investment

The concept of investment is explained with an example below-

Consider, for example, the following transactions:

i. In order to settle down, a young couple buys a house for ₹3 lakh in Bangalore.
ii. A wealthy farmer pays ₹1 lakh for a piece of land in his village.
iii. A cricket fan bets ₹100 on the outcome of a test match in England.
iv. A government officer buys 'units' of Unit Trust of India worth ₹10, 000.
v. A college professor buys, in anticipation of good return, 100 shares of Reliance Industries Ltd. for ₹40, 000.
vi. A lady clerk deposits ₹5, 000 in a Post Office Savings Account.
vii. Based on the rumor that it would be a hot issue in the market in no distant future, our friend John invests all his savings in the newly floated share issue of Fraternity Electronics Ltd., a company intending to manufacture audio and video magnetic tapes to start with, and cine sound tapes at a later stage.

A common feature of all these transactions is that something is sacrificed now for the prospects of gaining something later. For example, the wealthy farmer in transaction 2 sacrifices ₹1 lakh now for the prospects of crop income later. The lady clerk in transaction 6 sacrifices ₹5,000 now for the prospect of getting a larger amount later due to interest earned on the savings account. Thus, in a broad sense, all these seven transactions qualify as investment.

Are all Investments Speculative?

We know that investment means sacrificing or committing some money today in anticipation of a financial return later. The investor indulges in a bit of speculation as to how much return he is likely to realize. There is an element of speculation involved in all investment decisions. It does not however mean that all investments are speculative by nature.

Chapter 2: Risk and Return

(C Anita and Manish Aggarwal

Introduction

No investor is obliged to take any disproportionate amount of risk on his or her investment. One may invest one's money in a government bond or a fixed bank deposit and receive fixed interest. This interest may be called risk-free return (near risk-free) on investment. On the other hand, one may also invest in rather risky investments, in the expectation of earning very high returns. It appeals to commonsense that one will invest in a risky venture only if one expects to earn a return much in excess of the risk-free return. But what do we mean by return from a venture? For that matter, what do we mean by riskiness of a venture? Let us have a closer look at the concept of return and risk in this chapter.

Concept of Risk and Return

The concept of risk and return is explained as:

Return

The term return is almost invariably associated with a percentage (for example, return on investment of 15%) and not the amount (like, profit of ₹100). In finance, we are primarily concerned with returns from the investors' perspective. Our main concern is to compute or estimate the return for an investor on a particular investment. The investment is looked by a security analyst as essentially a financial asset, say, a share or a debenture or some other financial instrument. So then, what is the return on a financial asset for the investor?

Single Period Returns

Let us at the outset consider situations where we are concerned with only a single period (say, one day, one week, one month or one year, etc.). Consider the following illustration 2.1.

Illustration 2.1

Let us consider a share whose prices now (period 0 or P_0), one year later (period 1 or P_1), two years later (period 2 or P_2) etc., over a 10 year period are as follows:

Period	P_0	P_1	P_2	P_3	P_4	P_5	P_6	P_7	P_8	P_9	P_{10}
Prices	100	110	108	130	154	145	160	170	193	220	264

We need to compute the return from the share in each of the periods.

Solution

If all the prices are cum-dividend (that is, prior to the payment of dividends), the single period return to the investor in period 1 (r_1), period 2 (r_2), etc., could be expressed as below:

$$r_1 = \frac{P_1 - P_0}{P_0} = \frac{110-100}{100} = 10\% \qquad \text{Eq. (1)}$$

Chapter 3: Equity Markets and their Structures

(C Anita and Manish Aggarwal)

Introduction

In this chapter, we will study briefly about markets and their functions and then cover in detail the various nuances of the secondary market in India.

The secondary market is that segment of the capital market where the outstanding securities issued by the Central and the State Governments, public bodies, and corporate entities are traded. It is an open auction market where buyers and sellers meet and evolve a competitive price for the securities. The secondary market in India consists of stock exchanges recognized by the government under the Securities Contracts (Regulation) Act, 1956. These stock exchanges, operating under the rules, bye-laws, and regulations approved by the government, constitute an organized market for the outstanding securities.

Markets and their Functions

A market is a location where buyers and sellers come into contact to exchange goods or services.

Markets can exist in different forms depending upon the nature of location and mode of contact. It can have a physical location where buyers and sellers come in direct contact with each other or a virtual location where the buyers and sellers contact each other employing advanced means of communication. There is another form of market where actual buyers and sellers achieve their objectives through intermediaries.

The essential features of a market are:

- Existence of the buyers (demand side of the market); and sellers (supply side of the market);
- Existence of price for every asset;
- Allocation of resources; and
- Existence of regulatory mechanism.

One of the essential features of a market is the existence of price for every asset. That is, the consumers have to pay a price to acquire an asset.

How can one define price?

It can be defined as a certain amount of money expected or given for the sale (exchange) of some asset. Another frequently used term in relation to markets is value. It can be defined as the quality or worth of an asset that makes it valuable. Quantitatively, to rate an asset considering its importance or usefulness (value), we assign it a numerical quantity in terms of money.

Does this mean that price and value are one and the same?

No. Value can be highly subjective. An asset can have different values in different situations for different persons and accordingly its price changes. So, value and price are related to each other and it can be said that value can be expressed in terms of price of an asset.

Chapter 4: Efficient Market Hypothesis

(C Anita and Manish Aggarwal)

Introduction

Two commonly used approaches for decisionmaking on investments are fundamental analysis and technical analysis. In fundamental analysis, investors' decisions are based on the intrinsic value of a security which helps in identifying the mispriced securities. In technical analysis, the decisions are based on the price and volume of the stock as they are perceived to reflect the value of the stock. Besides these two approaches, there are some qualitative factors which also have a role in decision-making.

Investors are likely to make systematic errors which would push the stock prices away from that determined by fundamental analysis. The psychological aspect of the stock price movements forms a separate field of study termed 'Behavioral Finance'. The unexpected shocks in the stock markets can be explained by behavioral finance, which has gained an upper hand over the traditional Efficient Market Hypothesis (EMH). The theory that irrational behavior by some of the investors leads to a distortion in the prices of securities, is seen to be gaining increased importance over the EMH in the recent past. As research is still going on in this field, EMH, however, retains its hold in explaining stock movements.

Concept of Efficiency of the Stock Markets

The Efficient Market Hypothesis (EMH) has been consented as one of the cornerstones of modern financial economics, evolved in the 1960s from the doctoral dissertation of Eugene Fama. In his classic paper Fama (1970) defined market in which prices always fully reflect available information as "efficient". While this definition reflects the main idea of the EMH it might be extended to explain the underlying assumption Fama's efficient market hypothesis extended the random walk hypothesis. Fama stated that in an active market that includes many well-informed and intelligent investors, securities will be appropriately priced and reflects all available information.

Fama in his paper 'Random Walks in Stock Market Price,[8] defined efficient market as 'a market where there are large numbers of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants. In an efficient market, competition among the many intelligent participants leads to a situation where, at any point in time, actual prices of individual securities fully reflect the effects of all information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in an efficient market at any point in time the actual price of a security will be a good estimate of its intrinsic value.'

[8]FAMA, Eugene F., 1965. Random Walks in Stock Market Prices, Financial Analysts Journal, 21(5), 55–59.

Equity and Bond Valuation



Editor
Srikanth.P

Equity and Bond Valuation

Editor:
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Chapter 1: Equity Stock Valuation Models

(Kirthika)

Introduction

The basic model for valuing equity is the dividend discount model. There are many variants of this model. According to these models, the intrinsic value of a security is equal to the present value of the expected dividends on the stock. We discuss here the variants of the basic model which make different assumptions about the future growth rates.

Valuation Methods

The equity stock valuation models are discussed hereunder-

Dividend Capitalization Models

For an equity share, the payments are in the form of dividends declared by the company. As the equity share is a perpetual security i.e. with no maturity date, the dividend payments are made in perpetuity. So, the intrinsic value of a share is represented by the equation-

$$V = \frac{D_1}{(1+k_e)} + \frac{D_2}{(1+k_e)^2} + ... + \frac{D_\alpha}{(1+k_e)^\alpha} = \sum_{t=1}^{\alpha} \frac{D_t}{(1+k_e)^t} \quad \text{...Eq. (1)}$$

Where ,

D_t = dividend payment at time t,

k_e = equity capitalization rate, and

V = present value.

With the progress of time the dividend payments may increase, i.e.

$D_1 < D_2 < D_3 < D_4 <$.... Given this phenomenon, equation (2) can be rewritten as follows:

$$V = \frac{D_1}{(1+k_e)} + \frac{D_1(1+g)}{(1+k_e)^2} + \frac{D_1(1+g)^2}{(1+k_e)^3} + \frac{D_1(1+g)^\alpha}{(1+k_e)^\alpha} = \frac{D_1}{k_e + g} \quad \text{...Eq. (2)}$$

Equation (3) assumes a constant growth rate in dividends and hence is called the Constant Growth Dividend Capitalization Model. This equation can also be modified to reflect the possibility of supernormal growth in the initial years followed by a normal growth rate. (This model popularly known as the H model is discussed in the annexure to this chapter.)

From equation (3), it is clear that for valuation of stock, the analyst has to estimate the expected dividend in year 1, the growth rate(s) in dividend, and the appropriate capitalization rate. Since the dividend payments are not known in advance, both dividend in year 1 and the dividend growth rate (g) have to be forecasted.

Equation (3) can also be modified to include the earnings per share. Assuming a constant pay-out ratio, equation (3) can be rewritten as:

$$V = \frac{(1-b)\,E_1}{k_e - g} = \frac{D_1}{k_e - g}$$

Chapter 2: Bond Valuation

(Kirthika)

Introduction

In the previous chapter we have discussed about equity stock valuation models and in the present chapter we discuss about bond and related concepts from bond valuation perspective.

In comparison to equities, bonds at first sight appear less glamorous and exciting. But bonds too have their subtleties and pitfalls for the investors. In general, there is less uncertainty about the cash flows accruing to the bondholders as compared to the shareholders. The emphasis is, therefore, more on fine-tuned calculations and analysis. Such careful computations may not be worthwhile in equities because there is greater uncertainty about the numbers that one is working with. Typically, bond prices fluctuate less than equity prices, and the investor who desires superior performance has to be on the lookout for even small differentials in prices and returns. In this chapter, we look at the nuances of bond valuation in detail.

Strategic Roles of Bonds from an Investor's Point of View

While constructing a portfolio, it is quite important to consider the risk-return profile of an investor. The portfolio of an investor who is willing to take high risks to earn high returns might consist of common stock. On the other side, the portfolio of an investor whose only objective is to minimize the risk might consist wholly of securities issued by government and other bodies whose default risk is almost nil.

Most of the investors adopt a middle path. These investors find that their investment needs are modest and usually prefer less volatility in returns. These investors will be at an advantage if corporate bonds are incorporated into their portfolios. We know that each and every security in the portfolio contributes to the total risk. Some securities individually or as a group tend to increase the risk while some others tend to decrease it. That is, there can be different constituents of a portfolio so that their returns move in opposite directions negating the effect of one on the other so that a portfolio of little or no risk can be constructed. Quantitatively, this association is measured by correlation. Therefore, the correlation between the constituents should be as low as possible if not negative. It has been observed that the correlation of risk although positive is very low between common stock and corporate bonds. This fact should be taken into consideration while constructing a portfolio, as bonds which normally not only possess lower risk than common stocks but also tend to reduce the portfolio's risk more than proportionately than the reduction in the overall returns.

The interest paid on bonds is a tax-deductible expenditure unlike dividends which are not only post-tax expenditure, but also attract additional tax in terms of the current guidelines. Consequently, an issuer will be able to offer better interest rates on bonds, an advantage to the investor.

Chapter 3: Fundamental Analysis

(K Seethapathi)

Introduction

In the previous chapters we have about the basics equity and bond valuations. In this chapter we discuss about fundamental analysis towards security valuation.

Security analysis is the first step undertaken in the process of investment decision. The task involves determining prospective benefits from investment in a security, the conditions subject to which they may be received, and the likelihood of such conditions.

In a sense, the task involves forecasting future conditions, the prospective benefits from holding a security given these conditions, and arriving at 'what ought to be' the price for the security given these benefits, and adjusting for the inherent time and risk. Security valuation is the end objective of security analysis in this sense.

Fundamental analysis is an approach to determine this 'what ought to be price'. Its objective is to identify the underpriced and overpriced securities in the market place so that the investment decisions – buying and selling – can be made.

Objectives and Beliefs of Fundamental Analysis

The fundamental analysts believe that due to temporary market disequilibrium, the current market price may be at variance with its intrinsic value, but in the long run the market price would get back to its intrinsic value. As Graham, *et al*[12] have pointed out that the fundamental analysts do not invest this value with an aura of permanence. Instead, they believe that the intrinsic value is likely to change from year to year as the factors determining this value take on different values. But in most cases of securities, the intrinsic value changes less drastically than changes in market price. So, an investor usually has an opportunity to profit from a wide discrepancy between the current market price and the intrinsic value. By buying an underpriced security, and selling an overpriced security, an investor would be able to make profits.

It may be noted that the end objective of fundamental analysis is not to make speculative profits which call for frequent entering in and exiting from the market and/or switching from one security of portfolio to another. Rather, it is to avoid the risk of loss from buying an overpriced stock and selling an underpriced stock. The fundamentalists view investments as long-term decisions, in fact, for such a long period that the holding of a security or portfolio can be considered permanent.

The fundamentalists may buy a security if the current market price matches its intrinsic value, that is, when it is a fair price. By buying a fair priced security, a person earns the normal rate of return on his investment. Buying an underpriced stock enables one to earn some abnormal return (relative to risk) on his investment. This is known as beating the market. The fundamentalists are a cadre of participants in the market who believe that the stock market can be beaten.

---

[12] Graham B. D. Dodd, and S. Cottle, Security Analysis. 4th ed. McGraw-Hill, New York, 1962.

Chapter 4: Technical Analysis

(K Seethapathi)

Introduction

In the previous chapter we have discussed about the fundamental analysis for security valuation. Now, in the present chapter we discuss about the technical analysis for such security valuation.

Investors may adopt two different approaches to equity investment. They may buy stocks at a certain point of time and simply hold these stocks over a period, without restructuring their portfolio. Such a passive approach to investment is also called the 'buy and hold' policy. Alternatively, investors may adopt an active investment strategy, constantly evaluating their holdings, and reshuffling the stocks they hold. This approach requires constant evaluation of the market. It is a well-established fact that stock markets also portray cyclical movements similar to business cycle. An active investor who is able to identify the turns in the market would be able to buy at bottoms (low prices) and sell at peaks (high prices) and make substantial gains out of cyclical investments.

Concept of Technical Analysis

Technical analysts have developed tools and techniques to study past patterns and predict future price. The basic assumptions underlying technical analysis are as follows:

- Market value is determined solely by the interaction of supply and demand.
- Supply and demand are governed by numerous factors, both rational and irrational.
- Ignoring minor fluctuations in the market, stock prices tend to move in trends which persist for an appreciable length of time.
- Changes in trend are caused by shifts in supply and demand.
- Shifts in supply and demand, no matter why they occur, can be detected sooner or later in charts of market value.

Some chart patterns tend to repeat themselves.

Unlike fundamental analysis where factors like earnings of the company, its management, products, etc., are studied, technical analysis is based purely on study of the behavior of past prices. The supply and demand for a security is supposed to have incorporated not only the fundamental factors, but also the psychological and behavioral factors. While fundamental analysis is directed towards determining the intrinsic value of a security, technical analysis is directed towards predicting the price of a security. The price at which a buyer and a seller settle a deal is considered to be the 'one precise figure' which synthesizes, weighs and finally expresses all factors, rational and irrational, quantifiable and non-quantifiable, and is the only figure that counts. The spirit of technical analysis can be summed up thus: "The going price as established by the market itself comprehends all the fundamental information which the statistical analyst can hope to learn (plus some which is perhaps secret to him, known only to a few insiders) and much more of equal or even greater importance".

Derivatives Markets and Regulation of Financial Markets



Editor
C S Pavana Jyothi

Derivatives Markets and Regulation of Financial Markets

Editor:
C S Pavana Jyothi

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Chapter 1: Derivatives Markets

(C Anita amd Manish Aggarwal)

Introduction

Options and Futures are the result of an unrelenting search for better financial instruments. They are classified as 'Derivatives' because they derive their value from an underlying commodity or a financial asset. The underlying commodities and financial assets range from agricultural products like wheat and cotton to precious items like gold, silver, petroleum and financial assets like stocks, bonds and currencies.

Futures Contracts

Futures on bonds started trading on stock exchanges in 1975 and futures on equity were introduced in 1982. Prior to this, organized futures market in commodities had existed in the Chicago Board of Trade since 1848. Over the years it has experienced rapid growth in terms of volume and turnover. Today, it is the oldest and the largest futures exchange in the world. It was established as a voluntary, non-profit association by its members. Another exchange to reckon with is the Chicago Mercantile Exchange. These two exchanges between themselves account for about 80% of the total volume traded in future contracts in the US.

Futures, like options, possess certain characteristics which make them quite popular. From farmers to financial institutions, all categories of people employ these instruments to hedge their risks. A farmer, who produces wheat, in order to realize a better price for his produce may go to an exchange and sell a futures contract. Similarly, a baker who is uncertain about the future price of the wheat may also go to an exchange and buy a futures contract. In these cases, neither the producer nor the buyer possess exact information about the future price of wheat and face the risk of the future price moving unfavorably. In order to reduce the magnitude of this risk, a futures contract proves to be invaluable. A futures contract also serves as an instrument, for some of the market participants to speculate on.

Futures contracts owe their origin to forward contracts. In other words, futures contracts are refined forward contracts.

A futures contract is an agreement between two parties to exchange a commodity or a financial asset for certain consideration after a specified period. As we have stated before, a futures contract is a refined forwards contract. The main differences between forwards and futures contract are:

i. A futures contract is standardized in terms of quantity, the quality and terms of delivery, etc.

ii. The futures contracts are traded in an organized exchange, where a large part of the process is regulated.

Chapter 2: Regulation of Financial Markets

(C Anita amd Manish Aggarwal)

Introduction

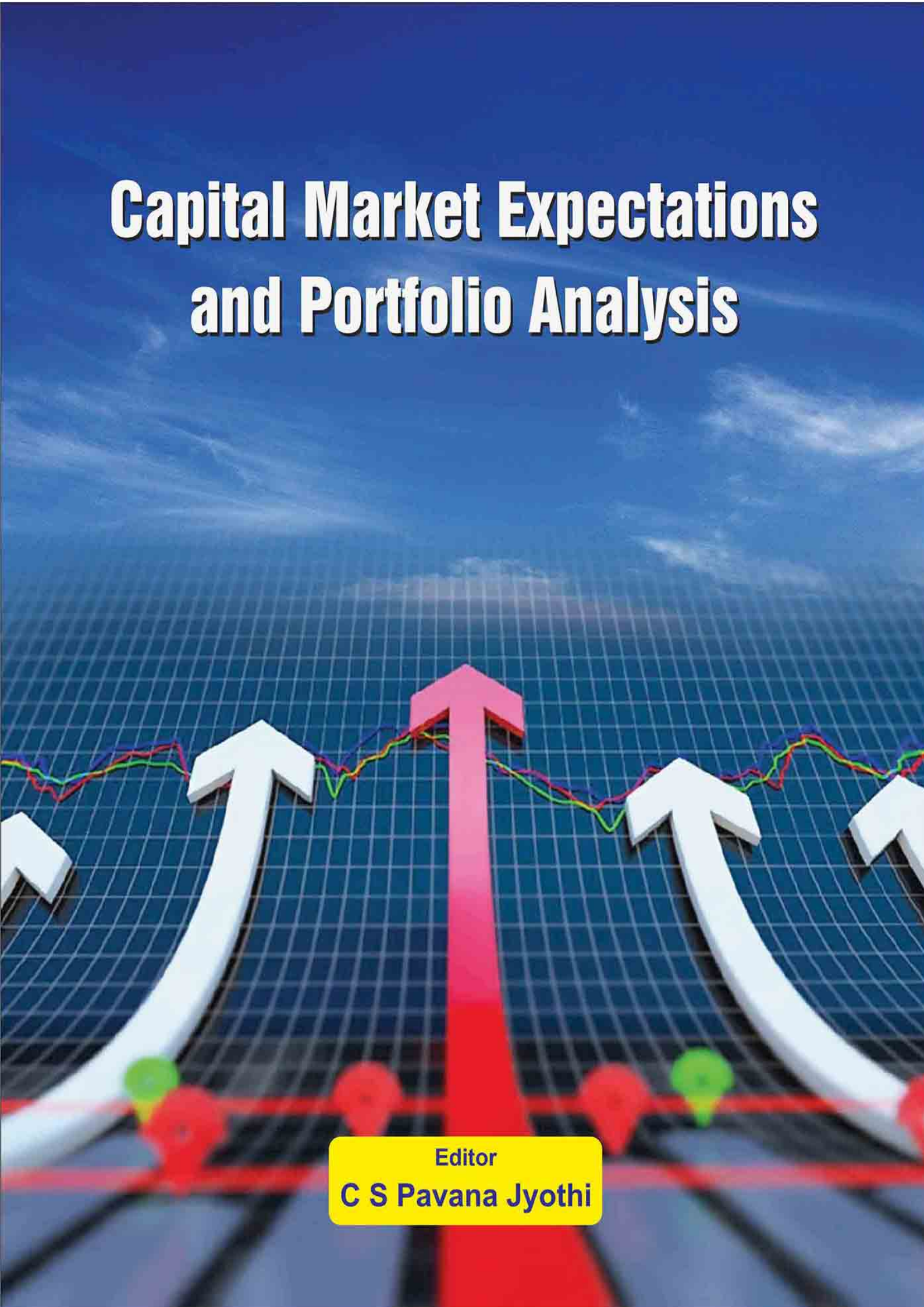
The major thrust of the securities market reforms is upon the improvement of operational and allocative efficiency of the markets by correcting the exogenous and structural factors impeding the functioning of the system. Efficient intermediation is of paramount importance in making the capital markets more vibrant and dynamic. To sustain the market growth and crystallize the increased awareness and interests of a discerning and growing pool of investors, it was essential to overcome the inadequacies and curb the malpractices in the market. It can be observed from the global experience that capital markets cannot develop in a healthy manner without effective regulations for disclosures, listing, trading, liquidity, intermediation, settlements, accounting, etc. The regulatory policy must focus on visible and effective maintenance of market discipline and professionalization of intermediation and support services.

The Government felt the need to set-up a regulatory body to ensure investor protection and promotion, and growth of vibrant securities market. The Securities and Exchange Board of India (SEBI) was constituted on 12th April, 1988 as a result and established as a statutory body on 21st February, 1992. Regulation of the Indian securities market required the SEBI to simultaneously perform both disciplinary and developmental roles. The two roles ought to be complementary and carefully synthesized. The disciplinary dimension involves providing for disincentives and penalties for errant and unfair behavior which harm the market. The development dimension is a positive aspect that involves providing incentives to market participants to engage in a constructive role. The functions of the financial markets and their regulation are briefly discussed hereunder.

Regulation of Financial Markets

The securities market in India has a long history spanning over a century. The Bombay Stock Exchange is the oldest stock exchange with its origin in the informal trading of stocks in the 1850s and 60s. Its formal operations commenced in 1875. Prior to independence the securities market was largely unregulated. In 1947, the Capital Issues (Control) Act was passed which formalized and continued its control over the issue of securities imposed during the second world war. This Act was administered by the Office of the Controller of Capital Issues (CCI), which was a part of the Ministry of Finance in the Central Government. In 1956 The Securities Contract (Regulation) Act, 1956 (SCRA) was enacted, which brought stock exchanges, their members and contracts in securities that could be traded, under the regulation of the Central Government through the Ministry of Finance.

Capital Market Expectations and Portfolio Analysis



Editor
C S Pavana Jyothi

Capital Market Expectations and Portfolio Analysis

Editor:
C S Pavana Jyothi

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Capital Market Expectations and Portfolio Analysis

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Chapter 1: Capital Market Expectations

(C Anita and Manish Aggarwal)

Introduction

There are some important macroeconomic variables that affect the value of the securities in the market. The future expectations about the key macroeconomic variables are the biggest deciding factors in determining the expected returns of the securities. Establishing future expectations is a two-step process. The first step deals with forming macro or capital market expectations and the next step relates to forming micro or individual asset expectations in the various securities markets such as stock, bond and real estate. The goal of this chapter is to give a broad outline of the capital market expectations, the economic, social and political market factors affecting these expectations and the forecasting models that form these expectations.

Forecasting the Capital Market Environment

Basically, there are two requirements for forecasting the future expectations. The first one is the requirement of research analysts who have to calculate the return and risk of the individual securities. The second requirement relates to the need of the portfolio manager, who should evaluate the investors' investment objective and the security's return and risk in constructing and maintaining the portfolio.

To establish a general model for all the securities, the primary requirement is the development of the forecast of total cash flows generated by the securities. This total cash flow should be discounted by a proper discount factor to bring the cash flows on par with the present cash flows. The standard valuation model is a two-step model. It is used by market players as a means to take current cash flows and increase them at some abnormal rate for some period after which normal growth would be seen. This model concentrates on the occurrence of the future expected cash flow to the investors.

The calculation of the future cash flows to be generated by the underlying firm and its allocation towards several cost inputs such as raw material, rent, interests, taxes and profits is an important process in forecasting cash flows. Forecasting of cash flows demands calculation of the future revenue flow to be generated by the underlying firm and its appropriation towards various cost inputs like raw materials, rents, interests, taxes and profits. Since these components require fair estimate of the general macroeconomic conditions, a future prediction of the general economy condition will give an idea about the demand of the firm's product as well as the supply-demand interrelationship of various inputs. The forecast of the general economic conditions also gives insight into the future expectations of several sectors of the economy.

Sectoral growth can be further scanned to get an idea about the industry growth. After having the knowledge about the industry, the security analyst can predict the revenue and resultant future cash flows of a particular company. The security analyst is then required to calculate the rate at which cash flows should be discounted. This rate is normally decided by taking into account the following three rates:

Discount Rate = Real Risk-free Interest Rate + Premium for Inflation + Risk Premium

Chapter 2: Asset Allocation: Policies and Procedures

(C Anita and Manish Aggarwal)

Introduction

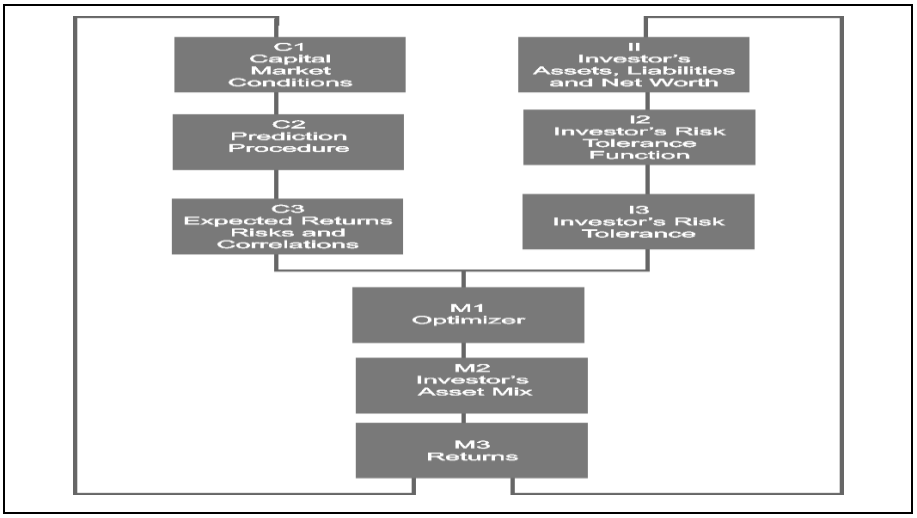
Asset allocation is one of the crucial steps in the process of portfolio building. It is only after considerable thought that an individual should decide on the structure and content of his portfolio. Rather, it is possible to make reasonable decisions on this front only after spending considerable time to figure out what the future might have in store. Individuals having the resources to do so, often seek professional guidance in this matter, considering its significance and complexity. Not that the professionals can play the role of God, but that better knowledge and experience may bring out better results.

The process of asset allocation may take place afresh for a new investor or through a review for an existing investor. The review of the pattern of allocation may take place on a continuing basis or periodically. In the process of asset allocation or review of the current pattern of allocation, many steps are involved. The process involves two independent approaches to analysis, both of which ultimately merge into the process of optimization of the return and risk of the investor.

Asset Allocation Process

One of the two approaches is the determination of the risk-tolerance of the investor. The first step is to determine the assets, liabilities and net worth of the investor that are available for investment. If the goal of the investor is to maximize the assets, the goal should be determined in terms of the assets required to be accumulated by the end of the investment period. If it is in terms of the net worth or the surplus of the assets over liabilities, like in the case of institutional investors such as pension funds, the goal should be in terms of the surplus (Figure 2.1).

Figure 2.1: Major Steps in Asset Allocation



Source: ICFAI Research Center

Chapter 3: Arbitrage Pricing Theory

(C Anita and Manish Aggarwal)

Introduction

Capital Asset Pricing Model (CAPM) establishes the relationship between risk and expected return for securities. In the basic CAPM, investors consider only the means and variances of portfolios. The equilibrium predictions of this theory assert that investors form portfolios consisting of the riskless asset and the market portfolio, the exact combination varying from investor to investor depends on unique individual preferences for expected return and risk. The primary prediction of the basic CAPM is that equilibrium expected returns should be a linear function of the return on the riskless asset (r_f) plus a market portfolio risk premium [$E(r_M - r_f)$], which is proportional to the beta of the security. In the zero beta version of the CAPM, the risk-free rate, r_f, is replaced with the minimum-variance zero beta security's expected return, $E(r_Z)$.

Arbitrage Pricing Model

Ross has proposed an alternative approach to explain the pricing of risky assets. His model, the Arbitrage Pricing Theory (APT), asserts that asset prices are determined through an arbitrage relationship. The APT is based on the premise that two or more securities or portfolios that provide the same pay-offs to their investors are same and must therefore sell at the same price. That is the law of one price. Put differently, if there are two securities that have the same risk but different expected returns, investors will arbitrage, or eliminate, these differences by buying the security with the higher expected return (lower price), and selling the one with the lower expected return (higher price). This process of buying and selling the two securities by investors will cause the price of the security of the higher expected return to raise relatively to the one with the lower expected return. This trading activity will continue until the two securities have the same expected returns.

Assumptions

One of the main criticisms against the CAPM is the assumptions on which it is based. APT proposed by Stephen Ross does not require some of the strong assumptions made by the CAPM. The APT does not assume the following assumptions made under CAPM:

a. There is a single period investment horizon.

b. There are no taxes.

c. Theinvestors can freely borrow and lend at the risk-free rates.

d. The investors select portfolios based on the expected mean and variance of return.

Assumptions on which APT is based:

Chapter 4: Portfolio Analysis

(C Anitha and Manish Aggarwal)

Introduction

We know that the risk and return of a portfolio is not a simple aggregation of the risk and return of the individual securities that form the portfolio in most of the cases. Portfolio analysis deals with the calculation of risk and return of different portfolios. We shall analyze the risk and return of different portfolios that can be constructed with the help of a given set of stocks. We will also try to understand the portfolio diversification process for risk reduction and will finally analyze the various portfolio management strategies.

Components of Risk and Return

Portfolios are constructed to be held over some time period. We can calculate portfolio's expected return using the historical data or using the probability of future returns on the constituent securities. Portfolio theory is primarily concerned with the *ex ante* events which indicate expected future events. All portfolio decisions are for future, and hence we should consider *ex ante* values. Conversely, if we want to evaluate portfolio performance, we should calculate the actual return and risk for past periods i.e., *ex post* values. It is important to understand that *ex ante* values will always be projected values, while *ex post* values will always be actual values.

Ex Ante Return of a Portfolio

The expected return on any portfolio can be calculated as a weighted average of the individual security's expected returns. The weights used must be the proportions of total investible funds in each security. The total portfolio weight will, therefore, be 100%.

For a portfolio of two securities:

Expected portfolio return (E_p) = $W_1 E_1 + W_2 E_2$

Where,

E_1 is the expected return on security 1

$W_1$is the proportion of money invested in security 1

E_2 is the expected return on security 2

$W_2$is the proportion of money invested in security 2.

Similarly, the expected return of a portfolio of n securities, E_p, is given as:

$$E_p = \sum_{i=1}^{n} W_i E(R_i)\, E\,(R_i) \qquad \text{.... Eq. (1)}$$

Where,

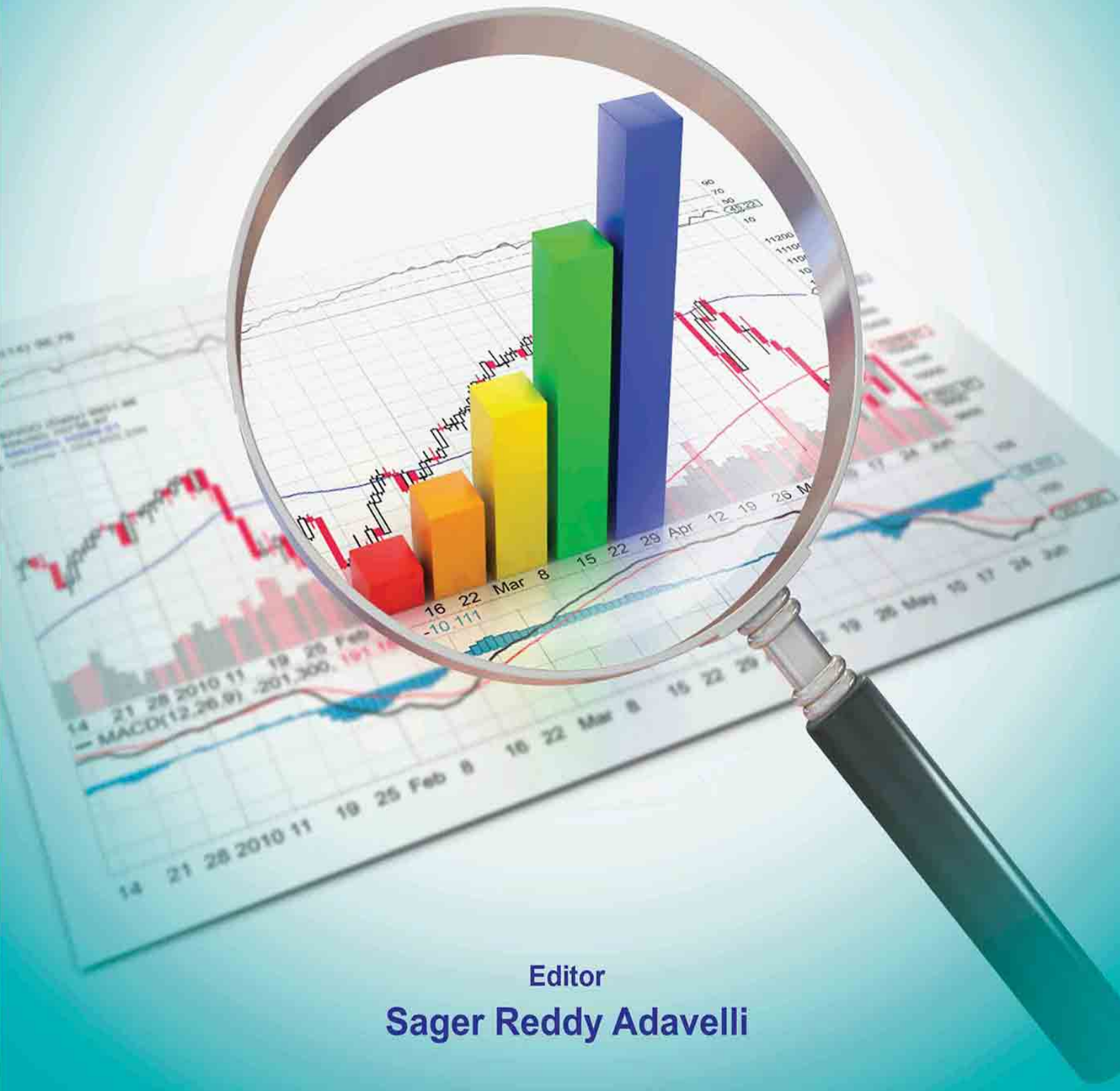
E_p is the portfolio return

W_i is the proportion of investment in security i

$E(R_i)$ is the expected return on security i

'n' is the total number of securities in the portfolio.

Portfolio Selection and Evaluating Portfolio Performance



Editor
Sager Reddy Adavelli

Portfolio Selection and Evaluating Portfolio Performance

Editor:
Sager Reddy Adavelli

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Portfolio Selection and Evaluating Portfolio Performance

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Chapter 1: Optimal Portfolio Selection

(C Anita and Manish Aggarwal)

Introduction

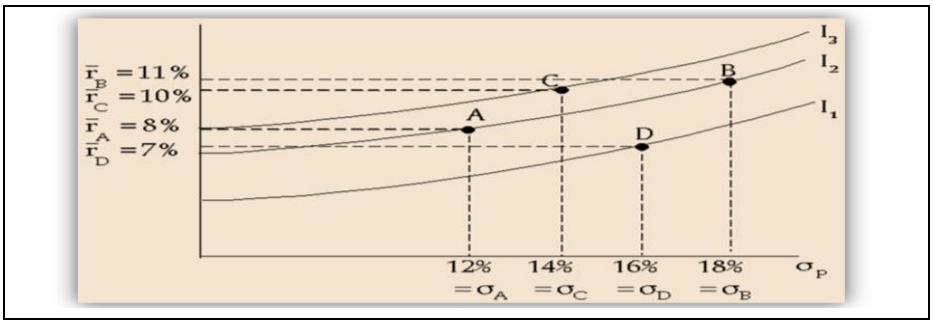
In 1952, Markowitz proposed the modern portfolio theory approach to investing. He assumed that an investor has a fixed amount to invest at the present for a particular time horizon which is known as the investor's holding period. After the expiration of the holding period, the investor will sell the securities that were purchased at the starting of the holding period. Subsequently the investor can either consume or reinvest or partly consume and partly reinvest. This approach can be viewed as a single-period approach, where the starting period is denoted as $t = t_0$, while the ending period is denoted as $t = t_1$. The investor is required to take a decision on the type of the securities he would like to purchase at $t = t_0$ and hold until $t = t_1$. Since a portfolio contains various securities, this decision can be viewed as equivalent to selecting an optimal portfolio from a set of probable portfolios. In deciding about where to invest at $t = t_0$, the investor should estimate the expected returns on various securities under consideration and then invest in the one with the highest expected returns. At the same time the investor should also consider the uncertainty attached with the realization of the return.

Concept of Indifference Curves

The main substance in portfolio theory is to find an efficient frontier or locus of possible portfolio opportunities. After determining this locus, the next question that arises is, how should investors select the most suitable option?

The most appropriate way to know about the best option on the efficient frontier is to assess the satisfaction an investor receives from the investment opportunities. The risk-return trade-off on any portfolio determines an investor's perception towards that portfolio. We will try to judge how the risk of a portfolio affects the investor's preference. Indifference curves or utility functions represent an investor's preference for risk and return and can be drawn on a two-dimensional figure, where the horizontal axis indicates risk as measured by standard deviation (denoted by σ_p) and the vertical axis indicates benefit measured by the expected return (denoted by r_p). Let us draw a set of preferences or indifference curves for a hypothetical investor as shown in the figure 1-1.

Figure 1.1: Indifference Curves for a Risk-Averse Investor



Source: ICFAI Research Center

Chapter 2: Other Portfolio Selection Models

(C Anita and Manish Aggarwal)

Introduction

Existence of a single optimal portfolio for each investor, irrespective of his preference function means that a portfolio manager can choose a portfolio of risky assets for a client without any reference to the preference function of the investor. The question that arises is what is the significance of the preference function of the investor? Is there no role to be played by it? The answer to the question is that the preference function of the investor is important, but its role is in deciding what part of his portfolio should be invested in risky assets and in risk-free assets. It also has a considerable role to play in deciding how much of his income does the investor consume and how much he invests. We start our discussion with a general introduction on what preference functions are. Then we will move onto the desirable economic characteristics of the preference function and the types of preference functions that possess these characteristics.

Investor Preference Functions

To facilitate our discussion, let us start with an example. Consider the following information about the returns from two investments, A and B. (refer Table 2.1)

Table 2.1

Investment A		**Investment B**	
Return	**Probability of Return**	**Return**	**Probability of Return**
16	0.33	21	0.33
12	0.33	13	0.33
6	0.33	5	0.33

Comparing the above investments, we find that the average return is higher for B. But, the variability of the return is also high for B. In such a situation, how to decide whether B is more desirable than A? There are two ways to do so. The first is to ask the investor which one he prefers or whether he is indifferent between the two investments, given the information about the return and risk of the two investments. The second approach is quantitative – finding the value placed on higher returns as compared to lower returns, and calculating the expected value of the additional returns.

Before we move on to how exactly the second approach can be applied, let us digress and consider a simpler example. Consider the following information relating to two cricket teams, X and Y.

	X	Y
Wins	65	50
Draws	20	45
Losses	15	5
Total	100	100

Chapter 3: Portfolio Revision

(C Anita and Manish Aggarwal)

Introduction

Constructing a portfolio is similar to constructing a house – both require determination of the needs and the available resources and matching the available resources with the requirements. But, there are a few basic differences – while a building may require little changes as frequent changes are not feasible, a portfolio calls for frequent changes based on changes in various factors. For portfolios change is inevitable. The responsibility of the investment managers is to modify the composition of the portfolio (rebalance the portfolio) in such a way that it achieves the objective laid down even in the changed conditions. This chapter focuses on how this task is achieved by portfolio managers.

Need and Importance of Portfolio Revision

Capital markets are dynamic and changes are a continuous process. The portfolio manager has to manage it to ensure optimal returns. If the asset allocation (stock-bond mix) is static, the risk return characteristics of the securities are bound to alter and the targeted return may not be realized. Further, from the investor's point of view, his preferences might also have undergone change. Hence, in this dynamic scenario, periodic revision of the portfolio mix is essential.

Portfolio rebalancing or portfolio revision calls for making a risk-return trade-off. The cost of revising the portfolio is known as the transaction cost, which manifests in two forms – the commissions or brokerages and the bid-ask spread. There may be some non-financial transaction costs as well. For example, if the portfolio manager changes the portfolio composition very frequently, he may lose his credibility. Sometimes, the client may feel uncomfortable with the high turnover in the portfolio and look out for the services of another portfolio manager. Though the portfolio manager is fully justified in making the changes, frequent trading may impose subjective costs. And these costs have to be borne by the portfolio manager in the form of lost fees. This explains why portfolio management focuses on maximizing the utility of the investor rather than the returns.

The feeling that it is sometimes advisable not to trade at all, is right but only to a certain extent. Holding/staying away from trading will also entail its own costs, which may manifest as follows:

- A portfolio or an asset that is overpriced and hence inferior returns.
- The composition of a portfolio may no longer reflect the investor's objectives.
- A poorly diversified portfolio, which is riskier than what an investor can bear.

Adopting a buy-and-hold strategy (not trading at all) very often imposes costs in the form of one or more of the above. Just a day after formulating the portfolio, it may cease to be optimal. But trying to keep it optimal always entails transaction costs.

Again, incurring transaction costs may not be sensible when the deviation from optimality is minimal.

Chapter 4: Measuring and Evaluating Portfolio Performance

(C Anita and Manish Aggarwal)

Introduction

It is necessary to monitor the performance of the various securities in order to evaluate how these securities working together towards the desired objectives. Progress means constant increase in the value of the portfolios. There are different ways to measure the performance of portfolios.

The measures we choose depend on the exact information we are looking for and the types of investments we own. Finding and applying the right evaluation standards for our investments is important. If we do not, we might end up drawing the wrong conclusions. For example, there is absolutely no point in comparing the return from a growth fund with return from a treasury security, since they do not fulfill the same role in our portfolio.

Meaning and Importance of Portfolio Performance Measurement

There are two desirable attributes with regard to a portfolio manager's performance:

1. The ability to derive above-average returns for a given class of assets.
2. The ability to diversify the portfolio to the maximum possible extent to eliminate the unsystematic risks relative to the portfolio benchmark.

Has the portfolio manager achieved these two? Or to what extent has he been successful over a period of time?

One of the important steps in portfolio management process is the evaluation of the portfolios during the time horizon concerned. From the investors' point of view, the performance evaluation is to verify whether superior performance is attributable to the skills of the fund manager, and to monitor whether the investment strategy that has been developed by the fund manager is compatible with investor objectives. From the fund manager's point of view, performance measurement provides him with a feedback whether the results are in tandem with expectations. There are a number of situations wherein such an evaluation becomes necessary and important:

i. It is necessary for self-evaluation. As individual investors, we need to satisfy ourselves from time to time that the decisions taken by us are correct and the decision-making process is efficient. This should be an ongoing process to refine our skills and improve our performance over a period of time.
ii. It is necessary for the evaluation of fund managers. An organization that deals with a mutual fund would like to evaluate its fund managers as mutual funds may have different managers, each of them running a separate fund or sub-funds, and it is often necessary to compare the performance of these managers.
iii. It is necessary for the evaluation of mutual funds. As investors, when we invest our hard-earned money with a mutual fund, we ideally need to convince ourselves that the fund is generating a return which is at least commensurate with risk we are undertaking for such investments. A similar need arises for organizations that seek external portfolio advisory services.

Introduction to Securities Markets



Editor
Sager Reddy Adavelli

Introduction to Securities Markets

Editor:
Sager Reddy Adavelli

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Introduction to Securities Markets

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Chapter 1: Stock Market in India

(Amruta Gahlod)

Introduction

Buy and sell of a commodity or stock or a financial instrument takes place in a market. Market can be a physical entity like what we call as 'Mandi' or virtual like derivatives market, foreign exchange markets, debt markets and stock markets. In this chapter we deal with stock markets.

We will study briefly about markets and their functions and then cover in detail the various nuances of the secondary market in India.

We are aware that corporate entities mobilize the funds through various sources and equity shares is one of them. Investment instruments like equity shares, debt instruments and other government securities can be traded in an exchange or over the counter. Stock exchange is the place where the trading – buying and selling of the "defined financial instruments" takes place. Only listed equity / debt instruments are traded in any stock exchange. Each stock exchange will define the terms and conditions for listing of all financial instruments – equity, debt, mutual fund units etc.

This chapter provided some of the important aspects of the stock markets.

Markets and their Features

A market is a location where buyers and sellers come into contact to exchange goods or services. Let us understand the features of the markets.

Markets can exist in different forms depending upon the nature of location and mode of contact. It can have a physical location where buyers and sellers come in direct contact with each other or a virtual location where the buyers and sellers contact each other employing advanced means of communication. There is another form of market where actual buyers and sellers achieve their objectives through intermediaries.

The essential features of a market are:

i. Existence of the buyers (demand side of the market) and sellers (supply side of the market)
ii. Existence of price for every asset
iii. Allocation of resources
iv. Existence of regulatory mechanism

One of the essential features of a market is the existence of price for every asset. That is, the consumers have to pay a price to acquire an asset. How can one define price? It can be defined as certain amount of money expected or given for the sale (exchange) of some asset. Another frequently used term in relation to markets is value. It can be

Chapter 2: Stock Market Indicators

(Amruta Gahlod)

Introduction

This chapter helps you understand the utility of security market indices, types of security market indices and also various indexes which are familiar in stock market.

The general movement of the stock market is usually measured by averages or indices consisting of groups of securities that are supposed to represent the entire stock market or particular segments of it. Security Market Indices (or) Security Market Indicators provide a summary measure of the behaviour of security prices and the stock market.

In this chapter, we will discuss the salient features of the principal share price index numbers used in India.[12] Some of the important stock indices (Refer Table 2.1) in India are as following:

Table 2.1: Stock Indices in India

Stock indices	Example
Benchmark indices	BSE Sensex and NSE Nifty
Market capitalization	BSE Small cap and BSE Midcap
Sectorial indices	BSE Bankex and CNX IT
Broad-market	BSE 100 and BSE 500

Source: ICFAI Research Center

However, before examining these index numbers, we will look into:

a. The need for having a summary measure;

b. The objectives sought to be achieved by constructing index numbers; and

c. The factors that influence the construction of index numbers.

Utility of Security Market Indices

The security market indices are indicators of performance of the stocks that constitute the index. Various factors will be taken to derive to the index. Various stakeholders of the market will use these indices for different purposes.

Following are the important uses of an index:

- Security market indices are the basic tools which help and analyze the movements of prices variation of various stocks listed in stock exchanges. The indices are useful indicators for finding a country's economic health.

[12] https://www.kotaksecurities.com/ksweb/Research/Investment-Knowledge-Bank/what-are-stock-market-indices

Chapter 3: Sources of Financial Information

(Amruta Gahlod)

Introduction

Government securities are identified as risk free investments as sovereign guarantee is there. Barring such a few investment avenues other investments are linked to market risk. An investment decision, therefore, calls for carefully evaluating available alternatives; assessing the risk and reward and risk associated with each of these alternatives. Despite the fact that luck and experience play their role in making the correct investment decision, the investor should always take an informed decision. This is always based on adequate information about investment avenues. This chapter covers details on various information sources available to investor.

As the prospect for better rewards on an investment depends upon what the future holds, a primary task of an investor, an investment manager, an investment broker or counselor is to look ahead. This looking ahead involves making projections about prospective risks and rewards of investments in the near as well as distant future.

The investment results in general and the results of security investments in particular are influenced by a whole gamut of events, public policy changes, market conditions, policies and performance of companies, and so on. So, data has to be gathered on economic and market events, national and international events, public and corporate policies, and performance facts.

Since the gathering of primary data is both time consuming and costly, the investing public has to resort to the sources of secondary information. Further, to facilitate quick analysis and decision making, it would be useful to collect data from such sources that have already done a good deal of data analysis and condensed them into a capsule form.

Various agencies publish different types of data. There are a number of trade journals, periodicals, official documents, advisory reports published by the investment brokers and counselors that can be valuable sources of information for investment decision making. The finance newspapers and magazines, of course, carry a lot of investment and financial data on a regular basis. Most of the national newspapers invariably carry a financial page. The delay in the publication of latest information by agencies, in particular public agencies, is, however, quite common. Departments in India such as Ministry of Finance, Department of Economic Affairs, Economic Division, INDIA: Economic and Financial Data, Special Data Dissemination Standard (SDDS), National Summary Data Page (NSDP)[25] publishes data periodically, whereas the National Institute for Transforming India (Niti) Aayog (formerly Planning Commission of India), has launched Open Government Data (OGD) platform in India. It has a coverage of 104

[25] https://data.gov.in/#path=ministry_department/planning-commission

Valuation and Pricing of Securities



Editor
VDMV Lakshmi

Valuation and Pricing of Securities

Editor:

VDMV Lakshmi

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Valuation and Pricing of Securities

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Chapter 1: Fundamental Analysis

(K Seethapathi)

Introduction

Security analysis is the first step undertaken in the process of investment decision. The task involves determining prospective benefits from investment in a security, the conditions subject to which they may be received and the likelihood of such conditions.

In a sense, the task involves forecasting future conditions, the prospective benefits from holding a security given these conditions and arriving at 'what ought to be' the price for the security given these benefits and adjusting for the inherent time and risk. Security valuation is the end objective of security analysis in this sense.

Fundamental analysis is an approach to determine this 'what ought to be price'. Its objective is to identify the underpriced and overpriced securities in the marketplace so that the investment decisions—buying and selling—can be made.

Objectives of Fundamental Analysis

The fundamental analysts believe that due to temporary market disequilibrium, the current market price may be at variance with its intrinsic value; but in the long run, the market price would get back to its intrinsic value. Grahamet al.[1] have pointed out that the fundamental analysts do not invest this value with an aura of permanence. Instead, they believe that the intrinsic value is likely to change from year to year as the factors determining this value take on different values. But in most cases of securities, the intrinsic value changes less drastically than changes in market price. So, an investor usually has an opportunity to profit from a wide discrepancy between the current market price and the intrinsic value. By buying an underpriced security and selling an overpriced security, an investor would be able to make profits.

It may be noted that the end objective of fundamental analysis is not to make speculative profits which call for frequent entering in and exiting from the market and/or switching from one security of portfolio to another. Rather, it is to avoid the risk of loss from buying an overpriced stock and selling an underpriced stock. The fundamentalists view investments as long-term decision, in fact, for such a long period that the holding of a security or portfolio can be considered permanent.

The fundamentalists may buy a security if the current market price matches its intrinsic value, that is, when it is a fair price. By buying a fair priced security, a person earns the normal rate of return on his investment. Buying an underpriced stock enables one to earn some abnormal return (relative to risk) on his investment. This is known as beating the market. The fundamentalists are a cadre of participants in the market who believe that the stock market can be beaten.

[1] Graham B., D. Dodd, and S. Cottle, *Security Analysis*. 4th ed. McGraw-Hill, New York, 1962.

Chapter 2: Impact of Changes in Accounting Policies

(Kirthika)

Introduction

The previous chapter discussed fundamental analysis—the framework of fundamental analysis and how we arrive at the intrinsic value of the company and various forecasting models. This chapter discusses the various accounting policies/standards, how the guidelines impact the financial statements of a company.

While evaluating a company, we take the financial statements of the referred company as basic information.

The financial statements of a company, reflect the performance of the company during a particular period and the net worth of the company as on the balance sheet date. Study of the financial statements is very important for an investor for an investment decision. Most investors look at the price of a security as the present value of future cash flows. Cash flows are those inflows of cash which they expect to receive after adjusting the discount rate for the risk associated with the cash flow stream. The reported earnings and the earnings forecast help investors estimate the future dividend stream. It can be reasonably expected that with a growth in income, the dividends are also expected to grow. On the other hand, a sudden fall in income rates can forewarn a cut in dividends too. Studies in the stock market have also shown that earnings are important determinants of stock prices and that changes in stock prices are highly correlated with changes in earnings.

The return on equity, which is calculated based on the information provided by the financial statements, is also an important factor in determining stock prices. It can be shown on the basis of the constant growth model, that stock prices are a positive function of return on equity, book value, pay-out ratio, and the growth rate and a negative function of the risk-adjusted discount rate. Thus, everything else held constant, the higher the return on equity, the higher the stock price.

Many investors, in addition to earnings and dividends, also use the cash flow. For example, the analysis of stock prices based on the 'value line' drawn on price charts is based on cash flow. The value line, which represents the stock's intrinsic value drawn on the price chart, is equal to cash flow per share multiplied by some appropriate number. Sometimes, an analysis of the cash flow may provide insights into the company's profitability, which earnings may not reveal.

It is, therefore, evident that the financial statements play a major role in security evaluation. The question now arises as to the validity of the 'profit' figures as reported in the financial statements. Although the Companies Act requires that the profit and loss account and the balance sheet should reflect a 'true and fair view' of the profit/loss for a particular period and the net worth of the company as of that date, the concept of 'true and fair' has not been defined anywhere. Being situation specific, no certain definition of 'true and fair position' is possible either.

A number of areas require estimates to be made. Varying judgments on the nature, timing and the form of transaction can lead to different accounting treatments. Above

Chapter 3: Equity Stock Valuation Models

(Kirthika)

Introduction

In the previous chapter we discussed some important aspects of the accounting policies and how companies have to follow the guidelines while allocating expenses. All these changes reflect in the financial statements. These financial statements are important tools for arriving at the valuation of the securities—both equities and debt instruments. This deals with valuation of equities.

Equity valuation is the process involved in determining the fair market value of a firm's equity securities. Equity valuation is the backbone of the modern financial system. The art and science of equity valuation ensures and enables a company to derive sound business models, making a fundamental analysis in assessing the current market value of the company and efficiently managing the capital resources against the interpreted results. The basic model for valuing equity is the dividend discount model. There are many variants of this model. According to these models, the intrinsic value of a security is equal to the present value of the expected dividends on the stock. The most reliable and sophisticated model being used is Discounted Cash Flows (DCF) analysis rooted from the underlying theory of Modigliani and Miller approach. As the economists and analysts simply make assumptions on specific valuation aspects of a firm's equity, there are various approaches adopted to discounted cash flow approaches, such as Free Cash Flow (FCF) model, Economic Value Added (EVA) and Market Value Added (MVA) approaches. Here, in this , we discuss the variants of the basic model which make different assumptions as regarded by analysts, to determine the future growth rates of the firm or a company taken for valuation of its stock in the presiding markets.

Valuation Methods

Following are the basic approaches that can be used to assess the value of a firm's equity where the investment or divestment decisions are based on the expected future values against the current market value of a firm's equity stock price.

Dividend Capitalization Models

For an equity share, the payments are in the form of dividends declared by the company. As the equity share is a perpetual security, i.e. with no maturity date, the dividend payments are made in perpetuity. So, the intrinsic value of a share is represented by the equation,

$$V = \frac{D_1}{(1+k_e)} + \frac{D_2}{(1+k_e)^2} + ... + \frac{D_\alpha}{(1+k_e)^\alpha} = \sum_{t=1}^{\alpha} \frac{D_t}{(1+k_e)^t} \qquad \text{Eq.(1)}$$

where,

D_t = dividend payment at time t

k_e = equity capitalization rate

V = present value

Chapter 4: Bond Valuation

(Kirthika)

Introduction

In the previous chapter , we have studied about equity stock valuation models such as valuation methods, forecasting EPS, estimating the capitalization rate, etc.

The other important security mostly seen as investment opportunity by the investors and source of mobilizing funds by the issuers is Bond. Bond is a debt instrument with specific features. The value that the bond can be purchased from market is priced as a fair value. The present deals with various issues related to bonds and its valuation.

In this chapter , we will be studying the strategic role of bonds, bond terminology, types of bonds, etc.

In comparison to equities, bonds at first sight appear less glamorous and exciting. But bonds have their subtleties and pitfalls for the investors. In general, there is less uncertainty about the cash flows accruing to the bondholders as compared to the shareholders. The emphasis is, therefore, more on fine-tuned calculations and analysis. Such careful computations may not be worthwhile in equities because there is greater uncertainty about the numbers that one is working with. Typically, bond prices fluctuate less than equity prices and the investor who desires superior performance must be on the lookout for even small differentials in prices and returns. In this lesson, we look at the nuances of bond valuation in detail.

Strategic Role of Bonds: An Investor's Point of View

While constructing a portfolio, it is quite important to consider the risk-return profile of an investor. The portfolio will be a mix of various instruments and fixed income securities get a significant share in portfolio allocation. Hence, it is important to understand the role of bonds in a portfolio. The portfolio of an investor who is willing to take high risks to earn high returns might consist of common stock. On the other side, the portfolio of an investor whose only objective is to minimize the risk might consist wholly of securities issued by the government and other bodies whose default risk is almost nothing.

Most of the investors adopt a middle path. These investors find that their investment needs are modest and usually prefer less volatility in returns. These investors will be at an advantage if corporate bonds are incorporated into their portfolios. We know that each security in the portfolio contributes to the total risk. Some securities individually or as a group tend to increase the risk, while some others tend to decrease it. That is, there can be different constituents of a portfolio so that their returns move in opposite directions negating the effect of one on the other, so that a portfolio of little or no risk can be constructed. Quantitatively, correlation measures this association. Therefore, the correlation between the constituents should be as low as possible if not negative. It has been observed that the correlation of risk, although positive, is very low between common stock and corporate bonds. This fact should be taken into consideration while constructing a portfolio, as bonds normally not only possess lower risk than common

Chapter 5: Efficient Market Hypothesis

(Kirthika)

Introduction

In the previous chapter we discussed the various operational issues on the bonds. In the present chapter, we move on to efficient market hypothesis which discusses the securities market behavior in long run and short run with reference to prices of the securities.

Two commonly used approaches for decision-making on investments are fundamental analysis and technical analysis. In fundamental analysis, the investor's decisions are based on the intrinsic value of a security which helps in identifying the mispriced securities. In technical analysis, the decisions are based on the price and volume of the stock as they are perceived to reflect the value of the stock. Besides these two approaches, there are some qualitative factors which also have a role in decision-making.

Investors are likely to make systematic errors which would push the stock prices away from that determined by fundamental analysis. The psychological aspect of the stock price movements forms a separate field of study termed "Behavioral Finance". The unexpected shocks in the stock markets can be explained by behavioral finance, which has gained an upper hand over the traditional Efficient Market Hypothesis (EMH). The theory that irrational behavior by some of the investors leads to a distortion in the prices of securities, is seen to be gaining increased importance over the EMH in the recent past. As research is still going on in this field, EMH, however, still retains its hold in explaining stock movements.

Concept of Efficiency of the Stock Markets

Market efficiency signifies how 'quickly and accurately' relevant information have its effect on the asset prices. Depending upon the degree of efficiency of a market or a sector thereof, the return earned by an investor will vary from the normal return (return appropriate to risk level).

Efficient Market Hypothesis (EMH)

According to EMH, successive absolute short-run price changes are independent. The hypothesis assumes that the market comprises rational investors. The term 'rational' means that investors will select assets based on their risk-return profile. If the behavior of the market participants, as revealed by various empirical studies, towards various kinds of value relevant information is compared with this term, we will see that the very assumption of EMH comes under cloud. It must be noted that the empirical results existed well before attempts were made to formulate a theory for explaining those results; therefore, issues like competitive market, quicker adjustment to information, informed market participants, easy access to markets, are not a part of EMH, but rather explanations of empirical results.

Now, there is a need to explore how useful or redundant are the two approaches to investing—fundamental and technical analysis.

Chapter 6: Technical Analysis

(K Seethapathi)

Introduction

In the previous chapter, we discussed the theoretical aspects of efficient markets and the various formats of the markets. This discusses the behavior of the market and the securities in a long-term scenario. Investors may adopt two different approaches to equity investment. They may buy stocks at a certain point of time and simply hold these stocks over a period, without restructuring their portfolio. Such a passive approach to investment is also called the 'buy-and-hold' policy. Alternatively, investors may adopt an active investment strategy, constantly evaluating their holdings and reshuffling the stocks they hold. This approach requires constant evaluation of the market. It is a well-established fact that stock markets also portray cyclical movements similar to business cycle. An active investor who is able to identify the turns in the market would be able to buy at bottoms (low prices) and sell at peaks (high prices) and make substantial gains out of cyclical investments.

Concept of Technical Analysis

Technical analysts have developed tools and techniques to study past patterns and predict future price. The basic assumptions underlying technical analysis are as follows:

- Market value is determined solely by the interaction of supply and demand.
- Supply and demand are governed by numerous factors, both rational and irrational.
- Ignoring minor fluctuations in the market, stock prices tend to move in trends which persist for an appreciable length of time.
- Changes in trend are caused by shifts in supply and demand.
- Shifts in supply and demand, no matter why they occur, can be detected sooner or later in charts of market value.
- Some chart patterns tend to repeat themselves.

Unlike fundamental analysis where factors like earnings of the company, its management, products, etc., are studied, technical analysis is based purely on study of the behavior of past prices. The supply and demand for a security is supposed to have incorporated not only the fundamental factors, but also the psychological and behavioral factors. While fundamental analysis is directed towards determining the intrinsic value of a security, technical analysis is directed towards predicting the price of a security. The price at which a buyer and a seller settle a deal is considered to be the 'one precise figure' which synthesizes, weighs and finally expresses all factors, rational and irrational, quantifiable and non-quantifiable and is the only figure that counts. The spirit of technical analysis can be summed up thus: "The going price as established by the market itself comprehends all the fundamental information which the statistical analyst can hope to learn (plus some which is perhaps secret to him, known only to a few insiders) and much more of equal or even greater importance".

Chapter 7: Futures

(C Vijendra)

Introduction

The previous chapter, Technical Analysis, discussed how the charts of the prices over a period help us in predicting the buy/sell signals. This deals with one of the management tools—Futures.

Futures on bonds started trading on stock exchanges in 1975.Futures on equity were introduced in 1982. Prior to this, organized futures market in commodities existed in the Chicago Board of Trade since 1848. Over these years, it experienced rapid growth in terms of volume and turnover. Today, it is the oldest and largest futures exchange in the world. It was established as a voluntary, non-profit association by its members. Futures, like options, possess certain characteristics which make them quite popular. From farmers to financial institutions, all categories of people employ these instruments to hedge their risks. A farmer who produces wheat, in order to realize a better price for his produce, may go to an exchange and sell a futures contract. Similarly, a baker who is uncertain about the future price of the wheat may also go to an exchange and buy a futures contract. In these cases, neither the producer nor the buyer possessed the exact information about the price of wheat in future and faced the risk of the price in future moving unfavorably. In order to reduce the magnitude of this risk, a futures contract proves to be invaluable. A futures contract also serves as an instrument, for some of the market participants to speculate on.

Futures contracts owe their origin to forward contracts. In other words, futures contracts are refined forward contracts. Before we move on to the details of futures contracts, let us briefly study about forward contracts.

With the amendment in the definition of 'securities' under SC(R)A (to include derivative contracts in the definition of securities), derivatives trading takes place under the provisions of the Securities Contracts (Regulation) Act, 1956 and the Securities and Exchange Board of India Act, 1992. Derivative instruments in the Indian stock market are controlled by SEBI regulations.

Forward Contracts

Forward contracts are one of the risk management tools used for price risk. The following paras discuss the features of forward contracts.

Genesis

As with most of the phenomena, ambiguity exists as to where exactly forward contracts took birth in their long history. Some authors suggest that it was in India that these contracts took birth, while some others suggest that it was in Rome. In Rome, the Roman emperors employed forward contracts to procure food grains from Egypt.

Before the industrial revolution, it was not an easy task to transport commodities from one country to another. The probability that the price could change drastically (during the period the commodities were being transported) was high. Under these conditions, the traders required a mechanism where they could protect their price and the profits.

Chapter 8: Options

(C Vijendra)

Introduction

In the previous chapter , we have discussed how futures are used as one of the risk management tools, while in the present we discuss about options as another type of risk management tool.

Options and futures are also the result of unrelenting search for better financial instruments. They belong to a class of instruments referred to as 'Derivatives' because they derive their value from an underlying commodity or a financial asset. The underlying commodities and financial assets can range from mundane products like wheat and cotton to precious items like gold, silver, petroleum, and financial assets like stocks, bonds and currencies. Options on commodities have existed in different forms since 1860 for products as diverse as gold, wheat and tulip bulbs in the USA. An active Over-The-Counter market in stock options has also existed there for nearly a century. It was only in 1973 that organized exchanges began trading options on equities. In 1982, futures on equity and options on bonds made their appearance on stock exchanges.

What does Option Mean?

Options are one of the actively traded derivative instruments in the financial markets. An Option is a contract in which the seller (also called the writer) gives the buyer the right but not obligation to purchase from a designated asset at a specific price which is agreed upon at the time of entering into the contract. It is important to note that the option buyer has the right but not an obligation to buy or sell. But, if the buyer decides to exercise his right, the seller of the option has an obligation to deliver or take delivery of the underlying asset at the agreed price.

Option contracts are very precise in nature. They establish a specific price called 'Strike Price' at which the contract may be exercised or acted upon. This contract has expiry dates. When an option expires, it neither has a value nor it no longer exists.

For the success of innovative financial products, it is essential that the underlying asset has a strong market presence. The features of equity stocks that have contributed to the success of stock options are:

i. In case of equities, the unsystematic risk component forms a large proportion of the total risk of the security. On diversification, this can be nullified. Buying options on these equities is as good as buying equities themselves, if we do not take into consideration the premium (discussed later) paid. Therefore, once the investor exercises the options, he/she aims to achieve the same objective of nullifying the unsystematic risk.

ii. Equities have high degree of liquidity, that is, they are traded in large volumes. Therefore, purchases and sales by individuals or groups do not cause wide fluctuations in the equity prices, assuring price continuity. This helps the option holder decide the worth of the contract.

Alternative Investments



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Bhanu Sireesha

Alternative Investments

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Alternative Investments

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Chapter 1: Warrants and Convertibles

(C Vijendra)

Introduction

Bonds and equities are two types of investment instruments. The price of a bond depends on various factors such as existing interest rates, coupon rates, maturity, etc. In comparison to equities, a bond at first sight appears less glamorous and exciting. But bonds provide their own advantages and disadvantages to the investors. This is because, in general, there is less uncertainty about the cash flows accruing to the bond-holders as compared to the shareholders. The emphasis is, therefore, more on fine-tuned calculations and analysis. Such careful computations may not be worthwhile in equities because there is a greater uncertainty about the numbers one is working with. Typically, bond prices fluctuate less than the equity prices and the investor who desires superior performance has to be on the lookout for even small differentials in prices and returns.

In this chapter we shall discuss the various types of bonds which are offered in the market along with other instruments. These instruments such as warrants, call features, convertibility features attract the investors because of in-built diversity. This diversity generates confidence among the investors to opt for the instruments. The topics of discussion include, bonds with warrants, pricing, attractiveness to investors, convertibles, callable bonds, dual currency bonds, equity index-linked bonds and swap-linked notes. The popularity of these instruments has increased in recent days as increasingly companies are coming up with these instruments to attract the investors and financial institutions.

Bonds with Warrants[1]

Bonds carry only interest coupon. At the agreed terms, the bond holder receive interest on his investment at the coupon rate. There are different instruments which have features of bonds and equity.

Companies can sell bonds with warrants that allow buyers to purchase stock at a certain price, often within a given amount of time. They often follow this strategy when they want to offer bonds at a percentage rate lower than is usual for companies with a similar value or performance rating. Let us go into the details.

Share warrant is an option issued by the company that gives the holder of the warrant a right to subscribe equity shares at a pre-determined price on or after a pre-determined time or period. As per Section 2(h) of Securities Contract Regulation Act, 1956, the warrants are termed as marketable securities. The RBI has clarified in its notification 308/2014-RB2 dated June 30, 2014 that share warrants are to be treated as marketable securities. The benefit for the issuer for issuing the share warrants is that the issuer issues the shares right away, the issuer will get the current pricing. The warrant, on the other hand means issue of equity shares to a future date, while at the same time raising capital immediately. Therefore, the issuer may take advantage of future appreciation in the price of the stock. In case the option holder does not exercise his right, the option

[1] Source: 2015- www. Taxguru.com

Chapter 2: Real Assets

(C Vijendra)

Introduction

In the previous chapter we discussed about financial assets like equity shares, bonds, warrants, etc. In this chapter we discuss about real assets. Real assets are tangible assets such as land, buildings, valuable antique or art pieces, commodity, machinery and equipment, stamp collection, etc.

One of major investment avenues available to the investor is investment in real estate – land, buildings covering residential buildings and commercial properties. Real estate is not easily transferable and transfer is to be done within legal framework. Three types of real estate are generally identified. They are: industrial buildings, commercial buildings and residential complexes. However, such a classification is inadequate. As stated earlier real assets are physical assets like: diamonds, oil paintings and other investments in physical things. In the case of some real assets, the investor enjoys non-financial income called psychic income. Investing in real assets differs from investing in securities in the type of income derived, the manner in which the asset is valued and the way inflation affects the value of real assets.

According to RBI's Report of the Household Finance Committee (August 2017) Indian household balance sheets exhibit a set of features that is unusual in the international context:

- A disproportionately high share of wealth allocated to physical (i.e. non-financial) assets, such as gold.
- Under-investment in long-term insurance and pension products.
- A disproportionally large reliance on unsecured debt, mostly from non-institutional sources (e.g. moneylenders).

Let us go into the details on the investment pattern in real assets with special reference to real estate.

Real Estate Investment

While considering an investment in a property, the investor considers the various parameters like location of property, design of the property – housing, commercial property or mall or industrial complexes, etc. potential for appreciation in value of the asset, etc. Of these parameters, location is more important than any other parameter because it determines the value of a property.

Investors make the investment from their own surplus funds or from borrowings. In the 1970's the investors were having limited options of sources for investment in real estate as the banking sector had just entered growth phase. The sources of funds were limited to equity shares and avenues for housing and mortgage lending were limited during that period. But now the situation has changed with more sources of funds available in the market. The banks, financial institutions and the insurance companies have a variety of schemes to fund real estate investment.

Chapter 3: Mutual Funds

(C Vijendra)

Introduction

In the previous chapter, we studied about real estate investment, real estate in India, appraisal of real assets, etc. This chapter discusses Mutual Funds (MF), types of Mutual Funds, classification of Mutual Funds, etc.

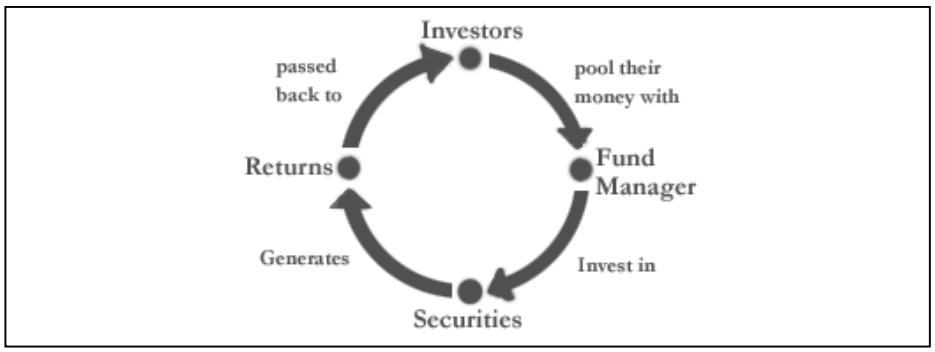
The concept of Mutual Funds is not new. Originating in the USA and moving on to the UK in the 1930s, this culture started in India only in the 1960s, with the setting up of UTI in 1964. Mutual Funds are financial intermediaries in the investment business. In a Mutual Fund, the resources of many investors are pooled and invested to create a diversified portfolio. Thus, in a Mutual Fund, the savings of many investors are combined to form a fairly large and well diversified portfolio of investments.

Concept of Mutual Funds

What is the understanding of stock market nuances to a normal investor? Can he be assured that his investment is safe? Can we assume that the investor is taking an informed decision? From an academic perspective the answers to the above questions is negative. The financial markets provide various instruments offering better transparency to the investors. Investment in Mutual Funds is one of the investment options to the investor. Let us go into the details.

A Mutual Fund is a trust that pools the savings of a number of investors who share a common financial goal. The money thus collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them. Thus, a Mutual Fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally-managed basket of securities at a relatively low cost. The investors pool their money with the fund manager. The fund manager invests this money in various securities in the stock market and generates returns from these securities and gives back these returns to the investors. The flow chart below (Figure 3.1) describes broadly the working of a Mutual Fund.

Figure 3.1: Flow Chart Showing the Working of Mutual Funds



Source: www.amfi.com

Introduction to Project Management



Editor
Samyadip Chakraborty

Introduction to Project Management

Editor:
Samyadip Chakraborty

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Chapter 1: Introduction to Project Management

(Venkata Siva Gabbita and B Bhaskara Rao)

Introduction

In this chapter, we introduce you to the concepts in project management. Men have been planning and managing projects since the beginning of civilization. Of late, people recognized that techniques like cost control, scheduling of activities, resource procurement, and risk management that are relevant for the success of a variety of projects, whether building dams, laying roads, or organizing events. This led to the evolution of a set of unique management tools, techniques, and methodologies, which constitute the present day 'project management'. Project management gained recognition as a specialized area of management about 50 years ago. Today, project management has spread from its traditional focus on the fields of construction and engineering into sectors as diverse as education, healthcare and software development.

This chapter will introduce you to project management by discussing the definitions of project, program, and project management. We will discuss the characteristics, parameters and classification of projects. We shall then move on to discuss the relationship between the various project parameters, between project management and other management disciplines and between project management and line management. Finally, we would be discussing the project management environment including project stakeholders, organizational influences and project life cycle.

Definition of Project

A project is a production process which has a unique setup configured to imperatively meet a specific set of requirements by a fixed deadline datetime under possibly changing environmental conditions.

According to the Project Management Institute's (PMI) publication, 'A Guide to the Project Management Body of Knowledge' (PMBOK), a project is defined as, "a temporary endeavor undertaken to create a unique product or service.*"*

The British Standard 6079 of 1996 (BS6079) defines a project as, "a unique set of coordinated activities, with definite starting and finishing points, undertaken by an individual or organization to meet specific objectives within defined schedule, cost, and performance parameters."

Projects and day-to-day operations are both carried out by people, and are planned, implemented, and controlled to produce results within the given resource constraints. However, projects are different from day-to-day operations in that they are a different type of production process as will be seen later in this book.

Project Characteristics

To enable it to implement the business strategy of a firm, the firm's production process may be setup to be product-focussed and carry out repetitive operations from day-to-day to produce a standardized product/service on the one hand whereas on the other hand it may be process-focussed, wherein, the production process must be reset for each customized product/service it produces.

Chapter 2: Project Idea Generation and Screening

(Venkata Siva Gabbita and B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed about the fundamental concepts of project management. We have also discussed about the project management environment. In this chapter, we will discuss how to generate project ideas and screen them.

When developing a new project, the project manager generates several ideas from different sources like customers, employees and competitors, and finally selects those project ideas that can be implemented. The generation of ideas requires creativity, sensitivity to the changes in the external environment and assessment of resources and capabilities for a project management firm. A number of techniques such as attribute listing, checklist and brainstorming may be used for generating new project ideas.

After the ideas have been collected, they have to be screened. The objective of screening is to drop the poor ideas at the initial stages of new project development. Project Rating Index, an initial evaluation method, helps management streamline the process of initial screening. Net Present Value (NPV) is used to conduct a financial analysis of projects. With conditions where financial viability dominates other criteria in the assessment and evaluation of project candidates, the projects with higher NPV are selected.

This chapter deals with the generation of project ideas and discusses various creativity techniques involved in the generation of ideas. We will discuss the scanning of the business environment, and the activities that can be carried out to generate new project ideas. We shall then move on to discuss the initial screening of project ideas and about the project rating index. Finally, we shall discuss the factors that can be used by firms to enhance the net present value of a project.

Generating Project Ideas

Changing customer needs and preferences, new technologies, shortened product life cycles and increased competition force the project manager to be innovative. The project manager always has to be on the lookout for new ideas since an idea that seem unattractive at one point can look appealing later. Most project ideas except those arising from technological breakthroughs involve combining existing fields of technology or adding more features to the present products or services.

New project ideas help firms achieve their objectives in an efficient manner. Ideas can come from different sources like customers, competitors and employees and even from accidents or luck. They can be derived from various sources, but it is the duty of the project manager to ensure that the chosen idea for a new or modified product or a service can really cater to a present unmet need. The project manager should also ensure that the product based on that idea can effectively compete with similar products or services through features like better quality or lower price.

Before deciding whether an idea is worth pursuing, the project manager must gather as many ideas as possible. Since only a few ideas succeed commercially, most of the firms develop purposeful, systematic approaches for generating new project ideas. Several firms foster an organizational climate that encourages employees to come up with new, creative ideas.

Chapter 3: Market and Technical Analysis of Projects

(B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed project idea generation and screening. In this unit, we will discuss market and technical analysis of projects. Once the project ideas are generated and screened, they are evaluated to test their marketability, technical feasibility, and cost considerations. Market and demand analysis provides a detailed analysis of all market demand conditions and technical analysis provides an assessment of all technical aspects of the project idea. The market analysis estimates the size of the potential market, patterns of consumption, level of competition, market composition and demand analysis determines the aggregated demand for a product or service for a particular period, variations in supply, hidden demands of the customers, etc. Technical analysis of a project idea includes the study of all the relevant design and engineering aspects, reliability and sustainability of the product. An in depth study of market and demand analysis followed by technical analysis reveals the probability of success of a project idea.

This chapter will deal with market and technical analysis of projects. We shall first discuss market analysis of projects that involves aspects like situational analysis and objectives specification, collection of data, market survey, market description, demand forecasting, uncertainties in demand forecasting and market planning. We shall then move on to discuss technical analysis of projects that involves aspects like technology selection, input requirements and utilities, product mix, plant capacity and functional layout, location of the project, machinery and equipment, and consideration of alternatives.

Market and demand analysis

A project company should carefully study the market potential for a given project idea. Conducting market surveys, collecting primary and secondary data, studying the characteristics of the market are some of the activities to test the market environment and see if the idea is feasible. Demand analysis of a product includes the study of consumption patterns, income and price elasticity of demand, nature of competition, availability and prices of substitutes and complementary products. The activities of a project company in conducting a market and demand analysis include situational analysis and objectives specification, collection of secondary data, market survey, market description, demand forecasting, and market planning.

Situational Analysis and Objectives Specification

Situational analysis is the process by which a project company studies customer preferences and their purchasing capacity and strategies of the competing firms and intermediaries. In the process, the project company interacts with the project stakeholders such as clients, channel members, employees and competitors of the firm to better understand market requirements.

Chapter 4: Financial Analysis of Projects

(R Muthu Kumar)

Introduction

In the previous chapter, we have discussed how to conduct the market analysis and technical analysis of projects. In this unit, we will discuss how to conduct the financial analysis of projects. Once the commercial and technical aspects of a project idea have been evaluated and approved, the project manager must examine the financial feasibility of the project. Since the primary objective of any firm is to maximize profits, the financial aspects of a project idea must be studied carefully. Even if the project is marketable and technically feasible, it cannot be implemented if it is not financially viable. To assess the financial feasibility of a project idea, the project manager must examine the capital costs, operating costs and revenues of the proposed project.

To conduct a financial analysis, the project manager must collect information about all the costs pertaining to the project, different ways of financing the project, working capital requirements, profitability projections and projected cash flows of the project. On the basis of this data, the project manager can appraise all the functions of the project and decide whether a particular project idea is worth implementing or not. This chapter discusses the various appraisal techniques used by the project managers to evaluate the financial viability of a project.

This chapter will introduce you to the means of financing a project. We will discuss the working capital requirements and financing. We shall then discuss the concepts of time value of money, cost of capital, project appraisal criteria, and risk analysis in capital investment decisions. Finally, we would also be discussing social cost benefit analysis.

Project Cost

The project cost is the sum of all the costs of activities associated with the project. It includes all costs under the following heads: building and civil works, land and site development, plant and machinery, expenses on foreign technicians, miscellaneous fixed assets, margin money for working capital, provision for contingencies, pre-operative expenses and initial cash losses.

Means of Financing the Project

The project manager can finance the project in a number of ways: share capital, term loans, debenture capital, deferred credit, and other miscellaneous sources. Any one or a combination of two or more of these methods can be chosen to finance the project.

Share Capital

Share capital is of two types: *equity capital* and *preference capital.* Equity capital is the capital contributed by the owners of the firm. Equity holders enjoy the profits and bear the risks of the firm. Preference capital refers to the contribution made by preference shareholders by investing in a firm’s preference shares.

Chapter 5: Project Selection

(B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed the financial analysis of projects. In this chapter, we shall discuss project selection. Project selection is a systematic process of choosing a project idea for implementation from the available alternative project ideas. The project manager attempts to decide which idea to choose, which technology to develop, and which methodology to follow in selecting a project. The project manager has to carefully prioritize all the available options and choose the best. A wrong choice of a project may result in ineffective use of resources and project failure.

As project clients and management teams become more sophisticated, the focus of a project organization is mainly on aspects such as how to choose the right projects and how to prioritize them. Ineffective project selection is the most common reason for the failure of many projects. It may result from ambiguity in the framing of objectives, absence of planning, and lack of team coordination. The project manager has to be very careful in selecting a project. He/she should consider the objectives and policies of the organization, the availability of resources, and the selection of the right team to take up the project.

This chapter will discuss the criteria for project selection models. We will discuss the various project selection models and then move on to discuss the ways and techniques used to analyze the uncertainty of a project. Finally, we shall discuss project proposal.

Criteria for Project Selection Models

Management of change is essential for every firm to survive in the competitive environment. Earlier, firms took up a project as part of their strategy along with their actual operations. Today, organizations are specializing in getting and executing the projects. Every project is important for the firm and each project demands separate development and implementation strategies.

It is the duty of a project manager to choose those projects that guarantee returns in the near future. Proper project selection also determines the allocation of resources which is aimed at ensuring better returns. A rational decision making process is essential to choose the right project.

Souder, a well-known author in the area of project management describes the criteria to be used while choosing a project selection model. He suggests that the project selection model should fulfill the following characteristic – realism, capability, cost, flexibility, ease of use, and easy computerization.

Realism

The model considered for selection of a project should consider all the relevant factors that influence the decision of a project manager. The model should explicitly state the objectives of the project manager and the firm in selecting a particular project. It should also consider the risks (technical, cost, time and performance risks) that a project may encounter.



Project Planning and Control

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Project Planning and Control

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Chapter 1: Management of Project Scope

(Nasina Jigeesh and B Bhaskara Rao)

Introduction

Scope is a brief and accurate description of the end-products or deliverables to be expected from a project. It describes all the activities that have to be performed and identifies the resources that will be utilized for the successful completion of the project. Scope is also concerned with target outcomes, prospective customers, outputs and the financial and human resources required for completing the project.

The project manager and the client have to jointly discuss the objectives of the project. Exchanging views and information will enable them to determine the purpose of the project. This exchange of information will also help the project manager understand the client's expectations of the project and make the client aware of the project manager's method for executing the project. On the basis of this discussion, the client and the project manager prepare a project goal. They also identify a number of objectives that will help them reach that goal. The project goals, together with the objectives, determine the scope of the project.

This chapter will discuss project initiation process and define project deliverables. It will then discuss scope planning and approval of the project overview statement. Then it will explain about the project definition statement. Finally, it would be discussing about scope verification and scope change control.

Project Initiation

Projects are initiated only when an opportunity is recognized or when some need arises and is recognized as significant and can be fulfilled at practical cost. Project initiation phase includes formulating the problem, defining needs and user requirements, evaluating alternative solutions, and preparing a proposal to conduct the project. At the start of this phase, most of the activities will be in the hands of the customer for whom the project should be developed to fulfill their needs. By the end of this phase, the activities will be taken over by the contractor or the project developer. For example, a bank opens new branches in the countryside because of the growing demand for banking services in rural areas. A company starts a project for training its employees in 'Total Quality Management' because of a business need. A construction firm starts a project for a new type of structure because of a client's request. An electronics firm starts a new project for developing Internet ready-TVs due to technological advancement. The Election Commission of India conducts elections to meet a statutory requirement. In other words, projects are initiated because of specific requirements.

Defining Project Deliverables

The Project Management Body of Knowledge (PMBOK) defines a project deliverable as 'any measurable, tangible, verifiable outcome, result, or item that must be produced to complete a project or a part of a project'. Project deliverables are expected outputs over the life of the project. For example, for a software project, the deliverables in the early design phase of the project might be a list of specifications; in the next following phase, they could be software coding and a technical manual. In the next phase, the deliverables could deal with testing of prototypes and in the final project phase, the

Chapter 2: Identifying Project Activities

(B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed the management of project scope. In this chapter, we will discuss the identification of the project activities. Identifying project activities is an important step in the project planning phase after the project scope statement has been defined. The Work Breakdown Structure (WBS) is a useful tool for the project manager in identifying the project activities. It illustrates how each activity of the project contributes to the whole project in terms of budget, schedule and performance. It also lists the vendors/subcontractors associated with specific activities of the project. Software packages like Microsoft's Project 2000 can generate the WBS automatically.

A WBS is initially developed with the limited data available and subsequently revised when additional information is received. This gives the project manager a clear idea of what the end product of the project will be, and the overall process by which it will be created. Firms follow different approaches to developing work breakdown structures. The decomposition of the activities is continued till the lower activities satisfy some specified criteria. The planned WBS is then communicated to other project members and further modifications are done as and when required.

This chapter will deal with the definition of an activity. We will discuss the WBS and its development. We shall then move on to discuss the various tests for completeness of decomposition of activities. Finally, we would be discussing the various approaches to defining deliverables in the WBS, and about representing the WBS.

Activity Definition

An activity is an element of work performed during the course of a project. A project involves a number of interrelated activities. In general, activities share the following characteristics – each activity is of a definite duration; each activity uses resources such as people, materials or facilities; and each activity has a cost associated with it.

A project consists of a series of activities. Every activity of the project has an activity that goes before it, or one that goes after it, and sometimes both. An activity that must be completed immediately before the start of another activity is called a *predecessor activity*. An activity that immediately succeeds another activity and which cannot be started until the earlier one has been completed, is called a *successor activity*. Two activities which are taken up at the same time are called *concurrent activities*. Activity definition involves identification of specific activities that must be performed in order to produce project deliverables.

Work Breakdown Structure

The Project Management Body of Knowledge (PMBOK) defines work breakdown structure (WBS) as a deliverable-oriented grouping of project activities that organizes and defines the total scope of the project. A *deliverable* is any measurable, tangible,

Chapter 3: Project Activities: Sequencing, Estimating Duration, and Scheduling

(Santosh Kumar Yadav and R Muthu Kumar)

Introduction

In the previous chapter, we have discussed how to identify the project activities. In this chapter, we will discuss how to sequence activities, estimate their duration, and schedule them. After the project activities are identified, they are represented in a project network diagram. The project manager sequences the project activities, estimates the duration and then schedules the activities. The project manager sequences the project activities by understanding the dependencies among them. He prepares the duration estimates of each project activity with the help of duration estimates from other projects, historical information, expert advice, etc.

The project manager schedules the project activities to estimate the start and finish dates of each project activity, to arrive at the duration of the project. He can take help from two important techniques: Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) to schedule the project. Schedule control deals with the study of factors that influence and change the project schedules. It aims at managing changes to complete the project within the estimated schedule.

This chapter will deal with the fundamentals of the project network diagram. We will discuss activity sequencing and activity duration. We shall then move on to discuss schedule development and the various techniques for schedule development. Finally, we would be discussing schedule control.

Fundamentals of Project Network Diagrams

According to the Project Management Body of Knowledge (PMBOK), a project network diagram is a schematic representation of the project activities and the logical relationships (dependencies) among them. The diagram helps the project manager in sequencing, scheduling and controlling the project. It represents all the project activities, the sequence in which they have to be performed, the duration of each activity, the interdependencies among various activities and the criticality (significance) of each activity.

The project network diagram helps the project manager in project planning by detailing the project activities, estimating the required resources, and displaying the inter-relationships among activities. The diagram helps to determine the start and end dates of each activity during scheduling and it also provides insights into possible trade-offs while controlling the project.

A good project network diagram should answer the following questions:

- What is the estimated completion time of a project?
- How does a delay in an activity affect the expected completion time?
- How can the expected completion time of a project be reduced, if additional resources are available?

Chapter 4: Project Review

(B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed activity sequencing, estimation of duration and scheduling. In this chapter, we will discuss project review. Once a project is organized, in terms of building the project team and drawing up the operating rules, it is time for the project manager to design and develop an effective tool to check whether the activities are proceeding as per the plan. This task requires a mechanism to review the performance of various project aspects such as project status, product design and process.

This chapter will explain the importance of the project review process. We will discuss the various types of project reviews and the different stages involved in the project review. We shall then move on to discuss project status review meetings and the advantages of conducting them. Finally, we would be explaining the various types of project status meetings.

Importance of Project Review

Once the project enters the implementation phase, the project manager should take up the responsibility of reviewing the status of the project in a timely and phased manner. Project reviews conducted at various stages of project implementation play a major role in the success of a project. The project manager conducts reviews to find out;

- If the project can accomplish the business goals.
- Whether the rules of the organization are understood properly and implemented
- If it is worthwhile to take up the project at all before entering into major contracts
- Whether the project is managed effectively and the team members are sure of completing the project, by following the guidelines.

Reviews give the project manager and the organization a chance to solve problems before they get out of hand, or to improve the way in which the projects are being handled. To derive the maximum benefit out of the reviews the project manager has to take follow-up action with an open mind. Reviews ensure that the project utilizes the available funds to gain business advantage. On the whole, a review helps the project manager;

- Keep in mind the purpose of carrying out a project
- Determine the appropriateness of the project activities from time to time
- Gauge the way in which the objectives are being accomplished
- Verify the completion of the project
- Evaluate the cost of the project
- Understand the project requirements.

Types of Project Reviews

A project manager has to conduct various reviews throughout the life of a project to ensure that it is progressing towards achieving the planned objectives. The manner in which these reviews are conducted decides the success of current and future projects.

Chapter 5: Project Control

(A Sandeep and B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed about project review. In this chapter, we will discuss about project control. Project control is the process of collecting information related to the performance of the project system, comparing it with the desired level of performance and taking corrective action to decrease the gap between the actual and the desired performance levels. The basic purpose of project control is to control and manage change. Project control is not a separate phase in itself but it goes hand in hand with the project implementation phase.

A project control system aims to minimize the gap between project planning and project execution in order to achieve project aims, i.e., cost, time, and scope. Planning, measuring, monitoring, and taking corrective action are all usually included in the control cycle. Typically, projects utilize a control system, which monitors the difference or gap between the planning variables and the actual results.

During the past decade, leading projects in many industries were enterprise resource planning (ERP) implementation projects. It was found that the recommended actions needed to bring troubled ERP projects under control are as follows: (a) redefining or subdividing the project; (b) improving project management through the use of formal tools and techniques; and (c) using a team-based approach to solve specific project problems. The key element is to somehow link these factors to the project control system.

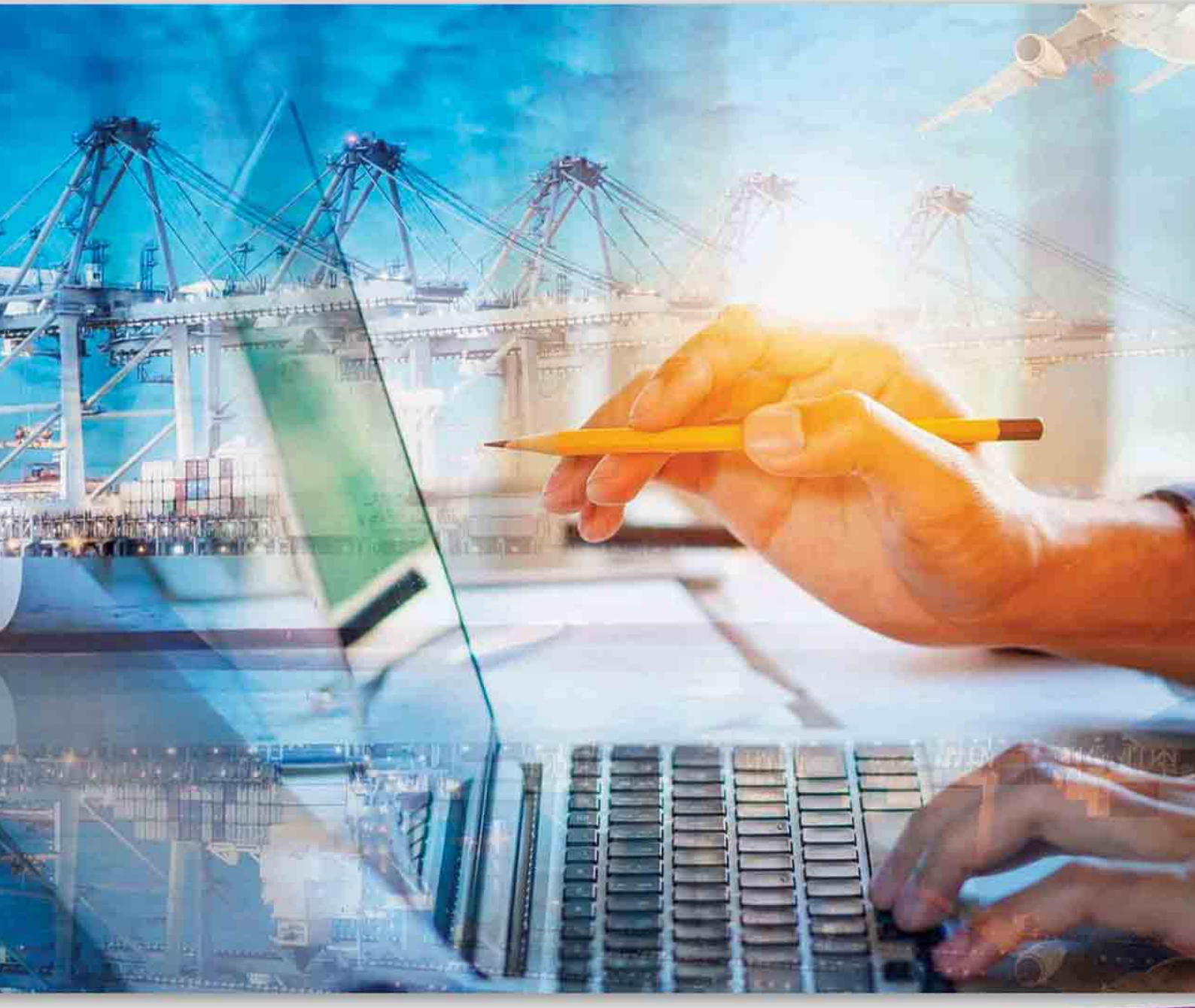
A useful control tool applied in the software industry to reduce project failure is the identification and analysis of threats to success. This control process was developed in USA, Finland, and Hong Kong using the Delphi methodology for the analysis and presentation of all possible resource requirements and outcomes. The successful completion of a project within budgeted time, cost, and perceived parameters depends to a great extent on the early identification and control of immediate risks to the project

There is a need for a holistic approach to multidimensional project control. For instance, the 9/11 incident, the rejection of the EU constitution treaty in the French national poll, growing U.S. China trade conflicts, the currency crisis in East Asia, and the recent upsurge of international oil prices were least expected, even by experts. These incidents, whose frequency has seemingly increased in the post-Cold War period, have influenced and will continue to influence project implementation, since such risks cannot be internalized in project management. Project managers must deal with such risks in a most flexible and economic manner so as to minimize losses of project profitability.

Project control systems can be classified as: (1) one-dimensional control systems, and (2) multidimensional control systems.

Both one-dimensional and multidimensional control systems execute one or more predefined project control objectives. In one-dimensional control systems, such objectives are not integrated in any way, whereas multidimensional control systems integrate several project control objectives.

Project Implementation and Closing



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Samyadip Chakraborty

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Chapter 1: Project Cost Management

(Nasina Jigeesh and B Bhaskara Rao)

Introduction

Project cost management includes all the processes that are required to ensure that the project is completed within the approved budget. After each phase of the project is completed, cost management estimates the resources (people, equipment and materials) that were already spent and the budget needed for all subsequent project phases.

Cost is a major element used to measure the performance of a project. As the project progresses, the project manager notes the differences between the planned and the actual costs. Then, the impact of these differences on the overall project budget is measured. Changes are made to the budget, if necessary, using cost control procedures, with the permission of the client and other stakeholders.

Estimating the cost of a project is difficult as it is affected by different factors like inflation, the exchange rate, demand and supply conditions, seasonal effects, etc. Other than these external factors, internal factors like mismanagement of various resources, failure to complete activities within the specified time, mishandling of equipment and employee absenteeism increase project costs.

Cost management is an important concern for the project manager, as costs directly affect the profits of the firm. However, merely reducing costs should not be the objective of the project manager. If costs are minimized by reducing the number of reviews and inspections, the project output is likely to be of poor quality.

If a project incurs higher costs than originally envisaged, the project client loses confidence in the firm and the firm earns a bad reputation. Thus, the process of cost management requires proper planning and implementation at every stage of the project, if the project is to be a success.

This chapter will discuss the process of managing costs, and resource planning. We will discuss the concepts of cost estimating, cost budgeting, and cost control. Finally, we would be discussing cost overruns and their implications.

Process of Cost Management

The process of cost management involves four steps – resource planning, cost estimating, cost budgeting and cost control. Resource planning identifies the resources required and the quantities required of each of these, for the completion of the project. Cost estimating is calculating the approximate costs of all project activities, while cost budgeting is the assigning of costs to each project activity. Cost control involves taking necessary steps to keep project costs within permissible limits.

Chapter 2: Project Risk Management

(Krishna Kumar Dadsena and B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed project cost management. In this chapter, we will discuss project risk management. The element of risk is inherent in every activity of a project. The project manager should carefully handle the risks that the project is likely to be exposed to. For projects whose duration is less than one year, we can assume that the operating environment is known and stable. But in the case of big projects of longer duration, it is necessary to conduct a 'risk analysis.' Projects are exposed to various types of risks like technical risks, economic risks, social risks, production risks, financial risks and human risks.

A highly efficient and responsive management of any project is the need of the hour in today's highly competitive, complex and globalized business environment. Hence, managing the risks involved in the project has become one of the vital activities for the project manager. The risks involved at the individual activity of any project contribute to the complete failure of any project. Project risk management has become an integral part of the project management process; because of uncertainty involved which leads susceptibility into the risks than before.

Since all risks cannot be eliminated or avoided, it is the job of the project manager to ensure that risks do not have adverse consequences. Every project manager follows a specialized risk management methodology that normally consists of four processes: risk identification, risk quantification, risk response and risk control. To relieve themselves of risk, individuals and firms insure the projects they undertake. While insurance cannot prevent risk, it can mitigate the risk by providing financial compensation.

This chapter will discuss the definition of risk and examines the concept of tolerance for risk. We will discuss risk management, and decision making under the conditions of certainty, risk, and uncertainty. Finally, we would be discussing the risk management methodology, and the concept of insurance for projects.

Definition of Risk

Risk is defined as the possibility of an outcome being different from the expected outcome. It refers to the possibility of adverse results flowing from the uncertainty involved in carrying out the activities. Similarly, "Risk is defined as an uncertain event or set of circumstances which, should it occur, will have an effect on achievement of one or more objectives" (Tuncel and Alpan 2010).When a project or a project activity is expected to be possible, the chance of its occurrence varies from zero and one. Every activity of the project is always exposed to a certain degree of risk. Damage to machinery, dramatic changes in technology, loss of human life and stagnation of financial flows are some of the areas of risk that a project manager should pay attention to.

Chapter 3: Project Quality Management

(A Sandeep and R Muthu Kumar)

Introduction

In the previous chapter, we have discussed project risk management. In this chapter, we will discuss project quality management. Earlier, project firms believed that higher quality increased project costs. But now they realize that improved quality increases business volumes. The growing size and complexity of projects have forced firms to concentrate more on quality at every stage. Otherwise, the cumulative effect of each defect in the various stages will lead to a considerable reduction in the quality of project end product.

'Quality' is relative and different people have different definitions of quality. The project manager however, has to be very specific regarding the quality of a project. He can use several techniques to meet the quality requirements. Project quality management includes all the processes required to ensure that the project meets the specific requirements of its stakeholders. The project manager should prepare a quality plan and communicate it to team members and ensure that the plan is being implemented properly.

This chapter will discuss quality and the international quality standards. We will discuss the cost of quality, and explain the various project quality management concepts. We shall then move on to discuss the different project quality control tools. Finally, we would be discussing the concepts of process capability, acceptance sampling, quality circles, just-in-time management, and total quality management.

Definition of Quality

The ISO 9000 defines 'quality' as 'the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs.'

The client looks at quality as:

Conformance to specifications: The project manager mentions the project end product and its clear specifications in the POS. The client expects the product or service to match the specifications provided in the POS. To him, quality is the conformance of the end product's specifications as mentioned in the POS.

Value for money: Clients may define quality as a value or how well the product or service fulfills the intended purpose for the price they are willing to pay. If they feel that the price of the product or service is higher than the utility they derive, then they may conclude that the project is of less quality.

Fitness for use: The client considers the features of a product or the convenience of a service to decide the project quality. The aspects include appearance, style, durability, reliability, and serviceability, etc.

Support: Often the support a company provides to its product or service is considered as the quality. For instance, if the project manager provides servicing

Chapter 4: Project Auditing

(R Muthu Kumar)

Introduction

In the previous chapter, we have discussed project quality management. In this chapter, we will discuss about project auditing. As discussed earlier, project control tries to enhance the firm's chances of meeting future project goals, on the basis of lessons learnt in the present projects. An organization can benefit from its past experience only when it tries to understand them through the process of evaluation. The term "evaluate" means to make a judgment as to the worth or value of a product or an activity. In project management context, project evaluation is the process of appraising the progress and performance of the project in comparison to the planned objectives.

A project can be evaluated by using evaluation tools such as Project Audits and Project Reviews. Although many authors use the terms evaluation and audit synonymously, an audit is a formal inquiry in to various aspects of the project. In this chapter, the word "audit" is associated with any formal inquiry into various project aspects that are of interest to the top management.

This chapter will discuss project evaluation and its purpose. We will discuss project auditing, and the construction and use of the audit report. We shall then move on to discuss the responsibilities of the auditor, and the project audit life cycle. Finally, we would be discussing the essentials of an audit, and the concept of performance measurement.

Project Evaluation and its Purpose

Project evaluation is a process of evaluating a project's progress and performance in comparison with its planned progress and performance or with that of identical projects. Also, project evaluation should be supportive to all the management decisions that the project requires. So the manner in which a project is evaluated should make the management feel that all the relevant data has been considered. Project evaluation is considered to be as important as the project itself.

The primary objective of project evaluation is to measure the degree of a project's success. A survey on industrial projects of different nature and size identified four critical parameters for measuring the success of a project. A survey on industrial projects of different nature and size identified four critical parameters for measuring the success of a project. They are --

- Completion of a project within a given budget and time
- Extent to which the project is able to satisfy the client
- Commercial success of the project and the market share captured by the product delivered by the project
- Ability of the product or service to succeed if it enters a new market or its ability to lead to a new product or technology.

Chapter 5: Project Closing

(A Sandeep and B Bhaskara Rao)

Introduction

In the previous chapter, we have discussed project auditing. In this chapter, we will discuss the process for closing a project. A project comes to a close after it accomplishes its objectives or when it is terminated due to other reasons. Closing a project not only marks the completion of all administrative activities, but also audits the project performance which is a high-value learning tool for the project manager and others.

The project manager should evaluate specific project records for a historical understanding of the project activities which can be of use in the future. All records without value should be scrapped and the rest should be stored for future reference. The final task is to sell off the physical assets after making sure that they can be of no use in any future activities and placing project team members back in their original positions. Once the members of project team finish their respective tasks in the project, they should be made available for other assignments. The project manager should provide feedback on an individual's performance and contribution to the project to his supervisor.

This chapter will discuss the closing of a project. We will discuss the various ways in which a project can be closed. We shall then move on to discuss the reasons for terminating an unsuccessful project. Finally, we would be discussing the process of closing a project.

Closing a Project

Many practitioners overlook the project closing process group. To them, successful project delivery is defined by the completion of deliverables as per the objectives of time and cost. They consider project closing as overburden, work that is done to satisfy organizational requirements, and in many cases of little significance, if any.

Little do these practitioners know that the Project Closing Process Group is as impactful and significant as the Initiation, Planning, Executing, and Monitoring and Controlling Process Groups. As further explained in this paper, the impact of project closing can be extensive, both to the project and to the organization. Failure to conduct thorough project close out could potentially (a) put the organization at a considerable amount of risk, (b) prevent the organization from realizing the anticipated benefits from the deliverables of the project, (c) result in significant losses to the organization, and (d) undermine the project manager and project management team's credibility.

Closing of a project is the process of finalizing all activities for the project, phase, or contract. The key benefits of this process are the project or phase information is archived, the planned work is completed, and organizational team resources are released to pursue new endeavors. This process is performed once or at predefined points in the project.

Foundations of Operations Management





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Nishit Kumar Srivastava

Foundations of Operations Management

Editor:
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Chapter 1: Operations Management and Operations Strategy

(Nikhat Afshan and B Bhaskara Rao)

Introduction

In this chapter, we introduce you to operations management and operations strategy. Business organizations today are facing a highly competitive and challenging business environment. Firms face various barriers in the form of archaic technology, underdeveloped infrastructure, inappropriate payment systems, and ineffective scheduling and control systems. At the same time, they also face a threat from foreign companies. Therefore, it has become imperative for the operations managers of companies to reduce manufacturing costs, optimize productivity, and improve product quality to survive in the market.

Operations management is defined as the design, operations and improvement of the systems that create and deliver the firms' primary products and services.

Operations management can be defined as the management of direct resources such as machine, material, and manpower, which are required to manufacture goods and services. The process involves planning, organizing, controlling, directing, and coordinating all the activities of production systems which convert resource inputs into products or services. Operations management deals with the designing of products and processes, acquisition of resources, conversion of resource inputs into outputs, and the distribution of goods and services.

To succeed in a competitive business environment, an organization needs a sound strategy. Strategies are broad, long-term plans, conceived of to achieve business objectives and are developed at the corporate, business, and functional levels. Operations decisions are normally taken with the business objectives and functional objectives of marketing, finance, and human resources departments in mind. The nature of the goods or services to be produced and the markets to be served influences the operations strategies.

This chapter will define operations management and operations management decisions. We will discuss the historical evolution of operations management and the use of computers and advanced technology in operations. We shall then move on to discuss the use of operations strategy as a competitive weapon, identify the elements of an operations strategy, and explain how to develop an operations strategy. Finally, we would discuss financial and economic analysis in operations.

Operations Management Decisions

Operations managers have to take decisions regarding the designing and implementation of operational strategies, which indicate how the companies utilize their production capabilities to achieve their organizational objectives. The decisions taken by the operations managers can be classified into strategic, tactical, and operational decisions. *Strategic-decisions (long range planning)* are long term in nature and have a time period of five years or more. The strategic planning activities are done in mostly

Chapter 2: Forecasting Demand

(Sumant Kumar Tewari and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed the importance of conducting financial and economic analysis in operations. We have learnt that financial and economic analyses helps compare and analyze the costs and benefits involved in various investments made by a company. In this chapter, we will discuss forecasting in operations.

Forecasting predicts the future value of a variable and helps managers in taking effective decisions and planning their activities accordingly. Demand forecasting is vital for the planning and control functions of an organization. Demand is the quantity of a product or service that buyers are able and willing to buy during a particular time period in a specific market environment. The primary step in planning involves estimating the future demand for products and the resources required to produce them to satisfy such demand.

Overestimating or underestimating future demand has a negative impact on the overall performance of the organization. Overestimation leads to a huge inventory of finished goods and results in locking up a large amount of working capital while underestimation leads to an increase in the supply lead-time and results in loss of orders and customers. Though it is difficult to make accurate forecasts, it is essential for an organization to achieve good returns on its investments. Forecasts are never 100% accurate, but tracking the results and their accuracy will improve the accuracy of future forecasts. In this chapter, we shall discuss forecasting, the various methods of forecasting, the reasons for their selection, and the measures of forecast accuracy.

This chapter will introduce you to forecasting in operations, and explain the forecasting components. We will discuss the demand forecasting process, and then study the various forecasting methods. We shall then move on to discuss the steps involved in the demand forecasting process, and understand how to measure the forecasting accuracy. Finally, we would discuss how to monitor and control forecasts.

Forecasting in Operations

Forecasting predicts the future demand for products or services and is used in process design, capacity and facilities planning, aggregate planning, scheduling, inventory management, etc. Though the predictions may be inaccurate, they provide vital information for strategic, tactical and operational planning, and decision-making. Operations managers forecast future events including both long-term estimates for aggregate demand and short-term demand estimates for each product or service. Short-term demand estimates for individual products are detailed and are used to plan and schedule the production operations while long-term estimates are used for making location, layout, and capacity decisions. Individual forecasts are made on the basis of aggregate forecasts which are used to plan and control operation subsystems. Accurate forecasts help in inventory management, production planning, work assignment, and overall management of costs associated with various stages of production process.

Chapter 3: Allocating Resources to Strategic Alternatives

(Krishna Kumar Dadsena and R Muthu Kumar)

Introduction

In the last section of the previous chapter, we have discussed how to monitor and control forecasts. We have learnt that an accurate forecast made with the help of an appropriate model allows an organization and its departments to plan its activities better. In this chapter, we will discuss how to allocate resources to strategic alternatives.

Resource allocation is a strategic procedure under which an organization decides where and how to minimize the scarcity of resources in their operational process. A resource can be anything such as man, machine, money, material or natural resources which is essential for the operation of their business. As every organization wants to invest wisely in selection of strategic alternatives under the restricted resources, which must be based on the critical requirement and its possibility of implementation under resource constraint. The implementation of the strategic alternatives under the restricted resources investment must consider the specific set of strategies under their characteristics of, profit, loss and response effects in the decision-making process. In addition to this, the role of the resource allocation in strategic alternatives guided the management in execution of their planning under the available resource. Hence, it is very important to make a decision with the strategic decision for resource allocation making.

Organizations focus on achieving their objectives of revenue maximization, capacity utilization, cost minimization, etc. by making effective use of the resources available to them. Resources are effectively utilized when they are allocated to strategic alternatives that result in maximum benefits. In operations, the term resources means manpower, machinery and equipment, capital, materials (raw, semi-finished, and finished), spares, components, floor space, and others that are required for production. Allocating these resources to strategic alternatives is a complex task for an organization as it operates under various constraints like limited availability of resources and time and the need to fulfill social obligations.

This chapter will discuss allocation decisions in operations strategy. We will discuss linear programming in operations management. We shall then move on to discuss how to formulate linear programming problems, and how to find solution to such problems. Finally, we would discuss transportation problems in linear programming.

Allocation Decisions in Operations Strategy

Allocation decisions in operations strategy is design and promotion to accomplish the strategic goal by achieving the objective of the organization. This decision helps management in nature and importance of the capacity planning to match with the market demand. There are several methods for decision making related to resource allocation, such as formulate a linear programming, constraint optimization model, decision tree etc. However, constrained optimization model is one of the popular methods which has been applied for over 100 years. This method was initially used to for imping the work

Chapter 4: Design of Production Processes

(Nikhat Afshan and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed the transportation problem in linear programming. We have learnt that the technique is a special case of linear programming that can be used to allocate resources to strategic alternatives to ensure that they are utilized optimally. In this chapter, we will discuss how to design production processes.

Operations managers need to streamline their operations in order to compete in the highly competitive business environment. And apart from managing operations, they also have to manage the structure of the organization which includes number of plants, size of plants, their location, plant capacity, choice of equipment and process technology, production control, work force management, etc. Designing the production processes plays an important part in the structure of operations. In this chapter, we will discuss the methodologies involved in planning and designing the production processes.

This chapter will introduce you to process planning and design. We will discuss the major factors affecting process design decisions, and study the various types of process designs. We shall then move on to discuss process planning aids. Finally, we would discuss how to select the type of process design.

Process Planning and Design

The complete delineation and description of the stages in the production process and the linkages between the stages that enable the production system to produce products or services is referred to as process planning and design. The products should meet quality standards and total costs should be within the budgeted limits. Process planning forms the basis for designing factory buildings and facility layouts and for selecting production equipment. It also has an impact on quality control, job design, and capacity in different facilities of the organization. Changes in market conditions, production capacity, and the availability of technologically superior equipment call for re-planning of the production processes. The selection of the process design depends on the operations strategy of the organization. The operations strategy is reflected in the production plan of the organization, which includes the planning and designing of the production processes. The product/service design also has an impact on the process design. An effective process design accommodates the product/service design. Both the process design and the product/service design should be compatible with each other. For process planning and design to be effective, it is necessary for operations managers to have a thorough knowledge of operations strategies, product/ service designs, technologies of the production system, and market conditions.

Major Factors affecting Process Design Decisions

Operations managers have to consider factors like the nature of demand, the degree of vertical integration, flexibility, degree of automation, and quality level and degree of customer contact while making process design decisions.

Design of Facilities and Operations Planning



Editor
Shankha Sengupta

Design of Facilities and Operations Planning

Editor:
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Chapter 1: Facility Location and Layout

(Kaustov Chakraborty and B Bhaskara Rao)

Introduction

Location and Layout decisions are of extreme importance in the scenario of setting up of manufacturing and service facilities. In this chapter, we will discuss about facility location and layout.

Facility location refers to the place where the firms set up their operations. Manufacturing and service firms evaluate different plant and service locations by conducting a facility location analysis and finally choose an optimum location to start their operations. After deciding on the facility location, firms decide on the internal structure of the firm called the layout. Both facility location and layout play an important role in enhancing the efficiency of the firm. Firms can then revise or redesign the layout in the future depending on its strategies (expansion, etc.). In this chapter, we will discuss the role played by facility location and layout in improving the material flow and the overall efficiency of firms.

This chapter will introduce you to the importance of location, and explain the factors affecting the location decisions. We will discuss the general steps in location selection, decision process, and the evaluation methods. We shall then move on to discuss facility layout, the basic layout formats, and how to develop a process layout, a product layout, and a cellular manufacturing layout. Finally, we would discuss the Japanese approaches and trends in manufacturing layouts, and the service facility layouts.

Importance of Location

The selection of a facility location is a strategic decision for any organization and is very important for the following reasons. Facility location will fix the production technology and cost structure, it depends on the size and nature of the business, it affects the company's ability to serve its customers quickly and conveniently. If the facility location is such that it reduces transportation costs of raw materials and goods, lowers labor costs, and has good access to the markets, it helps the firm to score over its competitors. Therefore, facility locations require careful attention of finance, personnel, marketing and operations managers who run the facilities.

Factors Affecting the Location Decisions

Location decisions are influenced by a number of factors given below:

- *Market Proximity* – Transportation costs can be reduced by locating facilities close to the market, this also helps in providing better service to customers.
- *Integration with other Parts of the Organization* – Organizations that already have plants would want their new facility to be located near the existing ones so that the work can be integrated with other plants.
- *Availability of Labor and Skills* – Firms should locate their operations where labor and skills are more easily available.
- *Site Cost* – The cost of the site should match the benefits that it is going to provide.

Chapter 2: Aggregate Planning and Capacity Planning

(Kaustov Chakraborty and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed service facility layouts. We have learnt that in case of designing service layouts, there exist two types based on the degree of customer contact, one, which is designed around the customer service and the other around the technology. In this chapter, we will discuss aggregate planning and capacity planning.

To satisfy market demand for their products, organizations need to estimate resource requirements. This is quite easy for organizations that have a single product in their product portfolio. For organizations that have multiple products, an aggregate output measured in common terms is worked out by grouping individual products or product types together. The aggregate plan defines the best combination of workforce level, inventory on hand, and production rate that will match the company's resources with market demand. Managers can convert aggregate plans into detailed master production schedules by dividing operations. Targets in the plan can be met through sufficient capacity, determined by capacity planning that ensures that there are no inconsistencies between capacity demanded and capacity required. In this chapter, we shall discuss the strategies and approaches to aggregate planning, capacity planning, and master production scheduling.

This chapter will give you an overview of planning activities, and discuss the aggregate planning process. We will discuss the strategies for developing aggregate plans, and then study the aggregate planning techniques. We shall then move on to discuss the master production schedule, and how to implement aggregate plans and master schedules. Finally, we would discuss the concept of capacity planning.

Overview of Planning Activities

Operations planning activities can be long-range, medium-range, or short-range in nature, *Long-range planning* focuses on a time period of more than one year. Process planning and strategic capacity planning are examples of long-range planning. *Medium-range planning* focuses on a time period of 6-18 months. Aggregate planning, master production scheduling, and materials requirement planning are examples of medium-range planning. *Short-range planning* focuses on a time period of less than 6 months. Order and workforce scheduling are examples of such planning.

Business Planning

The business planning process coordinates the activities of each function or department such that all the activities and resources are focused on achieving the organization's objectives. This process is used to address concerns like new

Chapter 3: Fundamentals of Inventory Control

(Arindam Ghosh and R Muthu Kumar)

Introduction

In the last section of the previous chapter, we have discussed the concept of capacity planning. We have learnt that capacity planning is a vital aspect of aggregate planning. In this chapter, we will discuss inventory control.

Inventory is a stock of goods held by a firm at a particular time for future use in the production process or for meeting future demands. Effective inventory management and control help in reducing inventory costs without compromising on the firm's ability to meet customer demand on time. These involve ordering the right quantity at the right time without disrupting the production process. Inventories can be direct or indirect. Direct inventories such as raw materials, work-in-progress goods, etc., play a vital role in the production process and form a part of the finished product. Indirect inventories are items that are necessary to run the production process but do not become part of the end product. Examples are lubricants, grease, oils, stationery, etc. Raw materials are the items to be used in the production process. Work-in-progress goods are semi-finished goods that are stored temporarily during the production process. Finished goods are items stored for delivery to the end consumer. Inventory also includes machinery, furniture, components, etc. Organizations should carefully decide on the level of inventory they need to maintain. Stocking large inventory leads to high inventory costs and stocking too little leads to disruptions in the production process.

This chapter will discuss the purpose of inventories. We will discuss inventory costs and systems. We shall then move on to discuss economic order quantity model. Finally, we would discuss inventory classification models.

Purpose of Inventories

Firms maintain inventory at various stages of the production process. The following are the benefits of maintaining an inventory:

- **Smooth Production –** In certain cases, the demand for the item fluctuates widely, but the production capacity of the firm remains fixed. For example, the demand for air conditioners is high during summer and it is difficult for an organization to manufacture the required quantity at that time. In such cases, the organization maintains a constant production rate and a finished goods inventory. This inventory helps in meeting the high demand during the period of deficiency in manufacturing capacity.
- **Better Service to Customers –** By maintaining an inventory, firms can provide quicker and better service to their customers. A finished goods inventory helps firms to continuously supply finished goods to their customers even at times when there is a temporary stoppage of production or a sudden rise in demand. A machinery spare parts inventory allows firms to repair facilities in case of a machine breakdown.

Chapter 4: Purchase Management

(Santosh Kumar Yadav and B Bhaskara Rao)

Introduction

In the last section of the previous unit, we have discussed the inventory classification models. We have learnt that inventory classification models like ABC, VED, and FSND are used by operations managers for easy recognition and to provide effective control. In this unit, we will discuss purchase management.

Organizations purchase materials from external sources as they do not have the capability to manufacture them internally or because they are cheaper to purchase than to make. Until recently, the purchasing process involved placing an order with the supplier who offered materials at a low price. However, of late, the growing competition, market demand, and scarcity of resources have forced organizations to expand their purchasing function. Purchasing department ensures that the right materials, equipment, and services are procured in the right quantity, from the right source, at the right time, and at a competitive price. Factors like low price, high quality, and goods after-sales service are considered by the purchase department while buying material and supplies from a supplier.

This unit will give you the importance of purchasing, and explain the ways to organize the purchasing function. We will discuss the responsibilities of a purchase manager, and then study the purchasing process. We shall then move on to discuss the duties of buyers, and make-or-buy analysis. Finally, we would discuss the ethical issues involved in buying.

Method of Purchasing

Purchasing department is the internal department which provides all the production of goods and material that are required by a company. Any department can request for materials and goods. The request may be received for direct or indirect materials, seasonal items, production items and low price items. For procuring any materials, different kind method is required.

Contract purchasing

It is the process of buying items based on special contract which provides delivery of items over the time period of contract. Spriegal defined “Contract purchasing is the purchase made under contract, usually formal of needed materials, the delivery of which is frequently spread over a period of time”. Material always purchased based on occasion with small quantities. The interval time between two consecutive receipts may be a week, or a month, or a quarter or any period based on value of requirement, how much distance covered and finally the mode of transport. Purchasing department has to create purchase requisition about material requirement based on contract. This method is most suitable for procuring materials on regular exercise. There are three different types of contract purchasing: rate, running and services.

Chapter 5: Materials Management

(J. Prince Vijai and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed the ethical issues involved in buying. We have learnt that organizations should develop a set of rules and guidelines to ensure that the purchasing conduct of its personnel is ethical. In this chapter, we will discuss materials management.

Materials management is the study of flow of materials through various operations in a production facility. The American Production and Inventory Control Society (APICS) has defined materials management as, "*the grouping of management functions supporting the complete cycle of material flow, from the purchase and internal control of production materials to the planning and control of work-in-process to the warehousing, shipping, and distribution of finished products*." Materials management helps in assessing material requirements at various stages of the production process and in maintaining a control over the firm's production and distribution functions.

This chapter will introduce you to the necessity of materials management. We will discuss the functions of materials management. We shall then move on to discuss materials management technology. Finally, we would discuss the various techniques used in materials management.

Necessity of Materials Management

A major portion of investment is made in materials. Though the range of investments made varies from industry to industry, about 50% of the total capital is invested in materials. Therefore, they need to be effectively and efficiently managed. For example, if a hospital runs out of a single item like a syringe, a seemingly insignificant item in its inventory, it brings most operations to a standstill. Such shortages also delay service delivery and increase the expenses for the firm. Materials management is very important for the following reasons:

- Due to scarcity and increasing demand of materials firm should minimize wastage.
- Material is the only major area for cost reduction therefore should be effectively managed.
- The quality of the end product or service is dependent on the materials management.
- Materials management helps in preserving important and scarce resources.
- Materials management helps in obtaining the lowest possible prices for materials purchased.

Functions of Materials Management

The materials management process is explained by three inter-related functions: production control, inventory control, and materials handling.

Operations Control



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Operations Control

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Chapter 1: Operations Scheduling

(Siddhartha Kushwaha and B Bhaskara Rao)

Introduction

Scheduling is a process of setting up operation processing times so that jobs will be completed on time. Scheduling of operations helps in providing the best service to customers by making efficient use of the firm's resources.

This chapter will discuss the purpose of scheduling. We will discuss the various scheduling methods and activities. We shall then move on to discuss the scheduling by type of operations, and scheduling personnel in service operations. Finally, we would discuss the various techniques used for scheduling.

Purpose of Scheduling

Scheduling of operations helps in maximizing customer satisfaction and minimizing service delays. By properly scheduling their operations, firms can make the optimum allocation of their production capacity and resources to meet customer requirements on time, carry out the production process most efficiently, reduce costs, and increase profitability. Scheduling high capacity would result in facilities remaining idle for a time and in wastage of resources whereas scheduling low capacity would result in incomplete jobs at the specified time, resulting in poor customer service. So firms have to develop their schedules in such a way that the resources are optimally allocated to meet customer requirements.

Scheduling Methods

Many methods can be used for scheduling operations. Selection of a scheduling method depends mainly on the volume of production and the nature of the operation. Scheduling operations are classified into: forward scheduling, backward scheduling, and a combination of both.

Forward Scheduling

In this method, the actual production activities start when a job order is received. The operations manager schedules each operation forward in time starting from the date of production. This method is used to determine the start and finish times for jobs to be done by assigning them to the earliest available time slots at the work center. Forward scheduling is used in fabrication operations where products are customized based on customer specifications.

Backward Scheduling

In this method, orders are scheduled based on their due dates. The operations manager obtains the due dates for the job orders and develops the schedule backward, thereby determining the latest point when the production activity can be started in order to complete the order on time. The start and finish times for jobs are assigned to the latest available time slots. This method is also used in service organizations when the demand for services is anticipated earlier.

Chapter 2: Enterprise Resource Planning

(Santosh Kumar Yadav and R Muthu Kumar)

Introduction

In the last section of the previous chapter, we have discussed the scheduling techniques such as Gantt charts, Johnson's job sequencing rules, queuing analysis, and the critical ratio method used by operations managers to schedule operations. In this chapter, we will discuss enterprise resource planning.

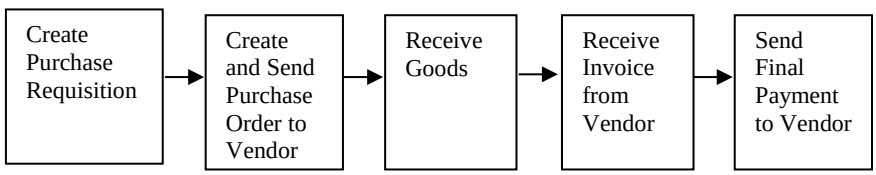
The necessity of organizations to integrate different business processes for smooth functioning is fulfilled by Enterprise Resource Planning or the ERP system. ERP uses a single database that stores information from different functional domains. This database meets the information needs of different entities. Through this integrated approach, the production department located in one geographical area can send financial information to the head office and the marketing information of one location can be accessed by the production department at another location, so that the market changes can be identified and the appropriate responses designed. Proper ERP implementation facilitates effective decision-making by providing relevant and timely information to the management.

Definition of Process

- Business processes are sequences and combinations of different activities that deliver value to a customer (Coulson- Thomas 1996).
- A business process as an activity cycle that is taken as a whole, and that realizes a business objective (Omrani, 1992).
- According to Harrington, (1991) Process can be defined as an activity or group of activities that take input, process that input to increase its value, and provide output.
- Process is "a set of logically related tasks performed to achieve a defined business outcome", (Davenport and Short 1990).
- According to Pall (1987) a business process is a logical organization which gathers energy, people, equipment, supplies and procedures to produce the final result

Based on above, different business processes is required to create and deliver the product and services. So three kinds of core or fundamental business processes help to fulfill the demand such as buy, make and sell.

Procurement process (Buy): Procurement process focused on procuring raw material to create product and services. Suppose a company want to manufacture bicycle. The company requires different components –such as tire, wheels, chain, seat, nuts and bolts, and handle from different vendors to make bicycle. The procurement process is given below:



Chapter 3: Supply Chain Management

(Sumant Kumar Tewari and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed how enterprise resource planning helps organizations gain competitive advantage. We have learnt that enterprise resource planning enables the organization to optimize and organize different qualifiers and order-winners to gain a competitive advantage in the market. In this chapter, we will discuss supply chain management.

A supply chain is the network covering various stages in the process of providing products or services to customers. The supply chain network includes manufacturers, suppliers, transporters, warehouses, distributors, retailers, etc. Supply Chain Management (SCM) integrates procurement, operations, and logistics to provide value added products or services to customers.

This chapter will explain the business drivers in supply chain management. We will discuss the principles of supply chain management, and the forces shaping supply chain management. We shall then move on to discuss the supply chain management framework, and the customer focus in supply chain management. Finally, we would discuss electronic supply chain management.

Supply Chain Management

The term "supply chain management" arose in the late 1980s and came into widespread use in the 1990s. Prior to that time, businesses used terms such as "logistics" and "operations management" instead. Some definitions of a supply chain are offered below:

- "A supply chain is the alignment of firms that bring products or services to market."—from Lambert, Stock, and Ellram in their book Fundamentals of Logistics Management (Lambert, Douglas M., James R. Stock, and Lisa M. Ellram, 1998, Fundamentals of Logistics Management, Boston, MA: Irwin/McGraw-Hill, Chapter 14)
- "A supply chain consists of all stages involved, directly or indirectly, in fulfilling a customer request. The supply chain not only includes the manufacturer and suppliers, but also transporters, warehouses, retailers, and customers themselves."—from Chopra and Meindl in their book Supply Chain Management: Strategy, Planning, and Operations (Chopra, Sunil, and Peter Meindl, 2001, Supply Chain Management: Strategy, Planning, and Operations, Upper Saddle River, NJ: Prentice-Hall, Inc. Chapter 1).
- "A supply chain is a network of facilities and distribution options that performs the functions of procurement of materials, transformation of these materials into intermediate and finished products, and the distribution of these finished products to customers."—from Ganeshan and Harrison at Penn State University in their article An Introduction to Supply Chain Management

Chapter 4: Just-In-Time (JIT) Manufacturing System

(Sumant Kumar Tewari and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed electronic supply chain management (ESCM). We have learnt that ESCM offers many advantages such as timely order-processing, improved inventory tracking and management, and improved accuracy in order fulfillment to organizations. In this chapter, we will discuss the Just-In-Time (JIT) manufacturing system.

The JIT manufacturing system is a planning system for manufacturing processes that helps in achieving high-volume production using the minimal inventories. The system eliminates the inventory of raw materials, work in progress, and finished goods by making them available as and when required. The items are picked up by the worker and fed directly into the production process. The finished goods are produced only at the time they are required for sale. The implementation of the JIT system requires complete transformation of methods of designing products and services, assigning responsibilities to workers, and organizing work.

This chapter will introduce you to the concept of the JIT system. We shall then move on to discuss the advantages of JIT systems. Finally, we would discuss the characteristics of JIT systems.

The Concept of the JIT System

The JIT concept states: 'nothing is produced until it is required.' According to the JIT system, the finished goods are assembled just before they are sold, the sub-assemblies are made just before the products are assembled and the components are fabricated just before the sub-assemblies are made. Here, the work-in-process inventory is always kept at a low level, thus reducing the production lead times. The firms should achieve and maintain high performance levels in all their operational areas to facilitate the smooth flow of materials in the JIT systems. The JIT system involves the active participation, involvement, and cooperation of all its employees. The JIT manufacturing system is based on the concept of continuous improvement, which includes the two mutually supporting components of people involvement and total quality control.

People Involvement

The HRM component plays a vital role in the implementation of the JIT manufacturing system. The successful implementation of a JIT program requires teamwork, discipline, and supplier involvement.

Teamwork: Teamwork involves activities like suggestion programs, and quality circle programs, which enable employees to actively participate. Suggestion programs are conducted to encourage the employees to give their ideas on how to improve a process. In quality circles, people working in similar types of operations meet at regular intervals and discuss ways of improving the quality of their processes.

Chapter 5: Productivity and Quality Management

(Nishit Kumar Srivastava and B Bhaskara Rao)

Introduction

In the last section of the previous chapter, we have discussed the characteristics of Just-In-Time (JIT) manufacturing systems. We have learnt that proper implementation of the JIT concept helps in producing products and services at the quality and price demanded by customers. In this chapter, we will discuss productivity and quality management.

Performance can be split into qualitative and quantitative performance. Productivity is the measure of quantitative performance of an organization. It is the output produced using a given set of inputs. Productivity provides a good measure of performance at the national, industry, or individual business level. Walter Stewhart marked the beginning of the quality movement by developing the first process control chart in 1920. Quality, which was not the top priority in organizations initially, began gaining importance with the growing competition and more demanding consumers. Quality control begins from the time raw materials are procured based on appropriate specifications.

This chapter will introduce you to productivity, and the strategic role played by quality. We will discuss the vital role played by inspection in quality control, and then study the cost of quality. We shall then move on to discuss the statistical concepts in quality control, and about acceptance plans. Finally, we would discuss the use of computers in quality control, and the concept of total quality management.

Productivity

Productivity is the ratio of the output produced to that of the inputs consumed. Hence, it is a measure of the efficiency of the firm in terms of products produced. For instance, the number of motor cycles produced per day is a typical measure of productivity. Productivity helps the operations managers to control the production process and match it with that of the market demand. Productivity is calculated by the formula:

$$\text{Productivity} = \frac{\text{Output}}{\text{Input}}.$$

Inputs: All the factors that are used in the production process of a product are considered the inputs of that product. Inputs can be viewed in terms of costs, tangible and intangible assets etc, and can be measured in different units. Typical tangible production inputs include quantity of material used, number of workers employed, number of man hours consumed, amount of power consumed, etc. Intangible inputs include training, leadership skills, workers' knowledge, etc.

Chapter 6: Facilities and Maintenance Management

(R Muthu Kumar)

Introduction

In the last section of the previous chapter, we have discussed the concept of total quality management (TQM). We have learnt that the TQM philosophy seeks organization-wide improvement through the involvement of every individual in the organization. In this chapter, we will discuss facilities and maintenance management.

Managing the facilities of an organization has gained in importance over the years. It has grown from being a secondary function handled by a manager in the personnel department to a major function similar to human resources management, financial management etc. Facilities management is either done in-house or outsourced to external agencies. Maintenance management helps in curtailing the effects of factors like wear and tear, aging, and misuse in machines, and in extending the operational life of the equipment. Through proper maintenance, organizations can retain the productivity of their equipment, increase the operational life of the equipment, reduce the number of breakdowns, minimize losses, and maintain safe working conditions by reducing the probability of accidents. Maintenance also helps in developing a reliable and high quality production system. Organizations tend to ignore the importance of proper and timely maintenance as it is a non-core activity.

This chapter will introduce you to facilities management, and explain the necessity of maintenance management. We will discuss the various types of maintenance, and the economics of maintenance. We shall then move on to discuss how to evaluate the preventive maintenance policies, and the modern approaches to preventive maintenance. Finally, we would discuss the recent trends in maintenance.

Facilities Management

Facilities management can be defined as a field/profession, which integrates people, process and technology with the work environment to enable the organization to carry out its core business operations in the most efficient manner. The primary objective of facilities management is to provide a clean and conducive work environment and enable efficient and effective progress of the core functions of an organization, be it manufacturing, distribution or research. Sometimes, organizations outsource the facilities management function to ensure this focus in core competence. Some of the activities under the purview of facilities management include Housekeeping & janitorial services, Operations and maintenance services, Office administration, reprographics & mail services, Landscaping and horticulture, Pest and rodent control, Waste management, Energy conservation and management, and Communication networks.

Current Trends in Operations Management



Editor
Shankha Sengupta

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Editor:
Shankha Sengupta

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Current Trends in Operations Management

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Chapter 1: Trends in Operations Technology

(J. Prince Vijai and B Bhaskara Rao)

Introduction

The advent of globalization brought breath-taking developments in manufacturing due to a host of reasons. The main reasons are global competition, depleting resources and growing climate change concerns. By upgrading people's skills, focusing on empowerment, and streamlining processes, organizations can realize substantial improvements in quality, cost, delivery, safety, morale, and ultimately, their competitive position. This onerous task calls for analyzing and upgrading operations technologies. Global studies by renowned institutes confirm that:

- Manufacturers will continue their focus on attaining and maintaining competitive advantage through operations technologies.
- They will start moving their IT priorities from the back end to the shop floor, to enable a much higher return in business value and business optimization opportunities.
- So far, investments in manufacturing and supply chain systems have not yielded anticipated results in productivity improvements and cost reduction.
- Companies will deploy real-time manufacturing technologies to handle processes.
- Manufacturing is destined to become capital intensive with modern technologies.

The Changing Landscape of Operations Technology

In the globalization of firms, operational processes like supply chain management, technology management; revenue management and risk control are globalized. The supply chain is globalized to

- Meet dynamic needs of growing markets and new consumer segments
- Balance risks caused by economic and political uncertainties and
- Manage costs` complexity.

Product development and R&D processes are globalized, driven by market or technology factors across regions. Global product development strategy considers global manufacturability, different staff learning approaches, customer heterogeneity and product standardization versus localization to apply and open innovation approaches and manage global R&D activities. Global manufacturing needs continual innovation to sustain its competitive position in the future. While global manufacturing from developed countries to developing ones is typically supported by advanced technologies, global manufacturing from developing countries to developed ones may seek technological resources.

Example

Apple builds a complicated global supply chain with the design in the US, components and parts being purchased in Korea and Japan, assembly in China, distribution in China and the US and global retailing. Suitable operations technologies are deployed accordingly.

Chapter 2: Globalization and Operations Management

(Venkateswara Rao Korasiga and B Bhaskara Rao)

Introduction

With the advent of globalization, the nature of business operations has undergone many significant changes- entire world has become a ***global village***- people anywhere can buy anything of their choice from anywhere; customer has become the king- is more knowledgeable than the seller and is demanding value for money; importing is no longer a preferred buying decision; Organizations after meeting domestic demand for products and services wants to venture into global due to several reasons; growth of the organization through building huge capacities thereby economies of scale, taking advantage of core competencies available at various places across the globe, low cost due to relative cost advantage, gaining knowledge about various consumer preferences, cultural perspectives at the same time sustenance in global arena is challenging. For example, once Chinese products have gained importance because they are more competitive but China is no longer a competitive location for manufacturing due to raising wages and emergence of still low cost locations elsewhere in the world; sought after Swiss watches in 60 s gave way to several other brands across the world due to advent of electronics. Multi National Corporations (MNCs) in the developed world are establishing their operations in developing countries and even in countries literally banned sometime back. Globalization has put the customer at the center of operations, brought new competitive forces and profitability pressures, made 'innovation' an unavoidable strategy in operations, mergers and acquisitions, partnerships and global locations have become essential features of global operations; outsourcing, body-shopping and off-shoring inevitable competitive strategies. This unit discusses all such aspects of globalization as relevant to Operations Management.

Meaning and Significance of Globalization

In business terms, globalization can be defined as the removal of trade barriers (restriction of the flow of goods or services, capital, information, knowledge and ideas between economics) among economics. For local, regional and national organizations, globalization refers to the strategic expansion of operations into other countries. Globalization integrates the economy of a country with that of the rest of the world. Globalization has transformed the business environment into a more competitive one and has provided many new opportunities for the expansion of organizations. Organizations can exploit these opportunities through comparative advantages, economies of scale and proprietary product technology. Emerging countries like India benefited immensely through global employment opportunities in areas like IT. Pressure of competition changed the global manufacturing scenario

Chapter 3: Sustainability and Operations Management

(Krishna Kumar Dadsena and B Bhaskara Rao)

Introduction

Todays, organizations have recognized the importance of sustainability for their business due to the competitive environment, service and quality uprising. Which is turn out the most important focuses for the operations managers to manage their organization. In business, sustainability is defined as management of the triple bottom line – a process by which companies manage their financial, social and environmental risks, obligations and opportunities. This motivates managers to take care of prevention or mitigation of the negative effects to improve the operation of their business considering the sustainable criteria's. The purpose of this chapter is to understand various sustainable operations and its effects on their management.

Sustainability has catapulted to the top of agenda for everybody- governments, NGOs, business leaders, stakeholders and the individuals. It has emerged out of a growing concern for environment due to accelerating climate changes, global warming and resource constraints. UN sponsored international conferences, summits, protocols and declarations, government's commitments and industry's responses necessitated a strategic approach to sustainability management. Among all actors, industry has been identified as the primary contributor to this global concern. Therefore industry has to play an important role and anchor the process of effectively managing various actors and factors associated with this growing concern. This unit familiarizes the student with the meaning and concept of sustainability, its importance to operations management and the activities thereof. It will also try to showcase initiatives taken by some reputed organizations world-wide, their current status and likely trends. By the end of the unit, the student will be able to appreciate the growing importance of sustainability in operations management.

Meaning and Concept of Sustainability

The term 'sustainability' now has a much broader reach and meaning, extending its influence and implication to wider social and economic factors, including education, jobs, land use and community cohesion. Business needs to

- Balance its primary goal of generating ongoing financial returns for shareholders with an understanding of how their involvement in a region or in part of a value chain both creates and destroys social, economic and environmental value.
- Respond to new, enhanced requirements for transparency that are being placed on them by other key stakeholders.
- Sustainability is not about making sure that we don't deplete resources- it is all about being able to create wealth in the future as well as today.

Basics of Operations Strategy



Editor
Siddhartha Kushwaha

Basics of Operations Strategy

Editor:
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Chapter 1: What is Operations Strategy?

(B Bhaskara Rao)

Introduction

The business environment today is highly volatile. Competition is very severe. Foreign companies and products are flooding the country. Indian companies have to compete with them to survive even locally. Organizations across the business world are now focusing on more efficient operations management. The idea is to reduce costs, enhance productivity and become 'best-in-class'. It is in this context that we need to understand and formulate operations strategies. This self-learning material should enable you to get an overview of the concept of operations strategy and the need to formulate and implement it. After the onset of globalization, many Indian companies adapted world-class practices and became Indian Multinational Corporations. Highlights of these success stories have been mentioned in the course material.

What is Operations Strategy?

Operations strategy means laying down a road map for realizing the set goals and targets quickly, efficiently, without errors and at low cost.

Operations Strategy is essentially a roadmap for conducting business operations of an organization. It covers short, medium and long-term objectives. Operations Strategy is an important part of the subject of operations management. Nature and scope of operations are based on the activities chosen by the organization as a part of its business plans and strategies.

'Operations' is the activity of management of the resources and the processes that produce goods and services. All operations call for- timeliness, quality, cost and delivery of the product. They therefore call for plans and strategies. Long term plans and strategies for operations are the focus of **operations strategies.**

For example, GMR planned to construct a new airport at Hyderabad. They formulated an operations strategy to realize the project requirements, time schedules and costs as per the mutually agreed terms and conditions. Now we can say that their operations strategy has been proved effective and the associated objectives have been satisfactorily realized. Every visitor appreciated it as a state-of –the- art airport in the country with special emphasis on environmental compliance, a new requirement of operations strategies.

Top management lays down the strategies and the workforce helps in implementation of the strategy to achieve the objectives, goals and targets. A project like constructing an airport encompasses a large number of activities and processes and implementation of the strategy poses a number of challenges not only during its formulation, but also during execution. Operations strategy is one of the functional strategies and is tightly linked to the business and corporate strategies.

Chapter 2: Scope of Operations

(B Bhaskara Rao)

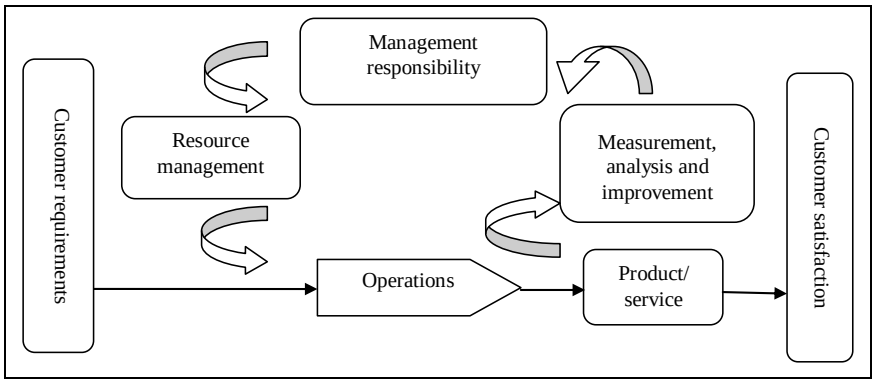
Introduction

In the previous chapter, i.e., Chapter 1, we learnt the concept of Operations Strategy and all essential related topics. You must be clear by now that operations function in a business organization is responsible for producing goods and services. Therefore every business organization needs an operations strategy to conduct its operations in the short, medium and long terms in a smooth and efficient manner. With this background, in Chapter 2, we will try to understand the scope of operations 'Scope' therefore means the domain of the subject and what are all the important areas covered under operations strategy. Such an understanding will provide all inputs necessary for the formulation of operations strategy.

Various views of operations strategy

Process View is explained below in Figure 2.1.

Figure 2.1: Process View



Source: ICFAI Research Center

This view shows how to translate customer requirements into final product/service to ensure customer satisfaction. 'Operations' is the enabler of this product/service realization. Let us understand this by taking the example of an automobile company.

- Customer requirements are an important input from customers and other functional areas like marketing, R&D etc. who convert them into specifications. All other resources like materials, labor, technology, machines etc. come from management.

  For example, in the case of a car, we are the direct users and customers. We ourselves survey in various ways and decide upon a particular make and model. Then we negotiate with the agency and communicate our requirements by taking into consideration the budget, mileage, colour, features etc. Generally the specification is fixed for a model and are communicated to operations for scheduling the manufacture and delivery.

Chapter 3: Operations Performance

(J. Prince Vijai and B Bhaskara Rao)

Introduction

Operational performance is the primary focus of any business organization. As we studied earlier, both goods and services are a part of operations. The five main operations objectives hold equally good for both goods and services. Trade-offs is required to ensure the achievement of overall objectives and targets. Trade-off provides the necessary flexibility to balance these objectives so that customer satisfaction is not compromised due to possible reduction in the performance of goods and services. Value chain identifies the essential processes in an organization to achieve performance and non-value added activities that need to be progressively eliminated. Effective operations strategy formulation is centered around the strategic performance objectives.

Operations performance objectives

Operations performance objectives enable measurement of a company's operation's performance against standard or prescribed indicators of effectiveness, efficiency, and environmental responsibility. Assessment of operations performance determines the effectiveness of operations strategy. Performance assessment needs to be customer-focused as the customer influences the business of the organization and thereby its survival and longevity. All other stakeholders also have a major role in ensuring customer satisfaction and thereby sustainable business growth.

Operations Performance and Stakeholders

'Stakeholders' is a broad term but is generally used to mean anybody who could have an interest in, or is affected by, the operations. They are as shown below:

Customers – the most important stakeholders who will be affected by any business because their support, satisfaction and loyalty decide the sustainability of the organization. The five operations performance objectives apply primarily to this group of stakeholders-the customers. They expect

- Reliable products and services at lowest possible cost, on demand
- Flexibility to accommodate changes in their requirements
- After-sales customer support during warranty and post-warranty periods

We are aware that services are a dominant contributor to organizational performance as it is the 'quality of service' that decides customer loyalty and repeat purchases.

Example: Toyota

Toyota is an example for customer focused strategy. After an unprecedented debacle in the history of automobile industry in 2011, the company had to call back about 10 million cars from customers due to a manufacturing defect in the acceleration pad. The company's strategy to win back customer loyalty on the strength of Quality, Durability and Reliability (QDR), paid dividends. During

Chapter 4: Risk Management

(Krishna Kumar Dadsena and B Bhaskara Rao)

Introduction

In view of the growing competitive, complex and trend of globalizing business environment, countries become more exposed in inter and intra national markets for foreign investments and trading. The evolving of these international business activities desires to increase not only speed and intensity of the goods movement but think about the managing the risks arising from uncertainties. To understand the scenario, identification of risks and implementation of suitable risk management has become a big challenge for the business practitioners. It is very important for every organization to manage risks such a way that it fulfill the different objectives of their business. Various studies on global financial crisis of 2007 identified risk management as a serious organizational concern. Traditionally, risk has been taken as a potential accident and organizations have been solving the risks case by case as a part of crisis management. The advent of professional management changed risk perception and enlightened organizations started developing systematic approaches to risk management. Globalization redefined the entire business landscape, bringing in global competition even for local survival. Today risk management is seen as a competitive advantage drawing the attention of top management and is getting embedded into corporate strategies, percolating down to business strategies and operations strategies. As majority of resources in an organization are deployed in operations and because of globally changing operations environment, risk focus in operations management is gaining increasing importance. Risk management encompasses all activities of an organization, supply chain management and occupational health and safety are priority areas as they have significant influence on operations performance. Accordingly, operations strategies are incorporating comprehensive, holistic and humanistic risk management systems.

Overview

In the present highly competitive business world, organizations are focusing on advanced management techniques to ensure organizational flexibility, product quality and innovative capability to sustain competitive advantage. But many organizations, have not given adequate importance to risk management. However, the trend associated with increasing in competition in the market raise the complexity and uncertainty in operational process of the business. That might accelerate different type of risks exposure to the organization/business. Therefore, it is extremely important to reduce and control the unanticipated events, such that their occurrence would cause a significant operational failure and financial loss. This directs industry veterans and researchers to pay more attention not only on efficiency but also in adoption of an effective risk management plan for their business. These has brought, a strategic risk response planning and management into limelight for the managers to help in an effective risk management process.

Chapter 5: Operations and Work Culture

(N. Siva Prasad and B Bhaskara Rao)

Introduction

Workforce has a major role to play in operations management as operations performance significantly influences the sustainable growth of any organization. Attrition became a major issue globally, in view of aspirations of employees and opportunities available for the skilled and knowledge employees. Attraction and retention became priority management concerns. It is in this context that employee engagement assumes importance. In view of competitive pressures, productive engagement of the entire workforce is necessary. Team-based work culture produces levels of synergy to achieve performance results and maintain competitive advantage. Collapse of some global giants during recent years forced organizations to ensure compliance to ethical code of conduct across the entire organization. It has also been established that quality of work-life promotes a sense of belonging thereby facilitating loyalty, retention, effective engagement and conformance to ethical code of conduct. It is ultimately the quality of work-life that motivates the employees to engage productively, accept and participate in team-based initiatives and contribute towards operational excellence and organizational sustainability. It is much more challenging for organizations having operations around the globe and thus have workforce from different regions, cultures and backgrounds. Maintaining the balance required between their core values of workers in different regions and the values and culture required for global workforce management is the challenge.

Productive Engagement of Workforce

Research shows 4 out of 10 workers are disengaged globally. In the U.S., the situation is worse. According to the latest State of the American Workplace Report, 70 percent of U.S. workers don't like their job, creating an environment where many workers are emotionally disconnected from their workplace and less productive than engaged counterparts.

Employee engagement is now a top leadership priority. In many companies good employee policies exist in the manuals. However, the management capability to engage with the workforce and to implement the policies humanely and ensure a productive work climate remains a challenge. A strong relationship exists between the quality of the employee engagement and delivery of value to customers leading to competitive advantage in the global market.

Fostering a culture of engaged employees: Employee engagement is largely about social connections happening in organizations and aligning work experiences with employees' cultural needs. For example, research shows North American and Eastern European workers place high priority on financial rewards in relation to how satisfied they are at work, but elsewhere it's about simple connections and involvement – feeling connected and being an important part in something bigger. What works varies by industry, location, company size,

Formulation of Operations Strategy



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Chapter 1: The Process of Strategy Formulation

(B Bhaskara Rao)

Introduction

Strategy drives operations in an organization. It provides a road map to organize various activities and implement the strategy effectively. As operations strategy is one of the key functional strategies, it should be firmly aligned to the business strategy and thereby to the corporate strategy. In this process, the operations strategy ensures that the vision, mission, values and objectives are considered while formulating the strategy. Down the line, various functions under operations need to align their plans and activities to the operations strategy so that the corporate objectives, goals and targets are clearly understood at every level. This process will facilitate effective realization of the objectives set, thereby ensuring the successful implementation of operations strategy. This chapter provides guidelines, methods and tools and techniques followed while formulating effective operations strategies.

Developing an Operations Strategy

Let us discuss some of the real time situations and arrive to some conclusions.

Dell adapted business model, without disturbing its core value propositions that gave competitive advantage as explained in the following example.

Example 1.1:

> Dell offers in the US, a wide variety of configurations and makes most computers to order without using distributors or resellers and directly. But in China, Dell realized that direct-sales approach will not work. Dell relies heavily on distributors and system integrators. Starting with a limited range, it is now offering full range of products in China. Smart companies like Dell modify their business model without destroying the parts of it that gave them a competitive advantage.
>
> STAR TV changed the context in which they wanted to operate**,** as briefed in the example below.

Example 1.2:

> When Asia's first satellite TV channel, Hong-Kong based STAR, launched its operations in 1991, it transformed the Indian market place in many ways. The Indian government had to lose its monopoly on TV broadcasting and several satellite-based channels were launched. This led to a boom in TV market. By mid-90s, satellite-based TV channels became a vibrant advertising medium targeting the consumer class, the dominant TV audience.
>
> Some companies decide to stay away from a market, deeming it as uneconomical. In the case of Home Depot, the company decided not to change its operations strategy, suiting the local cultures. Example below explains this.

Chapter 2: Outsourcing

(B Bhaskara Rao)

Introduction

"Do what you do best and outsource the rest!" ……. Tom Peters, Management guru

Outsourcing has been in practice in various forms ever since human civilization started. It has taken a shape and approach after industrialization. Systems, procedures, structures, standards and frameworks have been progressively developed. Outsourcing is being increasingly resorted to for serving a multitude of objectives like cost reduction, quality and productivity improvement, expediting production, delivery and above all to remain globally competitive. There are negative effects and concerns too. After globalization and liberalization, outsourcing became a widely used operations strategy. Due to its economic, social and political impacts, even reputed global organizations are reviewing their outsourcing strategies. This chapter provides necessary insights into various dimensions of outsourcing, encompassing the conceptual framework, implications and trends in outsourcing, providing a framework to help firms formulate viable outsourcing strategies.

Overview of Outsourcing

Definition: Outsourcing is the contracting out of a business process to a third-party. This means, it is obtaining (goods or a service) by contract from an outside supplier. It is an arrangement in which one company provides services for another company that could also be or usually have been provided in-house. It is the outcome of a make or buy decision in operations management and sometimes, may involve transferring employees and assets from one firm to another, but not always. Outsourcing includes both foreign and domestic contracting, and sometimes includes off-shoring or relocating a business function to another country.

Outsourcing is therefore the process of assigning a company's business processes to an external agency to subserve various organizational objectives.

- When outsourced to organizations located in other countries or to foreign subsidiaries, outsourcing often takes the form of off-shoring.
- The opposite of outsourcing is 'in-sourcing', which entails bringing processes handled by third-party firms in-house, and is sometimes accomplished via vertical integration.
- Outsourcing is often an integral part of downsizing or reengineering to ensure competitiveness

Top Ten Outsourcing Companies in India (http://www.therichiest.com) are shown in the following Table 2.1

Chapter 3: Structural Decisions

(J. Prince Vijai and B Bhaskara Rao)

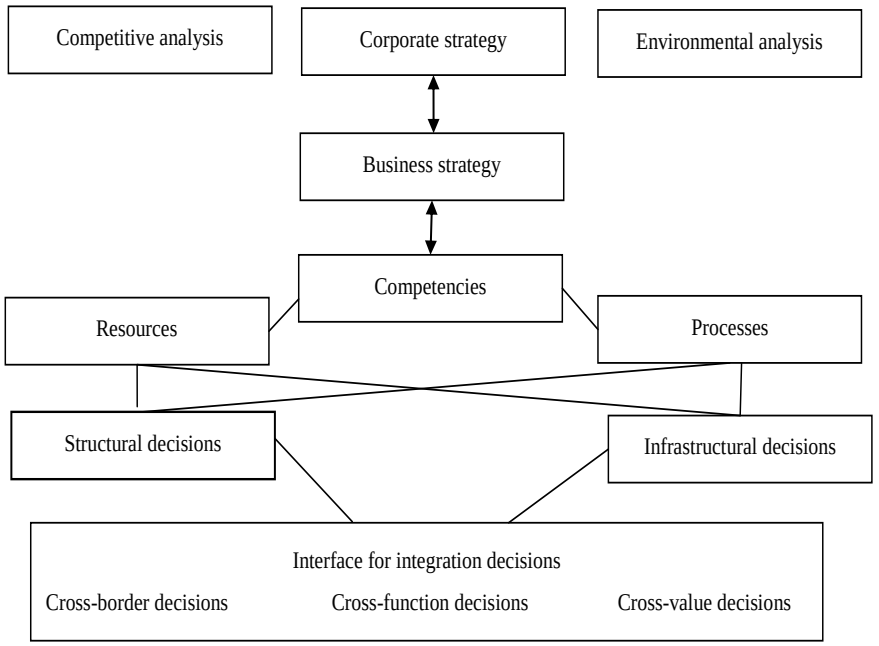
Introduction

Operations strategy can be conceptualized as a set of generic decisions with regard to structural and infrastructural variables. These two determine the operation's structure and its infrastructure. Structural issues primarily influence the physical arrangement and configuration of the operation's resources. Infrastructure strategy areas influence the activities that take place within the operation's structure. This distinction between the structural and infrastructural decisions in operations strategy is analogous to hardware and software in IT systems. If structure, that conducts the operations is like hardware and what runs the show is software. Thus structure sets limits for operations. and infrastructure facilitates the realization of operations objectives. The most modern and costly facilities and infrastructure will be effective only if appropriate infrastructure is positioned. Ultimately, the structural and infrastructural decisions are aligned to the operations strategy and thereby to the business and corporate strategies as shown below: This chapter discusses various aspects in structural decisions of operations strategy.

Structural Decisions in Operations Strategy

Structural and Infrastructural decisions are aligned to operations strategy as shown below in Figure 3.1.

Figure 3.1: Framework of Operations Strategy



Source: ICFAI Research Center

Chapter 4: Infrastructural Decisions

(B Bhaskara Rao)

Introduction

Infrastructural decisions relate to systems used to enhance the utilization of the structural resources and to control these resources so that the firm can achieve higher levels of productivity and operations excellence. Infrastructural decisions affect the people, systems and culture that lubricate the decision making and control activities of operations. Infrastructural decisions include those concerned with planning and control, organization structure, new product development, quality management etc. They must capture competitive priorities defined at strategic business unit level and should be aligned to the overall business strategy and objectives. The infrastructure decisions or practices have effects on current costs and have short run effects on firm performance because they do not require large capital investments. These decisions are considered as strategic or tactic choices because they refer to the systems, policies, practices, procedures and organization which support the manufacturing processes and enable them to perform their function. This chapter provides a broad overview of major infrastructural decisions.

Infrastructural Decisions – Overview

If structural decisions are considered as 'hardware', infrastructure decisions constitute the 'software'. Following are some important infrastructural decision areas:

- Planning and Control Systems
- Organizational Structure and Design
- Inventory Management
- Capacity Management
- Supply Chain Management
- New Product Development
- Quality Management
- Performance Measurement
- Emerging Issues in Infrastructural Decisions

It is possible to change the operational infrastructure more quickly and easily than is the case for structure decisions. However it should not be taken for granted as the impact of such changes should be assessed before contemplating any changes, which are generally revision and improvement oriented. It should be borne in mind that there is no line of demarcation between structural and infrastructural decisions and there will always be some overlaps.

Planning and Control Systems

The decisions here include centralization or decentralization and to choose between push and pull system of operations. Push system like Material Requirement Planning considers expected sales as reference. Pull system such as JIT takes only actual demand



Implementation of Operations Strategy

Editor
Bulusu Bhaskara Rao

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Chapter 1: The Process of Strategy Implementation

(B. Bhaskara Rao)

Introduction

The aim of this chapter is to look at some considerations for implementing the strategy. The design of an operations strategy shows the long-term aspirations and intent – implementing the strategy ensures that these are realized. However impressive an operations strategy may be, it will become effective only when it is successfully implemented, which means that the strategic plans are carried out and translated into positive actions. There are essentially two parts to implementation. The first starts the cascade of decisions and actions down through the organization including positioning the necessary infrastructure and resources. The second monitors performance to make sure that planned results are actually achieved. The purpose, how to start implementation, what processes to deploy, how to rope in the support of all employees for the successful implementation and how to ensure the satisfaction of customers are the important aspects to be known. After all, organizations are created to attract and retain customers who expect them to be executed to their satisfaction with due regard to the performance parameters- quality, speed, flexibility, cost and delivery.

Purpose, the Strategic Context:

It is necessary to know the likely change in the existing operations as a result of the operations strategy ready to be implemented. It is to understand the line of fit, between the intent of the strategy and the operations resources. It should therefore be adaptable within the overall strategic direction. The gaps between the dynamically changing market requirements and the resources must be clearly identified and analyzed. Then viability should be established for filling up the gaps as it may not be possible to address all of them, mainly due to resource constraints. Accordingly, the strategic objectives may have to be revised and the strategy including the short, medium and long-term goals. After finalizing the strategy for implementation, the vision, mission and objectives will have to be disseminated to all the stakeholders unambiguously. Then only the individual roles can be aligned with the operational goals to facilitate effective implementation. Identification of risks and uncertainties should be done at this stage itself, formulating strategies for effective control. Generally three approaches are used for controlling risks:

- Prevention where risk cannot be tolerated like the risk of non-compliance to a legal requirement
- Mitigation where the negative impacts of the risks are handled like the safety concerns about a power plant
- Recovery, where an organization is prepared in case a risk manifests like in accidents

KPMG launched a survey on Enterprise Risk Management across Europe, Middle East, Africa and India to understand the current trends and practices and the imperatives for

Chapter 2: Guidelines for Implementation of Strategy

(B. Bhaskara Rao)

Introduction

It is established that senior managers cannot understand all the consequences their strategic decisions will have at an operational level – and if they work in isolation it is likely that their strategies will be unrealistic. The way around this is to make sure that people at lower levels of the organization, who are familiar with the detail of operations, provide a significant input to strategy design. Implementation is probably the most open-ended part of strategic management, and it is often difficult to give even convincing guidelines. It is also fair to say that much more work has been done on design than implementation, so there is a bigger pool of knowledge to draw on. Guidelines play an important role in strategy formulation as well as implementation, as they provide the dos and don'ts derived from the experiences of renowned organizations. It is also necessary to know the likely barriers to strategy implementation so that adequate precautionary measures can be taken. It is worth knowing successful implementations of some companies to get insight into their modus operandi.

Need for Guidelines

Most strategies stumble in the implementation phase. Strategy development receives significant attention and resources, but implementation is often neglected, with disastrous consequences. Using a straightforward approach, format and process, managers can bridge the gap between rhetoric and reality; they can succeed in accomplishing what they set out to do, and think and act strategically. The approach and logic described are universal, but the actual format may need to be adapted to fit the planning cycle and technology of each firm, and refined over time to dovetail with the firm's budgetary process. Strategy programs need to be expanded to focus on the implementation process. More attention should be given to breaking down lofty statements into practical, actionable, measurable activities. The language and methods used to implement need to be simplified, and consistently deployed. Success in implementation is critical to validating the investment in strategy in the first place.

Guidelines

The example of municipal Solid Waste Management has been taken to understand the guidelines better.

Design/methodology/approach

This implementation process focuses on the critical timeframe immediately following formal strategy selection, when broad objectives need to be translated into specific actions, schedules, budgets, and metrics. The approach is to capture the key decisions in an accessible, common format, and to deploy this tool consistently throughout the organization to monitor and guide implementation. Dozens of firms across a wide array of industries have used the methodology, which derives from two decades of senior operating and strategy consulting experience. The rational, practical approach described offers middle and senior managers a toolkit for bringing strategies to life – for bridging

Chapter 3: Integrating the Operations Strategy

(J. Prince Vijai and B. Bhaskara Rao)

Introduction

Implementation of operations strategy is crucial for the realization of planned objectives. The diverse nature of activities and processes is getting complication due to the effects of globalization. Every functional area has a role to play for the successful implementation of the laid down strategy. On one hand, the operations strategy has to be perfectly aligned with business and organizational strategies but should also be in harmony with the functional strategies within the organization like marketing, R&D, Finance and HR strategies. However, the most complex activity is the supply chain management in view of the internal and external resources to be managed from numerous sources. Supply chain integration itself is a challenging activity before integrating the operations strategy. The vision, mission and objectives of the organization will be of help in this process.

Need for Integration

The need for effectively integrating the operations strategy arises from the complexity of organizations and the processes from a global perspective.

Effects of globalization: Globalization brought in volatility, uncertainty and risk to operations management. All strategic initiatives therefore need to consider these aspects to the extent of possible accuracy in demand forecasting, locating competitive sources, understanding the socio-political condition in different countries that may affect supply chain integrity.

Resource constraints: Population increase and increasing consumption are putting pressure on already depleting resources. This may affect availability and prices of materials, which in turn will have impact on competitiveness. This is a major factor influencing the integrity of operations strategy, calling for combat capabilities and agility to ward off any unforeseen eventualities.

Climate concerns: this is a newly added major concern impacting the supply chain and thereby the operations management. Organizations are expected to perform beyond compliance and certification requirements, as it is being increasingly realized that investment in environment ensures sustainable growth.

Shifting global supply chains: the operations landscape is fast shifting towards the emerging countries, providing immense opportunities to India. This brings together people of different cultures under one roof, adding a new dimension to strategy integration.

Competitive landscape: how to combat global competition and ensure sustainable growth is now the most important strategic challenge confronting every organization. With reducing margins and volatile prices, ensuring profitable operations continuously is a formidable task for the managements. The value and non-value adding activities and processes should be identified and rationalized. Duplication should be avoided and a uniform and efficient flow of supply chain to be positioned. All the competitive



Operations Strategy

-Tools and Techniques

Editor

Nishit Kumar Srivastava

Operations Strategy - Tools and Techniques

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Operations Strategy - Tools and Techniques

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Chapter 1: Lean Manufacturing – Concept, Process and Implementation

(Sashikala P and A VLN Rao)

Introduction

With the advent of the Toyota Production System (TPS), JIT gained worldwide importance in the 70s but in 90s and many companies adopted Lean in the place of JIT. Whereas JIT was predominantly applied in the automobile industry, Lean has been embraced by almost all industries. The objective of Lean is to emphasize the goal of systematically eliminating waste along all operations. JIT has come to represent mainly the production scheduling process such as pull system that underlies the lean philosophy. Lean approach resulted in astounding results and performance improvements and created new benchmarks in operational performance. However overdependence on Lean put some companies like Toyota into deep trouble after a natural disaster, which made all practitioners of Lean and JIT to reengineer their approaches. This chapter briefly brings out the conceptual framework of Lean, the process and its implementation in Indian as well as world renowned companies.

Lean-Conceptual Framework

Lean manufacturing is a procedure that focuses on minimizing waste within manufacturing systems while instantaneously maximizing productivity. This is also known as lean production or just lean. This is an integrated sociotechnical approach which is based on Toyota Production system and still in use by the company and many other companies such as Caterpillar Inc. and Nike.

Lean manufacturing is based on a number of specific principles, such as Kaizen, or continuous improvement. Lean manufacturing was introduced to the Western world via the 1990 publication of The Machine That Changed the World, which was based on a five-year, $5 million MIT study of the future of the automobile that detailed as Toyota's lean production system. Since that time, the lean principles have intensely inclined manufacturing concepts throughout the world, as well as industries outside of manufacturing, including healthcare, software development and service industries.

The benefits of lean include reduced lead times, reduced operating costs and improved product quality, to name just a few.

Lean production is an integrated set of activities designed to achieve operational efficiencies and high-volume production using minimal inventories of raw materials, work-in-process and finished goods. Materials and components/parts arrive at a workstation ‘just in time’ and are completed and move through the process quickly. Lean is also based on the logic that production will be taken up only after order is received. Production need is thus created by the demand. As a process, when there is demand for a product, marketing pulls it from the last stage of production. This initiates a requirement in the production line all along the chain and the chain is sustained. One precondition for lean to operate efficiently is that quality of inputs is perfect. This in turn calls for efficient vendor network and predictable demand for the

Chapter 2: Six Sigma – Concept, Process and Implementation

(Sashikala P and A VLN Rao)

Introduction

"Six Sigma is a quality program that, when all is said and done, improves your customer's experience, lowers your costs, and builds better leaders. — Jack Welch

The Six Sigma for many organizations simply means a measure of quality that endeavors for near perfection. It can be called "Six Sigma," or it may have a generic or customized name for the organization like "Operational Excellence," "Zero Defects," or "Customer Perfection."

Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process – from manufacturing to transactional and from product to service.

Six Sigma provides "cutting-edge" tools for improving efficiency and effectiveness of manufacturing and business processes. Developed by Motorola in 1986, General Electric (GE) applied in 1995 as a central theme in its business strategy.

The key characteristics of Six Sigma approach to process improvement are:

- Creation of a dedicated organization structure comprising Champions, Black Belts, Green Belts, and Yellow Belts with expertise in the Six Sigma methodology
- Identification of the root causes of defects (errors) and their elimination
- Application of statistical and generic quality management tools
- Minimization of variability in manufacturing and business processes
- Project execution through a sequence of defined steps
- Existence of quantified and measurable targets for improvement aspects like external and internal customer satisfaction, process cycle times, costs, profits, pollution, etc.

Incidentally, these are the core to principles of Total Quality Management (TQM) as well.

This chapter explains the history and origin of Six Sigma process, its approach and principles, the methodologies, and their use and application. It briefly covers the Six Sigma certification. It presents and discusses two cases of Six Sigma application. A brief mention about Lean Six Sigma is made.

History and Origin of Six Sigma Process

The words "Six Sigma" are derived from manufacturing terminology used with statistical modeling of its processes. The sigma rating describes maturity of the manufacturing process in terms of its yield or the percentage of defect-free products it

Chapter 3: Total Quality Management (TQM) – Concept, Process and Implementation

(Sashikala P and A VLN Rao)

Introduction

TQM is neither a tool nor a technique but a philosophy. As such its applicability and relevance are perennial as it seeks to ensure excellence through continual improvement. With business sustainability as the industry buzz, implementation of TQM is bound to ensure sustainability, which is the challenge of the global industry. Evolution of TQM started a few decades back and today it is considered a potent weapon to combat the challenges of competition being faced by business organizations. The advent of ISO 9000 enhanced the importance of TQM which has become the basis for designing various business excellence models across the world. In Indian industry too, there are a number of successful TQM implementations, which proved beyond doubt the efficacy of TQM as a performance enabler and sustainability assurer. Mention of TQM and limited coverage across many units of the course material establishes its all-pervading nature. This chapter provides the definition, conceptual framework and examples of a few implementations in India.

Evolution of Quality Management

Quality Management evolved over decades, even though the very first stage of 'inspection' still dominates many organizations across the world. The stages in evolution may be described as below. However, it is established that depending upon the stage of QM, focus shifts from inspection to control, assurance and management, ultimately making quality the 'responsibility of everybody', including the stakeholders.

Inspection is focused around sorting the product through a 'go', 'no-go' approach. Inspection may be done at any stage, namely incoming, in-process or final stages in the supply chain. Sometimes it may be required at the supplier's and customer's premises depending upon the contractual obligations. The operator has no opportunity or responsibility to find out why a product is getting rejected, nor anything to do with repair or salvaging it.

Quality Control establishes standards for inspection, root-cause analysis for rejects and affects corrective actions. It will also help process control. Application of Statistical tools and techniques transforms it into Statistical Process Control (SPC). ISO 9000 (1987) is treated as a quality control standard.

Quality Assurance focuses more on giving confidence to the customer that all activities and processes are being conducted as per set standards and the product quality is as committed. It has given scope for designing quality into the product through Quality Engineering, training for quality and other activities to ensure smooth process management

Quality Management shifted the responsibility for quality to the top management and focused on all functions of management like planning, controlling, organizing and

Chapter 4: The Balanced Scorecard – Concept, Process, Implementation

(Krishna Kumar dadsena and A VLN Rao)

Introduction

In a competitive growing dynamic business environment, characterized by the deprived operational and resources management practice and performance measurement plays a crucial role. The performance is one whose description and measurement all level (including Customers, decision making authorities) can agree upon. Measuring and managing the performance is the potential for the future success in achieving the organizational goals and objectives constructed by managers. One way of achieving that has been through the use of performance indicators. When decision makers involve and confirm that whether their decisions are improving performance, quality and organizational productivity of the organization. Which can help to the managers in monitoring of such indicators and based on that provides the information that managers should improve the performance of the industry.

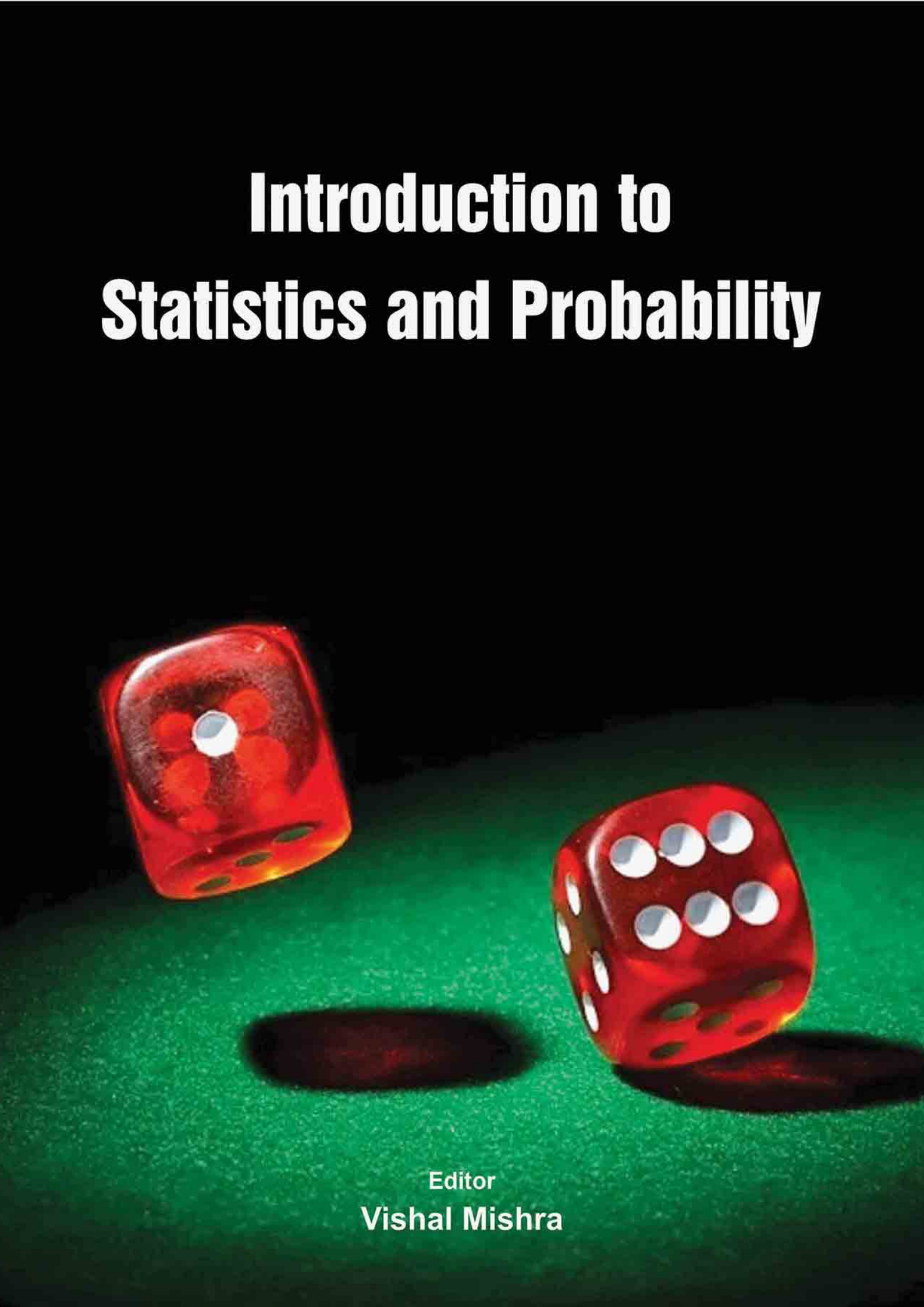
Kaplan and Norton (1996a) introduced the Balanced Scorecard (BSC) as a way to measure nonfinancial performance of an organization. It was based on a multi-company research project that studied performance measurement in companies whose intangible assets played a central role in value creation.

The interest in measurement for driving performance improvements was eminently articulated more than a century earlier by a prominent British scientist, Lord Kelvin, who said, “Ioften say that when you can measure what you are speaking about and express it in numbers, you know something about it; but when you cannot measure it, when you cannot express it in numbers, your knowledge is of a me agre and unsatisfactory kind”. It amounts to saying, “If you cannot measure it, you cannot improve it”. Measurement is as fundamental to managers as it is for scientists. Companies wanting to improve the management of their intangible assets need to integrate their measurement into their management systems. The BSC approach aims to balance customer, internal process, and learning and growth measures against traditional financial measures. As talent, organizational culture, and customer relationships go a long way in determining the future financial performance, financial indicators do not give the complete picture of an organization.

Several private, public, and non-profit enterprises around the world quickly adopted the BSC, generating deeper and broader insights into its power and potential. This led to broadening of the concept into a management tool for describing, communicating and implementing strategy. Further, increased adoption of BSC approach strategically impacted Operations Management. This chapter covers BSC framework, the basic questions, its use, importance.

It also presents sample application areas in business, governmental and non-governmental agencies. It concludes with the concept of a personal scorecard.

Introduction to Statistics and Probability



Editor
Vishal Mishra

Introduction to Statistics and Probability

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Introduction to Statistics and Probability

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Chapter 1: Arranging Data

(Sanjay Fuloria and Goparaju Purna Sudhakar)

Introduction

Statistics is a process of collecting, organizing and interpreting numerical facts. The collected data must be arranged in a systematic way to analyse the data. Brilliant conclusions can be drawn, if the collected data is arranged in a systematic way. Arranging the data is not so simple; therefore, so many tools and techniques are available to present the collected data for analysis and interpretation. In this chapter, you will learn the basics of statistics and various tools to arrange and present the collected data.

Meaning and Definition of Statistics

The Webster's Dictionary defines 'Statistics' as "The science which has to do with the collection, classification and analysis of facts of a numerical nature regarding any topic." In general, statistics is divided into two parts – descriptive statistics and inferential statistics.

'Descriptive Statistics' summarizes the data with a sample information that characterizes the whole data. It also refers to the presentation of a body of data in the form of tables, charts, graphs, etc. 'Inferential Statistics' refers to drawing generalizations about the properties of the whole population from a sample drawn from the population. It is the process of making estimation, prediction or decision about the population. Let us familiarize ourselves with some important statistical terms.

Population: Population is complete collection of all elements in a statistical problem; for example, all students of ICFAI University, the salaries of all workers in a community, etc.

Census: A census is the process of collection of data from every element in a population.

Sample: Sample is a sub-collection of data from the population. For example, the salary of all workers in a community is population but collection of salaries of a few workers for estimation about the whole population is called a sample. Sample is always a subset of the entire population.

Parameter: Parameter is a numerical measurement that describes the characteristics of a population.

Statistics: Statistics is a numerical measurement that describes the characteristics of a sample.

Chapter 2: Central Tendency and Dispersion Structure

(Vishal Mishra and Goparaju Purna Sudhakar)

Introduction

The main objective of this unit is to understand the importance of central tendency and dispersion. The measure of central tendency is a single value that is used to represent whole data set. This unit exclusively covers of the use the statistical measures in the area of finance.

Central Tendency

After calculating frequency distribution, the next task of a statistician is to compress the data further into one component to represent the characteristics of the entire data. Measures of central tendency are measures that provide one representative value for the data set. Since this measure represents the entire data, its value lies somewhere in between the two extremes, i.e., the largest and the smallest items.

Objectives of measuring central tendency

As discussed earlier, the objective of **measuring central tendency** is to arrive at a single value that represents the whole data. The main objectives thus include:

i. **To Find a Single Value that Represents the Whole Data:** It is very difficult to analyze if the number of data points is high. For example, it is very difficult to remember the sales of all companies in an industry. By **measuring central tendency** a single number can be used to represent the sales of an industry.

ii. **To Facilitate Comparison: Central tendency** can also be used to compare two or more sets of data. Further, it can be helpful in taking decisions about the characteristics of different sets of data. For example, a Sales Manager can compare **central tendency** of sales of different areas to compare the performance of the sales executives of the respective areas.

Requisites of a good central tendency

An **central tendency** should be: (a) rigorously defined, (b) easy to compute, (c) capable of simple interpretation, (d) dependent on all the observed values, (e) not unduly influenced by one or two extremely large or small values, (f) fluctuate relatively less from one random sample to another, and (g) capable of mathematical manipulation.

Types of Means

The following are the various types of common means used in statistical analysis given below:

Mathematical: Arithmetic Mean, Geometric Mean, and Harmonic Mean

Positional: Median, Mode

Chapter 3: Probability

(Vishal Mishra and Goparaju Purna Sudhakar)

Introduction

In the previous chapter you have learned about various ways to summarize the data with a specific focus on measures of central tendency and dispersion. While these measures can be utilized to understand uncertainty, there is another approach to quantify and interpret uncertainty i.e. probability. For example, when you say that there is .9 probability for the company's sales to reach Rs.100 crore next year, it means that in your assessment there is 90 percent chance that company's sales will reach Rs.100 crore the next year. Probability in simple terms means the likelihood that an event will occur. It is an important part of statistics. In this chapter, you will learn the concept of probability and its application in statistics.

Some Basic Concepts of Probability

Business managers today have to take some critical decisions based on future expectations. They often want to know the chances of either an increase or decrease in the sales of the company, and the projects that will be finished on time, etc. Probability is defined as the numerical measure of the likelihood that an event will occur. Thus, it could be used as measure of the degree of uncertainty associated with events.

Probability values are always assigned on a scale from zero to one. A probability near zero means an event is unlikely to occur and a probability near 1 indicates almost 100 percent certainly that an event will occur. Let us discuss some basic concepts of probability.

Experiment, Outcomes and Sample Space: Experiment is defined as a process that allows the statistician to make an observation. These observations are called outcomes of the experiments. The sample space S of a random experiment is the set of all possible outcomes of the experiment. The table 3.1 given below is an example of an experiment, its outcomes and sample space:

Table 3.1: Example of an Experiment, Outcomes and Sample Space

Experiment	Outcomes	Sample Space
Role a dice once	1, 2, 3, 4, 5, 6	S = {1, 2, 3, 4, 5, 6}
Toss a coin once	H T	S = {H T}
Select people	M F	S = {M F}
Purchasing shares of a common stock	Increase, decrease or no change in price per share	{Increase, decrease, no change}
Play a football game	Win, lose, or tie	S = {Win, lose or tie}

Mutually Exclusive Event: Events A and B are mutually exclusive if, when one event occurs, the other cannot. For example, consider a firm planning to invest in of similar projects say, A, B and C. If the firm decides to invest in project A, it means it

Chapter 4: Probability Distribution and Decision Theory

(Vishal Mishra and Goparaju Purna Sudhakar)

Introduction

In the previous chapter, you studied concepts of probability, and different types of events. In this chapter you will study Probability distribution, t distribution, F distribution, decision theory, and marginal analysis. Probability distribution is the distribution of all possible outcomes and their probability for any experiment. We can think of Probability distribution as a theoretical frequency distribution. In other words, probability distribution describes the expected variation in outcomes of an experiment. Probability distributions are widely used in making inferences and decisions under condition of uncertainty. It has application in project evaluation, safety stock level, receivables management and other areas.

Random Variable

Random variable is a numerical value associated with different outcomes as a result of a random experiment. The term random is used because the outcomes is not known until the experiment has been conducted. Examples of a random variable is given below:

X = Number of vehicles owned by selected family, X = Number of accidents on a particular place,

X = Number of cars sold during a month by a particular dealer.

Discrete Random Variable

Discrete random variable assumes only the countable numbers for the random variable. For example, the number of accidents in a day cannot be a fraction; similarly, number of cars sold in a month cannot be a fraction, so these are discrete random variables.

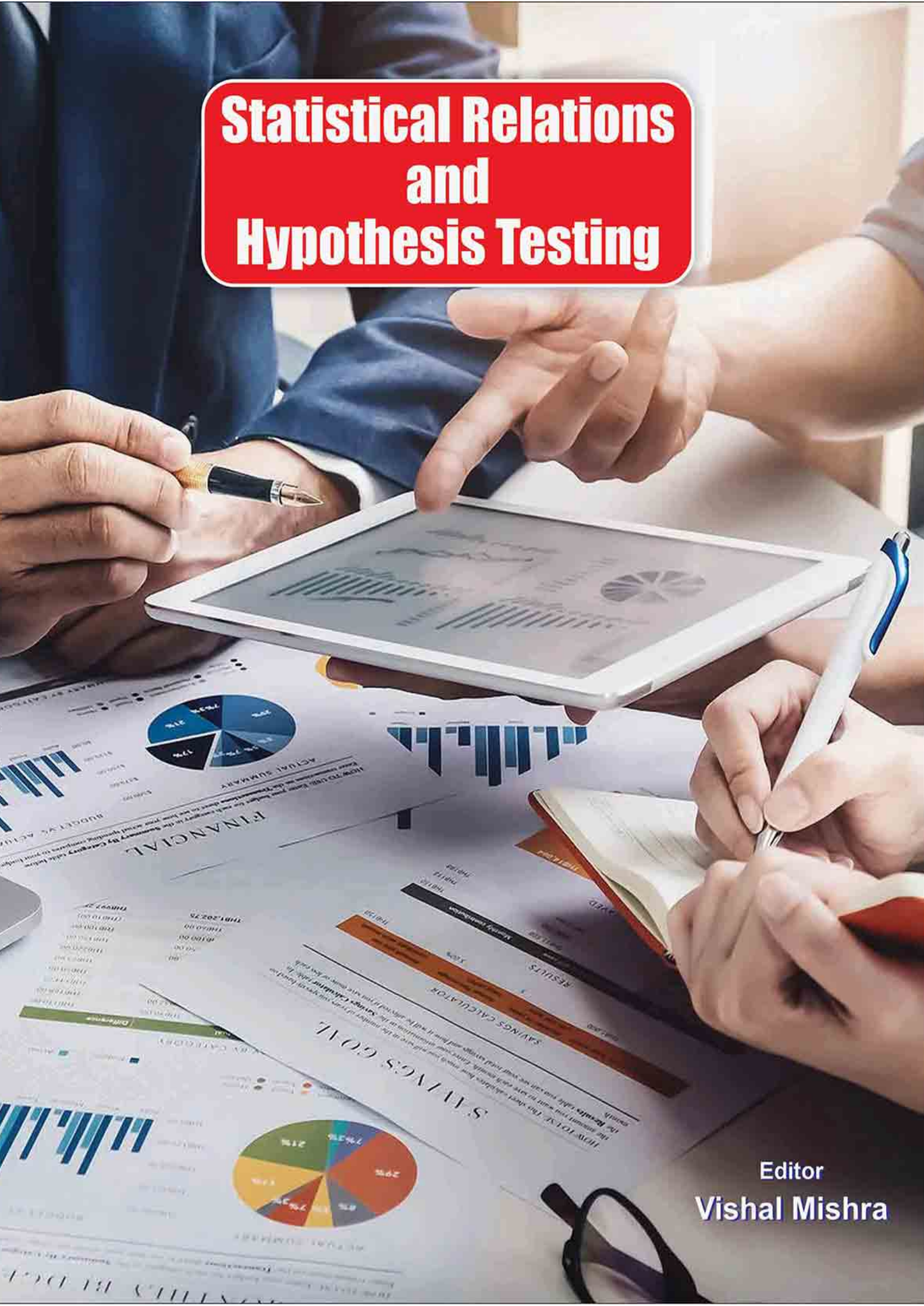
Continuous Random Variable

Continuous random variable assumes a number that contains every number within one or more intervals. We cannot count the numbers in continuous random variable as the total numbers between two intervals is infinite. For example, rainfall during a particular period, the height of a person, time taken to reach any place etc. In these examples, rainfall may be 4.5 cm, 21.1 cm or 29 cm. Similarly, height of a person may be 120.5 cm, 122.3 cm, etc.

Probability Distribution of a Discrete Random Variable

Probability of a discrete random variable is a distribution of all discrete random variables and the probability assigned to them. Usually, the past behavior of the variable is studied and the frequency distribution of the past data is ascertained. If the past behavior can be taken as a representative pattern of the future, then the past frequency distribution can be used as a guide for predicting the future values of the random variable. If past behavior cannot help, then subjective probability distribution of the likely future values is formed on the basis of experts' opinion.

Statistical Relations and Hypothesis Testing



Editor
Vishal Mishra

Statistical Relations and Hypothesis Testing

Editor:
Vishal Mishra

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Statistical Relations and Hypothesis Testing

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Chapter 1: Statistical Inference and Hypothesis Testing

(Vishal Mishra and Goparaju Purna Sudhakar)

Introduction

Many a time, it is not possible to study each and every component of the entire data points under study due to time and cost constraints. In such cases, a few components are observed and statistical measures are applied. This process of inferring something about a large group called 'population', by studying a small part (sample) of it is called 'sampling'. Population can be studied by enumeration and sampling. Due to constraints such as time, money and energy, most managers prefer the sampling method when the population is too large. This method may lead to errors due to the element of chance. Often, managers believe on some result called 'hypothesis statement'. But sample data sometimes does not support the result obtained. The process that tests the possibility of the difference occurring due to chance elements is known as 'hypothesis testing'. In this chapter, you will study, sampling, standard error and test of hypothesis.

Population and Sample

The population is the set of data to which findings are to be generalized. For example, if we want to study about people living below poverty line in India, then the data point which represents such people is population. The basic idea of inferential statistics is to extrapolate from the data you have collected to make general conclusions about the larger population from which the data sample was derived. For example, it is very difficult to measure the average life of the tube lights manufactured by a company. But, we can collect some pieces of tube lights (called 'sample') and based on the average life of this sample we can take the decision about population.

So, sample is a collection of data from the total population as: (a) All people below poverty line in Hyderabad, (b) All people below poverty line in South India.

Samples are a subset of the population and always lesser in size. Characteristics of population are known as 'parameters', whereas characteristics of sample are known as 'statistics'. The following notations are used to denote population parameters and sample statistics in this chapter.

	Population	Sample
Size	N	n
Mean	μ	X
Standard deviation	σ	s
Proportion	p	p

The two methods of enumeration are – compete enumeration method or the census method and selective method or sample method. Both methods have their own advantages and disadvantages.

Chapter 2: Correlation and Linear Regression

(Kaustov Chakraborty and Goparaju Purna Sudhakar)

Introduction

In business and finance, it may be observed that many variables are related, change in one variable may bring about change in other variables; or change in some variables may bring change in one variable. For example, the change in manufacturing cost of the product will show its effect on selling price of the product, sales, and profitability of the business firm. The study of the relationship in variables is very important for decision-making. In this chapter, you will learn the correlation between two variables and its significance.

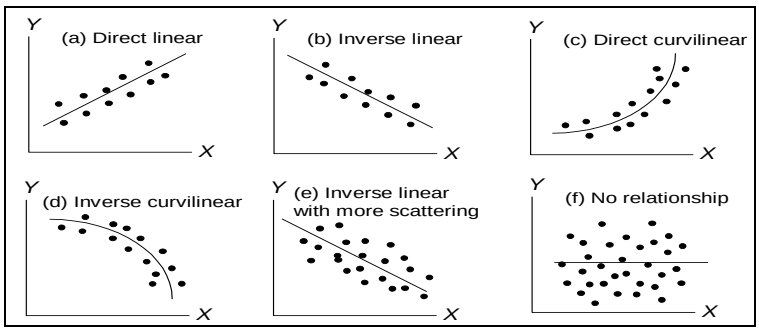
Correlation

There are many ways to measure the relationship between two or more variables. Two useful methods often used are scatter diagram and correlation.

The Scatter Diagram

The scatter diagram indicates the nature of the potential relationship between the variables in two ways. First, it indicates whether the variables are related and if they are related then the kind of line, or estimating equation that describes this relationship. Possible relationship between two variables X and Y is shown in figure 1.

Figure 1: Possible Relationships between Two Variables X and Y in Scatter Diagrams



Source: ICFAI Research Center

Correlation Analysis

As seen earlier, a scatter diagram shows the types of relationship using the graphical representation. The same result can be arrived at with a single number called correlation coefficient, which measures the degree of linear relationship among the variables. The direction of change is indicated by + or – signs; the former refers to the movement in the same direction and the latter in the opposite direction; an absence of correlation is indicated by zero. This coefficient ranges between –1 and 1. Further note that in figure 1 (a) the slope of line is positive and in 1 (e) the slope of line is negative.

Statistical Regression and Quality Control



Editor
VSSN Narasimha Murty Kadiyala

Statistical Regression and Quality Control

Editor:
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Statistical Regression and Quality Control

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Chapter 1: Multiple Regressions

(Kaustov Chakraborty and Goparaju Purna Sudhakar)

Introduction

We are aware that there are independent variables and independent variables. We would have studied the relationship between the dependent variable Y and independent variable X. But sometimes the dependent variable Y depends on more than one variable. A simple example is the idea of profit. The profit of a company would depend upon a number of revenues and costs. Hence, the simple regression equation appears to be inadequate in representing such a situation. Multiple regression equations help to form the relationship between one dependent variable and more than one independent variable. In this chapter, you will learn multiple regression equations

Regression with Two Independent Variables

The multiple regression equation takes the form:

$E(Y|X_1, X_2, ...,X_k) = A + B_1X_1 + B_2X_2 + B_3X_3 + \ldots + B_KX_K$

Where,

There are k independent variables X_1, X_2, … X_K, whereas B_1, B_2, …, B_K are the known as the partial regression coefficient. The meaning of partial regression coefficient B_i (where i = 1, 2, .., K) is to measure the change in E(Y) with respect to per unit change in X_i, while the remaining variables are constant.

If there are only two independent variables X_1 and X_2 the regression equation will be:

$$Y = A + B_1X_1 + B_2X_2$$

Least square method is a popular method to find the value of constant a, b_1 and b_2, where a, b_1, b_2 are estimators of A, B_1, B_2. The regression equation would then be:

$$\hat{Y} = a + b_1X_1 + b_2X_2$$

Adding over the set of given values, we get,

$$\sum \hat{Y} = na + b_1 \sum X_1 + b_2 \sum X_2 \quad \ldots (1)$$

The second equation is obtained by multiplying the two sides of the regression equation (1) by X_1 and then taking the summation.

$$\sum (X_1 \hat{Y}) = a\sum X_1 + b_1 \sum X_1^2 + b_2 \sum X_1 X_2 \quad \ldots (2)$$

Similarly, the third equation is obtained by multiplying the two sides of the regression equation (1) by X_2 and then taking the summation.

$$\sum (X_2 \hat{Y}) = a\sum X_2 + b_1 \sum X_1X_2 + b_2 \sum X_2^2 \quad \ldots (3)$$

After establishing the "normal equations," we can calculate the value of a, b_1 and b_2 by using simultaneous equation methods discussed earlier.

Chapter 2: Time Series Analysis

(Sashikala P and Goparaju Purna Sudhakar)

Introduction

In the chapter on multiple regressions, you studied the statistical relation between more than two variables where one variable is an independent variable, while two or more are dependent variables. Here, the statistical relation between time and variables are studied. There are various quantities in nature which fluctuate with time. Examples are, sales, price of stocks, consumption, etc. Earlier, it was assumed that such fluctuations are a consequence of random and unpredictable events. Now most statisticians, and analysts show that some of these cases follow a particular trend and hence are predictable in the short-term and are amenable to simple modeling. The basic objective behind predicting future is to frame the future objective of the firm to meet the forthcoming challenges.

A time series is a sequence of observations which are ordered in time; and the technique used for forecasting future events is called time series forecasting. Time series models are especially suitable for evaluating short-term effects of time-varying exposures. In time-series studies, a single population is assessed with reference to its change over time.

It is the sequential arrangement of data. In the time series, time is a variable which can relate the entire situation to suitable location points. Time can be hours, days, months or years.

A time series depicts the relationship between two variables. Time is one of those variables and the second is any quantitative variable. It is not necessary that the relationship always shows increment in the change of the variable with reference to time. The relation is not always decreasing too. Here time is an independent variable.

Uses of Time Series

The most important use of studying time series is that it helps us in forecasting the future behavior of the variable based on past experience or past data which is called as historical data. It compares the actual performance which is the current performance with the expected performance or the predicted performance of the business and helps in planning.

The purpose of time series is to study the past behavior of the phenomenon or the variable under consideration. Then the changes in the values of different variables at different times or places, etc. can be related.

The numerous motives or the forces which influence the values of an observation in a time series are the components of a time series. The four categories of the components of time series are

- Trend (T)
- Seasonal Variations (S)
- Cyclic Variations (C)
- Random or Irregular movements (I)

Chapter 3: Quality Control

(Sashikala P and Goparaju Purna Sudhakar)

Introduction

When we want to purchase a product, we often talk about quality. This aspect becomes an important decision-making component at the time of buying a product. From the business point of view, quality conformance means meeting the needs of the customer. In these times of globalization of the world of today, market competition has become stiffer. Only those companies that produce consistently a product of high quality can survive. In these circumstances, the manufacturer is responsible for ensuring the product's quality so that it can fulfill the customer's expectation. One way of doing this is to test regularly a sample of the product to verify that its characteristics of interest have not gone out of control. To make it easier, tests are represented by a graph to check whether the process has gone out of control or is under control. Four techniques that a quality control program uses to check the overall quality of its products are:

Control charts for variables comprising, $\overline{X}$ Charts, R Charts; and Control charts for attributes comprising, P Charts.

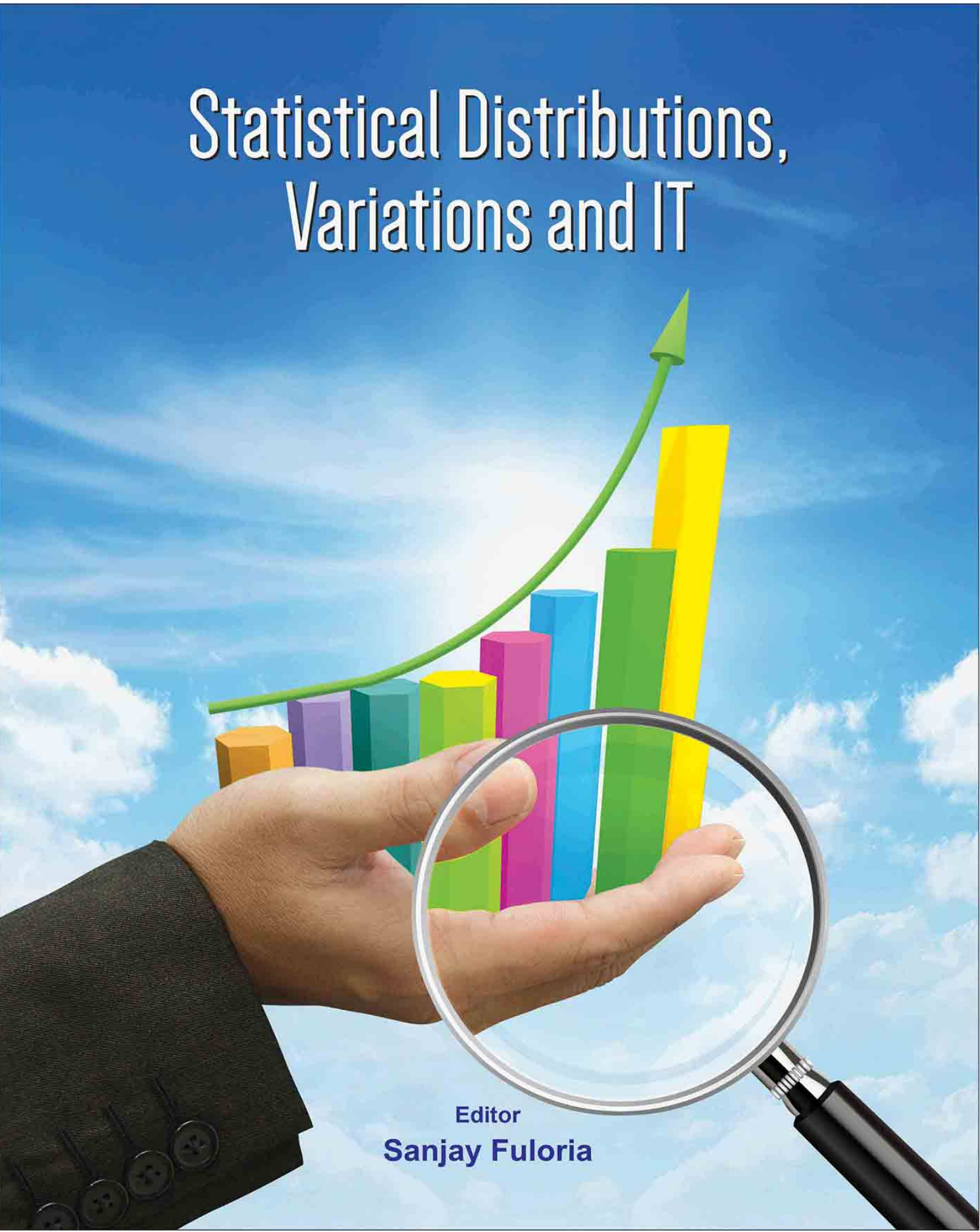
The first two charts deal with quantitative variables, while the attributes charts deal with qualitative factors.

Statistical Process Control

Quality control is a procedure used to guarantee the quality of a product or service to a desired standard. Basically, quality control comprises the inspection of a product, service, or process at a defined minimum levels of quality. The main objective of quality control is to confirm that the products, services or processes which are provided meet the specific requirements and standards that are reliable, acceptable and are economical. If quality of the product differs from certain specific characteristics then quality of that product will decrease with which the reputation of the company may also fall down.

The concept of quality is used by Entrepreneurs, industrialists and manufacturers. Since the competition of the sale of products among the firms has drastically increased, one of the differentiating factor is quality. A process which is capable of bringing high quality products which meets the expectations of the customers need to be put in place, which means that the process must operate with very less variability from the target and is consistent. In this regard the Statistical process control has come into existence. This can be applied to any process. There are five important statistical tools. They are 1) Control Charts 2) Acceptance sampling plans 3) Sequential sampling plans 4) Reliability and 5) Rectifying directives

Statistical Distributions, Variations and IT



Editor
Sanjay Fuloria

Statistical Distributions, Variations and IT

Editor:
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Chapter 1: Chi-Square Test and Analysis of Variance

(Sanjay Fuloria and Gopararu Purna Sudhakar)

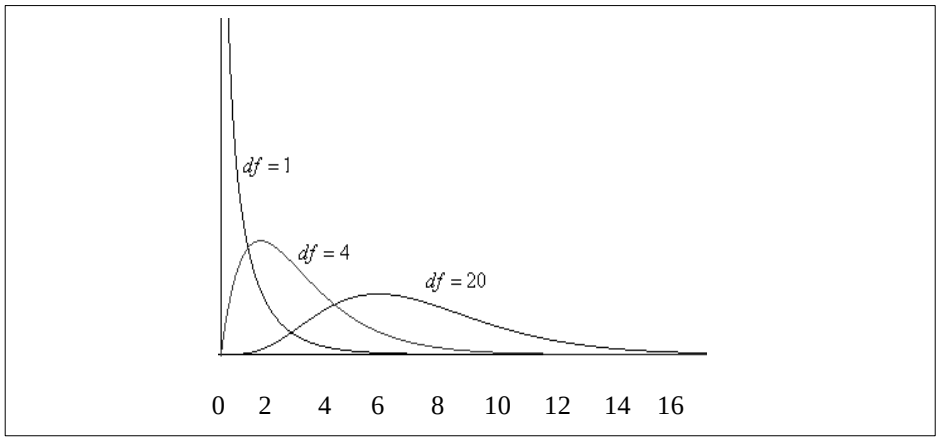
Introduction

While discussing, Statistical Inferences, we deal with statistical hypothesis to determine whether the difference between two means or proportions belonging to two samples from different populations P1 and P2 are significant or not. The drawback of this method is that it allows to consider the equality of means or proportions representing two samples at a time, but in managerial decision- making, often it may need to set up a hypothesis which would test the means or proportions for their equality representing more than two samples simultaneously. Chi-Square Test is used to determine whether the two attributes according to which a population is categorized are independent of each other or not and it also serves as a test for distributional goodness of fit. Analysis of Variance tests whether the difference between the proportions representing more than two samples is significant or not and it also tests whether the variability among them is significant or not.

Chi-Square Distribution

The Chi-Square distribution, like the 't' distribution has a single parameter called degree of freedom. It's a distribution of random variable called 2, so it assumes only positive value. The shape of chi-square distribution depends on the degrees of freedom. The total area under the curve for each of the degrees of freedom is one and the entire chi-square distribution lies on the right of the vertical axis. If the number of degrees of freedom is small, the curve will be skewed to the right. As the number of degrees of freedom increases, the curve also gradually tends to become symmetrical in nature (see figure 1.1).

Figure 1.1: Chi-Square Distribution at Various Level of dof



Source: ICFAI Research Center

Since different degrees of freedom have different sampling distributions, it is difficult to have a table that would give us the areas under the curve for all possible values. Chi-Square gives us the areas in the right tail at the significance level, which are most commonly used in tests.

Chapter 2: Role of IT in Modern Business Enterprise

(Jaipal Dhoble and Goparaju Purna Sudhakar)

Introduction to Computers

What is a Computer?

A computer is an electronic device which senses or accepts input data, performs operations or computations on the data in a pre-arranged sequence of program, and provides the result as an output or action.

The basic difference between the computer and the calculator is that the computer can perform long sequences of computations without human interventions. It has the ability of storing and executing a given set of instructions for solving a particular problem.

The basic characteristics favoring the usage of computers are:

a. **Volume**: Whenever the volume of data is large and is subject to repetitive operations, computers can store and process the data to provide the desired information.

b. **Speed**: In situations where response requirement is quick, the only alternative is to use computers. For example, in Airline reservation systems, the response to a request from anywhere in the country has to be within a few seconds and hence computer-based systems have been introduced.

c. **Accuracy:** For scientific calculations, a high degree of accuracy is required and that too at a very high speed. Computers provide the capability for accurate and fast processing.

d. **Complexity:** When the applications involve complex algorithms, it will be difficult to solve them manually. For example, complex differential equations or Operations Research Algorithms like Linear Programing will necessarily require usage of computers.

The basic Operations of Computer Systems are –

a. Input – This is the operation in which user feeds data and instructions to the Computer System.

b. Process – The task of performing operations like calculations and execution of user instructions are carried out as Process operation.

c. Output – This is the operation in which Computer Systems generate result in the user specified format.

d. Storage – To perform its intended functions Computer System needs to store user provided data and instructions somewhere inside System also it needs to store results before it display to the user; Place where these details are stored is called as Storage location and this operation of storing is known as storage operation.

e. Control – Computer System manages and coordinates entire System to attend it intended purpose through Control operation.

Chapter 3: Statistical Software Tools

(Sanjay Fuloria and Gopararu Purna Sudhakar)

Use of Computers in Finance

The discovery of computers has transformed the financial industry and how business deals are transacted. Computers influence both business and personal financial management. Computers enhance financial communication within members of an organization through a network system connecting various departments. With the use of computers, key financial decision makers are able to send financial reports and strategies instead of holding meetings. This system allows finance people to get updates on world stock exchange, and price changes affecting their business.

Data Storage:

Computerization makes data storage manageable and less bulky. Computers enable organizations to store large amounts of files in a small space, allowing us to have a large track of historical transactions, while avoiding consumption of space that would otherwise be consumed by piles of files in cabinets. Keeping financial records is critical for organizations, as well as individuals, as it allows tracking of payment records, debts owed, purchases done and bank transactions made. Having detailed financial records helps an organization to continually audit and analyze business performance.

Financial Information:

Computers have enhanced access to wide financial information through Internet access. Business operators or individuals can now access information on investment prospects, and conduct a detailed research on its profitability. There is also wide financial information available on the Internet, such as world prices, tax changes, inflation rate and currency exchange rates making it easier for institutions and individuals to make informed financial decisions. The Internet provides a wide source of information and access to specific financial reports of companies in trade

Introduction to SPSS

SPSS is the acronym of Statistical Package for the Social Sciences. This package can perform highly complex data analysis using statistical and mathematical functions by means of simple instructions. SPSS for Windows provides a powerful statistical analysis and data management system in a graphical environment, using descriptive menus and simple dialog boxes. Statistical analyses carried out through SPSS can range from simple descriptive statistics like means and deviations to advanced analyses like regression and factor analysis.

SPSS is widely used for researchers in social science and statistics as well as business research. The package enables summarization and display of data with tables and graphs. The package comprises several modules with the SPSS Base System being the basic module. The package supports Macintosh, Windows as well as UNIX operating systems. To begin with the SPSS application we have to select the following Menu options from the Desktop: Start > All Programs > SPSS for Windows > SPSS 13.0 for Windows

Advanced Statistical Methods



Editor
Sanjay Fuloria

Advanced Statistical Methods

Editor:
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Chapter 1: Index Numbers

(Sashikala P and Goparaju Purna Sudhakar)

Introduction

Whenever an analysis is to be done based on the data, we attempt to identify and determine the pattern of changes in the data collected. This data may collected at one go or might have been collected over regular intervals of time. We get trend values.

How to analyse the data? We use statistical tools to measure the changes in a variable or a group or related variables with respect to time. Index numbers show how data changes over a period of time relative to a fixed point called base period. They are one of the popular statistical tools to indicate the state of economy. They play a vital role in expressing various economic and fundamental activities over time. In this chapter, you will learn the various types of index numbers and their uses.

Uses of Index Numbers

By definition, an index number is a statistical measure designed to show changes in a variable or a group or related variables with respect to time, geographic location or other characteristics such as income, profession, etc. Index number is calculated as a ratio of the current value to a base value and expressed as a percentage. It must be clearly understood that the index number for the base year is always 100. An index number is commonly referred to as an index.

An index number is not a complete measure. It deals with the percentage change in a variable over time. It is done by comparing the value of a variable at present to its value at a base year. Index number gives a quantitative underpinning to qualitative statements like prices are falling or rising. Generally, index numbers show changes in average

One of the major usage of an Index number is the determination of the value of money using price index number. It successfully shows the change in price levels and describes inflation or deflation. Index numbers are used to calculate the standard of living in various areas. Price index numbers are widely used by business communities as a tool to plan strategies.

The change in production of different sectors is calculated using index numbers. This helps the government to take necessary measures to increase production and growth. The Export and import policies are also framed by referring to the index of imports and exports. The government also plans its fiscal and monetary policies to increase growth, employment, productivity etc., with the help of index numbers. Therefore, index number is considered as an important statistical tool.

Features of Index Numbers:

The following are the main features of index numbers:

(i) Index numbers are a special type of average. Usually mean, median and mode measure the complete changes and are used to compare only those sequence which are expressed in the same units. But when the absolute change is not measurable and the series are stated in different types of items, then Index numbers are used.

Chapter 2: Simulation

(Sashikala P and Goparaju Purna Sudhakar)

Introduction

The techniques of decision-making process have already been discussed in the chapter Probability Distribution. This chapter aims to choose an action from several available alternatives which would, in some sense, optimize the results obtained. The process of selection of the optimal alternative can be subjective or quantitative. Subjective approach decision is based on the previous experience but subjective methods involve some mathematical models. This chapter provides an insight into: Analytical approach, Simulation.

Analytical Approach

Analytical approach is a simple technique used in decision-making. For example, a vendor selling mangoes everyday wants to fix their price on a particular day. It could be equal to the competitor's price or above or below it. He has the following information about the historical sales.

Price (□)	Quantity (Kg.)
16	60
15	80
17	40

The purchase cost of mangoes is □10 per kg and he has to pay □2 per kg as municipal tax. If he purchases more than 50 kg he can get a discount of Re.1 per kg and if he purchase 75 kg of mangoes he can get a □2 discount.

To find out the price that the vendor should charge, we must first determine his objective. Let us assume that his objective is to maximize profits.

To find out the price which would maximize the profits, we construct the following table:

Price (□)	Sales Quantity (Kg.)	Sales Value	Cost (□)	Profit (□)
16	60	960	660	300
15	80	1,200	800	400
17	40	680	480	200

We thus find that the profits are maximized at the price of □15 per unit, and therefore this price should be chosen.

Analytical approach is easy to use but it is not possible to use everywhere, specifically when there is uncertainty about variables.

Chapter 3: Linear Programming

(Kaustov Chakraborty and Goparaju Purna Sudhakar)

Introduction

Linear programming, one of the important techniques of operations research, has been applied to a wide range of business problems. This technique is useful in solving decision making problems which involve maximizing a linear objective function subject to a set of linear constraints.

Linear programming is helpful in solving a variety of problems in finance, budgeting and investments. The important applications of this technique are in the following areas:

- Selection of a product mix which maximizes the profits of the firm subject to several production, material, marketing, personnel and financial constraints.
- Determination of the capital budget which maximizes the net present value of the firm subject to several financial, managerial, environmental, and other constraints.
- Choice of mixing short-term financing which minimizes the cost subject to certain funding constraints.

This note, expounding the basis of linear programming is divided into four sections including this introductory section. Section II presents the graphical method of solving the linear programming problem. Though this method can be applied only to those problems having only two basic variables, it is a very useful pedagogic device to understand certain concepts underlying the more advanced methods of linear programming. Section III discusses the simplex method which uses a very efficient algorithm to determine the optimal solution to a linear programming problem. The computation rules and procedures associated with the simplex method are so well defined that electronic computers can profitably use them to easily obtain solutions. Section IV touches on some elements of post-optimal analysis.

Review of Linear Functions

The function of a variable has been defined earlier in the chapter 'Functions and Calculus'. Linearity represents a special case of the relationship $y = f(x)$. The relationship is defined as linear if, for all possible values of x and y, a given change in the value of x brings about a constant change in the value of y.

Example 1

Consider the following function,

$$y = 4 + 3x$$

The values of x and y and the changes in their values are given below:

x	Change in x	y	Change in y
–5	–	–11	–
–4	1	–8	3
–3	1	–5	3
–2	1	–2	3
–1	1	1	3
0	1	4	3
1	1	7	3
2	1	10	3
3	1	13	3



Emerging Trends in Operations Management

Editor
Jaipal Dhoble

Emerging Trends in Operations Management

Editor:
Jaipal Dhoble

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Chapter 1: Emerging Trends in Supply Chain Management (SCM)

(Shankha Sengupta and Mulki Harish Chandra Varma)

Introduction

Increasing competition in today's global markets, reducing customer loyalty, shorter product life cycles, optimal cost of production and delivery, changing modes of communication, rapid development in technology and changing customer attitudes have thrown a variety of challenges to the way the supply chain of an organization is managed. Organizations have realized that it's just not enough to efficiently and effectively manage supply chain, but it's also equally important to innovate the strategies and practices related to it. Supply chain management is going to play a much a bigger role in the next decade than what it played during the last decade. Organizations have to gear themselves up, redesign their strategies and get ready to understand and react to aspects like flexibility, adaptability, volatility and agility in order to get better outcomes from supply chain management. This chapter focuses on the trends and issues which are going to dominate the future of supply chain management.

Factors Influencing the Trends in Supply Chain Management

Supply Chain (SC) is fundamentally defined as a sequential conglomeration of value-addtive processes/organizations, responsible for the assimilation of raw materials towards the production of a finished product, and the successful deliverance of the same to the end consumer/customer. The organizations therein purportedly place themselves such as to propagate a defined value to the materials/work-in-place product as the same flows through the chain, and are therefore responsible to subsequently perform the functions of any one or multiple of the following intermediaries: supplier, manufacturer, wholesaler, distributor, and/or retailer. The end customer defines the defined destination of the chain. Supply chain management (SCM) is described as the designing of the aforementioned sequence and thereby the procedures, guidelines, and performance metrics which would ensure improved productivity, enhanced positive value-propositions, and profitability for the cumulative and the individual players within the chain.

Broadly speaking, a supply chain is basically designed in accordance with the requirement/s of the primary player or intermediary within the chain. For example, in majority of the instances, manufacturer is generally considered as the major proponent of a supply chain, such as in cases of Proctor & Gamble, Zara, or Toyota. In other instances, the retailer could be one of the major designated exponent, in instances like WalMart, Amazon, or Alibaba. Similar instances may also be cited for supplier firms as the primary intermediary such as in tyre-manufacturing firms, or spare-part manufacturing firms such as Sundaram Clayton. The relative positioning of the primary player within the chain defines two important aspects: the intermediaries within the supply chain scheduled for value-addition and responsible for deliverance

Chapter 2: Service Operations Management

(Shankha Sengupta and B Bhaskara Rao)

Introduction

The services sector is not only the dominant sector in India's GDP, but has also attracted significant foreign investment flows, contributed significantly to exports besides providing large-scale employment. India's services sector covers a wide variety of activities such as IT, Finance, Healthcare, Tourism, Travel, Hospitality, Education, and Legal Services, to name a few major domains. In the prevailing business environment characterized by the support of central and state governments by way of initiating measures to ensure ease of doing business, demographic dividend, skilled and qualified youth, English-speaking ability and global opportunities in services sector, the services sector is poised for a spectacular growth in the years to come. It is in this context that the subject of service operations management needs to be reviewed and understood.

Market Size[1]

The services sector is the key driver of India's economic growth. The sector contributed around 66.1 per cent of its Gross Value Added growth in 2015-16, thereby becoming an important net foreign exchange earner and the most attractive sector for FDI (Foreign Direct Investment) inflows. As per the first advance estimates of the Central Statistics Office (CSO), the services sector is expected to grow at 8.8 per cent in 2016-17.

Outlook

According to a report by leading research firm Market Research Store[2], the Indian telecommunication services market is expected to grow by 10.3 per cent year-on-year to reach US$ 103.9 billion by 2020. The Indian digital classifieds industry is expected to grow three-fold to reach US$ 1.2 billion by 2020, driven by growth in horizontal classifieds like online services, real estate and automobiles. Out of overall services sector, the sub-sector comprising financial services, real estate and professional services contributed US$ 305.8 billion or 20.5 per cent to the GDP. The sub-sector of community, social and personal services contributed US$ 188.2 billion or 12.6 per cent to the GDP.

FDI Inflows[3]

The Indian services sector which includes financial, banking, insurance, non-financial/business, outsourcing, research and development, courier and technical test analysis, has attracted the highest amount of FDI equity inflows in the period April 2000-December 2016, amounting to about US$ 58.345 billion which is about 17.99 per cent of the total foreign inflows, according to the Department of Industrial Policy and Promotion (DIPP).

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[1] *India Brand Equity Foundation (IBEF), March 2017*

[2] *Market Research Store, Market Research Reports, 2016-17*

[3] *Department of Industrial Policy and Research, Govt. Of India, 2016-17*

Chapter 3: Management of International Operations

(J. Prince Vijai and R. Muthu Kumar)

Introduction

In the volatile business environment engulfing the entire world, the dynamics of global organizations need to be fully understood, before venturing to be a global player. There are many ways to become a global organization, which are well defined. For an emerging country like India, benefits of having global organizations are many not only in terms of enlarging its manufacturing base, but also to address its most serious issue of providing employment opportunities. At the same time, becoming a global player is a major challenge and needs to be addressed systematically. This calls for a comprehensive understanding of all the dimensions of globalization and their characteristics. It should also be understood that overnight, an organization cannot become a global player. It calls for a vision, mission and objectives, followed by a long term strategic plan, medium term operations plan and a short term execution plan. Thus it is a phased program. The chapter addresses all these aspects to a reasonable depth to facilitate student learning. Finally, the chapter ends with providing an overview of the practice structures and processes in the management of global production network.

Defining Global Organizations

Globalization has become a buzzword in the past few decades. Different individuals experience globalization differently, depending on their understanding, their occupation, and their country. For example,

- for employees of a software firm, globalization means dealing with international clients and developing software, delivery and customer support according to their needs.
- for citizens of India, globalization means opening up the gates of the Indian market to big foreign firms and brands, leading to economic development.
- for Indian industry, it is also exploring opportunities to export their products and expand their operations base beyond frontiers.
- for consumers, globalization could mean getting all new and innovative products from around the world using the internet.
- for students, it could mean having access to reading material and career opportunities anywhere in the world.

Therefore, when a firm plans to go global it has to keep in mind the perspectives of all the stakeholders so that it can serve them better and reap the benefits. So, when do we call an organization a global organization? In general, ‘a global organization is an organization that has invested in and is present in several countries, by way of its products and services’. It markets its products under the same coordinated brand or image in all markets. Generally, the global strategy is designed by one corporate office, which means all decisions are taken by one central corporate department.

Chapter 4: Total Quality Management

(VSSN Narasimha Murty Kadiyala and B Bhaskara Rao)

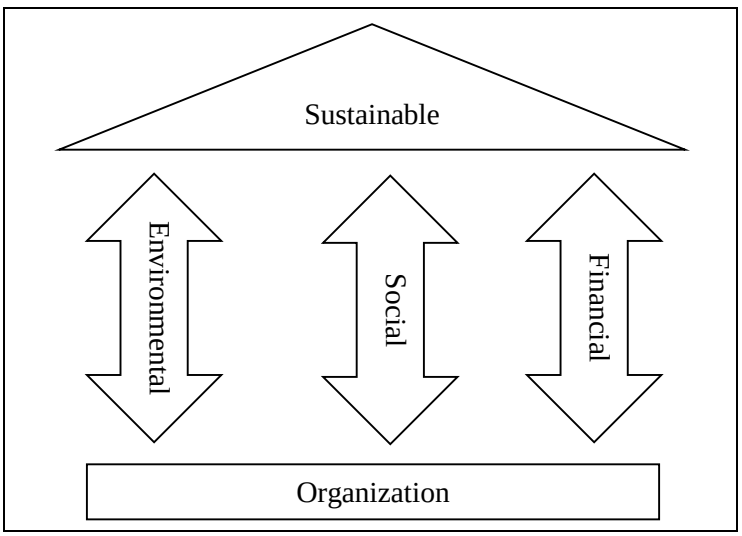
Introduction

TQM, that has provided a platform for operational excellence can become more compelling and exciting by addressing sustainability. The fact that TQM has not yet fully embraced sustainability today is bound to ensure a powerful convergence in the future. TQM leaders expanded quality management beyond products into behaviours. As the convergence accelerates between TQM and sustainability, 'zero defects' will be back in the spotlight and the challenge will be to prevent mistakes. Sustainable companies endure over time by delivering consistent operating performance, identifying and executing continuous improvements and reducing their environmental impact on our planet by measuring and reducing their carbon, water and waste footprints. Sustainability is not an event but a defining moment within business, and the early adopters are the ones who are encountering the challenges. However, they will get the rewards of long-term benefits that come from stake-holder respect and more efficient business. Key elements of successful implementation of TQM include, improving product and service quality, reducing costs, and collaborating with suppliers. Such initiatives can also be used to describe revolutionary sustainability efforts currently underway at some of the world's leading organizations.

Meaning and Concept of Organizational Sustainability

The basic concept and framework for organization sustainability is depicted in Figure 4.1.

Figure 4.1: Framework for Organizational Sustainability



Source: ICFAI Research Centre

The term 'sustainability' now has a much broader reach and meaning, extending its influence and implication to wider social and economic factors, including education, jobs, land use and community cohesion. Business needs to:

Managing Scope, Cost and Time of Projects



Editor
Nasina Jigeesh

Managing Scope, Cost and Time of Projects

Editor:
Nasina Jigeesh

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Chapter 1: Project Scope Management

(B Bhaskara Rao)

Introduction

Scope is a brief and accurate description of the end-products or deliverables to be expected from a project. It describes all the activities that have to be performed and identifies the resources that will be utilized for the successful completion of the project. Scope is also concerned with target outcomes, prospective customers, outputs, and the financial and human resources required for completing the project.

The project manager and the client have to jointly discuss the objectives of the project. Exchanging views and information will enable them to determine the purpose of the project. This exchange of information will also help the project manager understand the client's expectations of the project, and make the client aware of the project manager's method for executing the project.

On the basis of this discussion, the client and the project manager prepare a project goal. They also identify a number of objectives that will help them reach that goal. The project goals, together with the objectives, determine the scope of the project.

Project Initiation

Project initiation is the process of recognizing that either the need for new Project exists or an existing project should be continued in its next stage. Project is initiated only when an opportunity is recognized or when some need arises. Projects are generally initiated as a result of one or more of following trigger:

A Market demand: A company starts a project to build a new sugar refinery in response to the increased demand of sugar in the market

A business need: A company starts a project for training its employees in 'Total Quality Management' because of a business need. A construction firm starts a project for a new type of structure because of a client's request.

A customer Request: A bank opens new branches in the countryside because of the customer request for banking services in rural areas.

A technological Advance: An electronics firm starts a new project for developing Internet ready-TVs due to technological advancement.

A legal requirement: The Election Commission of India conducts elections to meet a statutory requirement. In other words, projects are initiated because of legal requirements.

Inputs to Project Initiation

Product description: The characteristics of the product or services that was undertaken in the project is documented in the product description.

Strategic Plan: The project undertaken should be aligned to the strategic goal of the organization. Hence, strategic plan of the organization is considered in project selection decisions.

Chapter 2: Project Time Management: Identify Project Activities

(B Bhaskara Rao)

Introduction

Identifying project activities is an important step in the project planning phase after the project scope statement has been defined. The Work Breakdown Structure (WBS) is an useful tool for the project manager in identifying the project activities. It illustrates how each activity of the project contributes to the whole project in terms of budget, schedule and performance. It also lists the vendors/subcontractors associated with specific activities of the project. Software packages like Microsoft Project can generate the WBS automatically.

A WBS is initially developed with the limited data available and subsequently revised when additional information is received. This gives the project manager a clear idea of what the end product of the project will be, and the overall process by which it will be created. Firms follow different approaches to developing work breakdown structures. The decomposition of the activities is continued till the lower activities satisfy some specified criteria. The planned WBS is then communicated to other project members and further modifications are done as and when required.

Activity Definition

An activity is an element of work performed during the course of a project. A project involves a number of interrelated activities. In general, activities share the following characteristics:

- Each activity is of a definite duration
- Each activity uses resources such as people, materials or facilities
- Each activity has a cost associated with it.

A project consists of a series of activities. Every activity of the project has an activity that goes before it, or one that goes after it, and sometimes both. An activity that must be completed immediately before the start of another activity is called a *predecessor activity*. An activity that immediately succeeds another activity and which cannot be started until the earlier one has been completed, is called a *successor activity*. Two activities which are taken up at the same time are called *concurrent activities*.

Activity definition involves identification of specific activities that must be performed in order to produce project deliverables.

As per PMBK guide there are five time management processes of activity list:

- Sequence activities
- Estimate activity Resources
- Estimate Activity Durations
- Develop schedule
- Control schedule

Chapter 3: Project Time Management: Activities – Sequencing, Estimating Duration, and Scheduling

(Santosh Kumar Yadav and R Muthu Kumar)

Introduction

After the project activities are identified, they are represented in a project network diagram. The project manager sequences the project activities, estimates the duration and then schedules the activities. The project manager sequences the project activities by understanding the dependencies among them. He prepares the duration estimates of each project activity with the help of duration estimates from other projects, historical information, expert advice, etc.

The project manager schedules the project activities to estimate the start and finish dates of each project activity, to arrive at the duration of the project. He can take help from two important techniques: Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM) to schedule the project.

Schedule control deals with the study of factors that influence and change the project schedules. It aims at managing changes to complete the project within the estimated schedule. This chapter talks about how the project manager prepares and maintains project schedules to deliver the project end product within the desired timeframe.

Fundamentals of Project Network Diagrams

According to the Project Management Body of Knowledge (PMBOK), a project network diagram is a schematic representation of the project activities and the logical relationships (dependencies) among them. The diagram helps the project manager in sequencing, scheduling and controlling the project. The diagram represents all the project activities, the sequence in which they have to be performed, the duration of each activity, the interdependencies among various activities and the criticality (significance) of each activity.

The project network diagram helps the project manager in project planning by detailing the project activities, estimating the required resources, and displaying the inter- relationships among activities. The diagram helps to determine the start and end dates of each activity during scheduling and it also provides insights into possible trade-offs while controlling the project.

A good project network diagram should answer the following questions:

- What is the estimated completion time of a project?
- How does a delay in an activity affect the expected completion time?
- How can the expected completion time of a project be reduced, if additional resources are available?

Activity and Node

The project network diagram is represented by a series of activities and nodes. An activity is a specific task or operation required to do a project. It is depicted by an arrow. A node (also called an event), is a time oriented reference point that signifies the start or end of an activity. It is represented by a circle.

Chapter 4: Project Cost Management

(Nasina Jigeesh and B Bhaskara Rao)

Introduction

Project cost management includes all the processes that are required to ensure that the project is completed within the approved budget. After each phase of the project is completed, cost management estimates the resources (people, equipment and materials) that were already spent and the budget needed for all subsequent project phases.

As the project progresses, the project manager notes the differences between the planned and the actual costs. The project manager then measures the impact of these differences on the overall project budget. Changes are made to the budget, if necessary, using cost control procedures, with the permission of the client and other stakeholders.

Estimating the cost of a project is difficult as it is affected by different factors like inflation, the exchange rate, demand and supply conditions, seasonal effects, etc. Other than these external factors, internal factors like mismanagement of various resources, failure to complete activities within the specified time, mishandling of equipment and employee absenteeism increase project costs.

Cost management is an important concern for the project manager, as costs directly affect the profits of the firm. However, merely reducing costs should not be the objective of the project manager. If costs are minimized by reducing the number of reviews and inspections, the project output is likely to be of poor quality.

If a project incurs higher costs than originally envisaged, the project client loses confidence in the firm and the firm earns a bad reputation. Thus, the process of cost management requires proper planning and implementation at every stage of the project, if the project is to be a success.

Process of Cost Management

The process of cost management involves four steps:

- Resource planning
- Cost estimating
- Cost budgeting
- Cost control

Resource planning identifies the resources required and the quantities required of each of these, for the completion of the project. Cost estimating is calculating the approximate costs of all project activities, while cost budgeting is the assigning of costs to each project activity. Cost control involves taking necessary steps to keep project costs within permissible limits.

Chapter 5: Project Monitoring and Controlling

(Nasina Jigeesh and B Bhaskara Rao)

Introduction

Project control is the process of collecting information related to the performance of the project system, comparing it with the desired level of performance and taking corrective action to decrease the gap between the actual and the desired performance levels. The basic purpose of project control is to control and manage change. Project control is not a separate phase in itself but it goes hand in hand with the project implementation phase.

As the project progresses, the project manager gathers all the information pertaining to project status from its team members and the clients. The information gathered has to contain the progress made, percentage of work completed and predictions indicating the possible date of completion. Also this is a proper period for getting inputs on changes in activity dependencies and to decide on the inclusion or exclusion of activities from the plan. The information gathered can be analyzed to find out variances, to examine the total performance of the project and to prepare monthly sales reports. The significant areas to look out for variances are scope of the project, project schedule and resource utilization.

An effective project management system is one which puts in place a well-organized control system at the time of project planning. Once the project enters the execution phase, it is the responsibility of the project manager to check whether the actual output matches with scheduled/desired level of output. The parameters to be used are performance, time and cost.

A project control system helps in fixing problems in time and in putting the system back in shape. This chapter is an overview of the various aspects of project control starting from the fundamental purposes of project control to risk and quality management. The chapter also discusses the various progress reporting systems and graphical reporting tools along with the reasons behind measuring duration and cost deviations.

The idea behind implementing a project control system is “A stitch in time saves nine”. A project control system is a corrective, evaluating tool to minimize the risk and cost of project deviations that may lead to project failure. Figure 5.1 represents the total process of project control.

Managing Project Constraints



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Managing Project Constraints

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Managing Project Constraints

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Chapter 1: Project Quality Management

(A Sandeep and R Muthu Kumar)

Introduction

Earlier, project firms believed that higher quality increased project costs. But now they realize that improved quality increases business. The growing size and complexity of projects have forced firms to concentrate more on quality at every stage. Otherwise, the cumulative effect of each defect in the various stages will lead to a considerable reduction in the quality of project end product.

'Quality' is relative and different people have different definitions of quality. The project manager however, has to be very specific regarding the quality of a project. He can use several techniques to meet the quality requirements. Project quality management includes all the processes required to ensure that the project meets the specific requirements of its stakeholders. The project manager should prepare a quality plan and communicate it to team members and ensure that the plan is being implemented properly. This chapter talks about how a project manager prepares a plan and implements it to meet the desired outcome of a project.

Definition of Quality

The ISO 9000 defines 'quality' as 'the totality of features and characteristics of a product or service that bears on its ability to satisfy stated or implied needs.'

The client looks at quality as:

Conformance to specifications: The project manager mentions the project end product and its clear specifications in the POS. The client expects the product or service to match the specifications provided in the POS. To him, quality is the conformance of the end product's specifications as mentioned in the POS.

Value for money: Clients may define quality as a value or how well the product or service fulfills the intended purpose for the price they are willing to pay. If they feel that the price of the product or service is higher than the utility they derive, then they may conclude that the project is of less quality.

Fitness for use: The client considers the features of a product or the convenience of a service to decide the project quality. The aspects include appearance, style, durability, reliability, and serviceability, etc.

Support: Often the support a company provides to its product or service is considered as the quality. For instance, if the project manager provides servicing facility at a low price or free of cost, the client feels that quality of the product (project) is high.

Psychological impression: Clients evaluate the quality of a product or service based on some psychological impressions: physical ambience, the firm's image, etc. For instance, well-dressed, courteous, and friendly project team members make a positive impact on clients who associate these attributes with quality.

Chapter 2: Project Risk Management

(A Sandeep and B. Bhaskara Rao)

Introduction

The element of risk is inherent in every activity of a project. The project manager should carefully handle the risks that the project is likely to be exposed to. For projects whose duration is less than one year, we can assume that the operating environment is known and stable. But in the case of big projects of longer duration, it is necessary to conduct a 'risk analysis'. Projects are exposed to various types of risks like technical risks, economic risks, social risks, production risks, financial risks and human risks.

Since all risks cannot be eliminated or avoided, it is the job of the project manager to ensure that risks do not have adverse consequences. Every project manager follows a specialized risk management methodology that normally consists of four processes: risk identification, risk quantification, risk response and risk control.

To relieve themselves of risk, individuals and firms insure the projects they undertake. While insurance cannot prevent risk, it can mitigate the risk by providing financial compensation. This chapter examines the risks in projects and alternative ways of dealing with these risks.

Definition of risk

Risk is defined as the possibility of an outcome being different from the expected outcome. . "The potential of an action or event to impact on the achievement of objectives" as defined by APM (https://www.apm.org.uk/content/risk)

"Risks are factors that might affect project outcomes" as defined by AIPM (https://www.aipm.com.au/documents/aipm-key- documents/aipm_project_ manager _professional _competency_stand.aspx)

It refers to the possibility of adverse results flowing from the uncertainty involved in carrying out the activities. When a project or a project activity is expected to be possible, the chance of its occurrence varies from zero and one. Every activity of the project is always exposed to a certain degree of risk. Damage to machinery, dramatic changes in technology, loss of human life and stagnation of financial flows are some of the areas of risk that a project manager should pay attention to.

Conceptually, project risk is a function of uncertainty and damage.

Therefore, Risk = f (uncertainty, damage)

Both uncertainty and the potential for damage for every project activity should be carefully examined when conducting a risk analysis. Sometimes, risk also refers to the cumulative effect of all the adverse, unfavorable action.

Risk also arises because of hazards, which can be defined as a source of danger. The project manager must provide some safeguards to reduce or eliminate hazards. So risk can also be referred to as a function of hazard and safeguard.

Therefore, Risk = f (hazard, safeguard)

Chapter 3: Project Human Resources Management

(A Sandeep and Sunanda G)

Introduction

Project human resource management involves all the processes that are required to make the most effective use of the individuals associated with the project. It involves organizational planning, staff acquisition, and team building.

This chapter is split into three parts - the first part deals with planning the organizational structure, the second part deals with selecting the staff required to work on the project and the final part deals with developing teams with the selected staff.

Planning the organizational structure includes finding, documenting and assigning roles, responsibilities and reporting relationships to individuals or groups who may be a part of the organization or may be external to it. Selecting the staff required to work on the project includes acquiring the required human resources. Developing teams out of the selected staff includes building teams in order to enhance the performance of the selected staff both as individuals and as a team.

Organizational Planning

Organization planning involves identifying, documenting, and assigning roles and responsibilities and reporting relationships. The PMBOK suggests that there are several inputs to the process of organization planning including

- Organizational interfaces: How are the various organizations (marketing, purchasing, accounting, manufacturing) going to handle interdepartmental relationships? In the changing nature of projects, the driving organization may well change throughout the project.
- Technical interfaces: This is the relationship between units within a department, such as accounts payable and accounts receivable, or between disciplines with engineering.
- Interpersonal interfaces: Relationships among the people on the project. Sometimes this can be informal, but on large and complex projects, control over who can deal with whom is needed to avoid confusion and conflict.
- Staffing requirements: You have to know what skills are needed for the project.
- Constraints: There are real limits on your ability to staff the project properly. If you have to hire a consultant because the organization lacks certain skills, you had better hope that this was included when the budget was established.

The result of the organization planning include several important documents.

- Roles and responsibility assignment: This critical document describes who does what (roles) and who gets to decide what (responsibilities). This must be worked very closely with the scope, WBS and communications plan to ensure that all aspects of the project have been assigned to someone. PMI uses the term Responsibility Assignment Matrix (RAM) to describe a document that identifies by name who is responsible for each aspect of the project, and what are their

Chapter 4: Project Communication Management

(A Sandeep and Y V Subrahmanyam)

Introduction

Effective communication is crucial for the success of a project. Project communication, which includes both formal and informal communication at various levels, involves all the activities and behavior by which information is exchanged between the project manager and his team members. The project manager plays a key role in managing the flow of information among various stakeholders like clients, vendors, functional managers, project team members and others associated with the project.

According to the PMBOK, project communications management includes all those processes that are required to ensure that information pertaining to the project is generated, collected, disseminated, stored and ultimately disposed of, in a timely and appropriate manner.

Sending the right information to the right person at the right time in a cost effective manner requires effective management of project communications. This chapter discusses various aspects of project communication management, like communication planning, distribution of information, performance reporting and administrative closure.

Communications management is the key to project control; the essential element of project management. Without the benefit of a good communications management system, the processes involved in the development of a project from conception to completion can be seriously constrained.

Communications management provides the vital project integrity required to provide an information lifeline among all members of the project team. This data must flow downward, upward and laterally within the organization.

Project Communication Planning

A communications management plan can organize and document the process, types, and expectations of communications. It provides the following:

- The stakeholder communications requirements in order to communicate the appropriate information as demanded by the stakeholders.
- Information on what is to be communicated. This plan includes the expected format, content, and detail—thinks project reports versus quick e-mail updates.
- Details on how needed information flows through the project to the correct individuals. The communication structure documents where the information will originate, to whom the information will be sent, and in what modality the information is acceptable.
- Appropriate methods for communicating include e-mails, memos, reports, and even press releases.
- Schedules of when the various types of communication should occur. Some communications, such as status meetings, should happen on a regular schedule, while other communications may be prompted by conditions within the project.

Management of Project Requirements, Integration and Reviews



Editor
N. Siva Prasad

Management of Project Requirements, Integration and Reviews

Editor:
N. Siva Prasad

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Management of Project Requirements, Integration and Reviews

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Chapter 1: Project Procurement & Contract Management

(N Siva Prasad and Sunanda G)

Introduction

Procurement is one of the major challenges faced by project managers particularly in an infrastructure or manufacturing project. These projects require various materials and skills from external sources and therefore, the project manager has to adhere to the organizational standards of quality and price to manage the procurement process effectively. According to Project Management Body of Knowledge (PMBOK), project procurement management is a process of acquiring goods and services from a firm external to the performing organization. There are seven key components in a project procurement management system- project procurement planning, solicitation planning, solicitation, source selection, contracting, contract administration and contract closing. In this chapter we will analyze all these components in detail.

Project Procurement Planning

Project procurement planning is the process of discovering the needs of the project that can be satisfied by acquiring products and services from firms external to the project organization. The request for the products has to go through a procurement process, starting from solicitation planning to contract closure. The project manager should take the help of professionals in contracting and procurement, if required. Procurement planning basically involves the how, what and when aspects of procurement, i.e. what to procure? How to procure? And when to procure? The procurement process is effective if it contributes to organizational profits through discounts on bulk purchases of quality products and services. If the procurement practices of an organization are centralized, then profitability is enhanced because centralization leads to standardization and minimizes the cost of paperwork involved. The primary objective of a procurement planning process could be any one of the following:

- Acquiring all products and services from a single vendor.
- Acquiring all products and services from different vendors.
- Acquiring a part of the required resources from the external sources.
- Acquiring no product and service from vendors.

Some of the inputs required to prepare the procurement plan are:

- Scope statement
- Product or service description
- Procurement resources
- Market conditions
- Make or buy analysis
- Expert judgment

Chapter 2: Project Integration Management

(Y V Subrahmanyam)

Introduction

'Project Integration Management' refers to the coordination of all project processes to produce the desired project deliverable with the available resources. The project manager must be aware of the interrelatedness of various project processes in order to coordinate them properly.

For producing a single deliverable, different functional areas have to be properly integrated. For example, an engineering design project requires the integration of several functions like civil engineering, mechanical engineering and electrical engineering. In this chapter, we discuss how the project manager can integrate all the project processes and the various tools and techniques he uses to integrate them.

Project Integration

PMBOK defines project integration as all those processes required to ensure that the various elements of the project are properly coordinated. Project integration involves;

- Project Plan Development
- Project Plan Execution
- Overall Change Control

Project plan development involves examining all the project processes and sequencing them in a consistent and coherent manner so as to achieve the project objectives. Project plan execution is the carrying out of the project according to the project plan. The final step, overall change control, aims at coordinating changes across all the project processes. Figure 2.1 shows the different steps in project integration.

Developing a Project Charter on Integrations and Alignment with Other Projects

Project integration management is one of the important knowledge area of project management. It deals with integration of project plan, project management processes and the project work products. It integrates the processes in initiation, planning, execution, monitoring and controlling and closing process groups. Its main objective is to integrate the project product with project management and deliver it to the customer.

Project charter is developed as the first step and as justification for the project existence. It describes the project's high level objectives, customer, sponsor, and would be project manager for the project. It consists of high level description about the project products, high level time and cost estimations, team composition, human resources working on the project and the high level risks of the project. It is best practice for project charter to have the information about project integration. It should consist of how project management processes are integrated with the

Chapter 3: Project Review and Audit Techniques: Project Review

(Sunanda G)

Introduction

Once a project is organized, in terms of building the project team and drawing up the operating rules, it is time for the project manager to design and develop an effective tool to check whether the activities are proceeding as per the plan. This task requires a mechanism to review the performance of various project aspects such as project status, product design and process. This chapter discusses various aspects of project review, starting from checking the progress made by the project to conducting effective project status review meetings aimed at problem-solving or decision-making.

Importance of Project Review

Once the project enters the implementation phase, the project manager should take up the responsibility of reviewing the status of the project in a timely and phased manner. Project reviews conducted at various stages of project implementation play a major role in the success of a project. The project manager conducts reviews to find out;

- If the project can accomplish the business goals.
- Whether the rules of the organization are understood properly and implemented
- If it is worthwhile to take up the project at all before entering into major contracts
- Whether the project is managed effectively and the team members are sure of completing the project, by following the guidelines.

Reviews give the project manager and the organization a chance to solve problems before they get out of hand, or to improve the way in which the projects are being handled. To derive the maximum benefit out of the reviews the project manager has to take follow-up action with an open mind. Reviews ensure that the project utilizes the available funds to gain business advantage. On the whole, a review helps the project manager;

- Keep in mind the purpose of carrying out a project
- Determine the appropriateness of the project activities from time to time
- Gauge the way in which the objectives are being accomplished
- Verify the completion of the project
- Evaluate the cost of the project
- Understand the project requirements.

Types of Project Reviews

A project manager has to conduct various reviews throughout the life of a project to ensure that it is progressing towards achieving the planned objectives. The manner

Chapter 4: Project Review and Audit Techniques: Project Auditing

(Y V Subrahmanyam)

Introduction

An organization can benefit from its past experience only when it tries to understand them through the process of evaluation. The term "evaluate" means to make a judgment as to the worth or value of a product or an activity. In project management context *project evaluation* is the process of appraising the progress and performance of the project in comparison to the planned objectives.

A project can be evaluated by using evaluation tools such as Project Audits and Project Reviews. Although many authors use the terms evaluation and audit synonymously, an audit is a formal inquiry in to various aspects of the project. In this chapter the word "audit" is associated with any formal inquiry into various project aspects that are of interest to the top management.

This chapter gives the meaning and purpose of project evaluation and then it discusses various aspects of project in detail.

Project Evaluation and its Purpose

Project evaluation is a process of evaluating a project's progress and performance in comparison with its planned progress and performance or with that of identical projects. Also, project evaluation should be supportive to all the management decisions that the project requires. So the manner in which a project is evaluated should make the management feel that all the relevant data has been considered. Project evaluation is considered to be as important as the project itself.

The primary objective of project evaluation is to measure the degree of a project's success. A survey on industrial projects of different nature and size identified four critical parameters for measuring the success of a project. They are:

i) Completion of a project within a given budget and time ii) Extent to which the project is able to satisfy the client

iii) Commercial success of the project and the market share captured by the product delivered by the project

iv) Ability of the product or service to succeed if it enters a new market or its ability to lead to a new product or technology.

Some of the fundamental elements that determine the success and failure of projects are shown in Exhibit 4.1.



Advanced Topics in Project Management

Editor

N. Siva Prasad

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Chapter 1: Project Closure

(N. Siva Prasad and B. Bhaskara Rao)

Introduction

A project comes to a close after it accomplishes its objectives or when it is terminated due to other reasons. Closing a project not only marks the completion of all administrative activities, but also audits the project performance which is a high-value learning tool for the project manager and others. The project manager should evaluate specific project records for a historical understanding of the project activities which can be of use in the future. All records without value should be scrapped and the rest should be stored for future reference. The final task is to sell off the physical assets after making sure that they can be of no use in any future activities and placing project team members back in their original positions. Once the members of project team finish their respective tasks in the project, they should be made available for other assignments. The project manager should provide feedback on an individual's performance and contribution to the project to his supervisor.

Closing a Project

The closing phase of a project has very little impact on the success or failure of any project technically, but it certainly has an impact on the attitude of the client, top management and the project team towards the project. It also has a significant impact on learning the reasons behind the success or failure of the project. During this phase there is no joy when new things are unearthed, because problems have either been solved already or overlooked. A project is terminated when the work on the project has come to a point where no further progress is possible. Such a situation is likely when the project is running far behind schedule or when its resources are transferred to other projects. Following are the steps involved in formally closing a project.

- End the external contracts of the company formally with the vendors, clients and other parties who expect early termination of services.
- Suspend the assignments of the team members formally.
- Seek the acceptance of the client formally on the project work and the output.
- Make sure of proper installation and/or implementation of the delivered output on time, within budget and as per specifications.
- Make sure of the availability of sufficient project documentation that can facilitate any change occurring in the future.
- Submit the final report and get it approved.
- Close the established relationships internally and externally

It is the project manager's responsibility to set a formal project closing date and get it approved by way of getting it signed by the client. The closing date should match the one mentioned in the master plan. Also the process of closing is to be initiated by the

Chapter 2: Project Management Software Tools

(N. Siva Prasad and Y V Subrahmanyam)

Introduction

Fortune 500 organizations are going for implementation of software project management tools in their organizations for competitive advantage, strategic alignment, designing and implementing platforms and processes in the organization. They want to gain more from less using automation, tools and process enhancements. Usage of automated tools is much required for the project planning and execution. The number of automated software project management tools in the market is growing quickly. These project management tools are used in project planning, project execution, project tracking, project monitoring and project controlling. There is a relationship between successful usage of automated tools and the success of project planning in software projects.

The popularity of the software project management tools can be found on the discussion forums, blogs and other 3rd party websites on the Internet. The functionality of project management tools vary based on parameters such as task scheduling, resource management, issue management, access control, risk management, change management, estimations, tracking, portfolio management, collaboration, quality management, licensing, reports and project analysis. Different tools have different features with respect to these parameters. Some of the tools are web enabled. That is the project status can be checked and task statuses can be updated from anywhere using the web browser and Internet.

In this last Chapter, the widely used project management tools and packages in the software industry are explained. Different types of project management tools such as standalone, mid-range, high end enterprise project management tools, software-as-a-service (SaaS) model and open source project management software tools are discussed. The features of Microsoft Project, CA's Project Portfolio Management Solution 'Clarity' and Oracle's Primavera are discussed. The features of free and open source software project management tools such as GanttProject, OpenProj, DotProject and Open Workbench are described.

Different Types of Project Management Software Tools

While selecting the project management software tool, there are certain aspects to take into consideration such as how to select the tool, how to use the tool, how to implement the tool in the organization, and how to get the return on investment of the tool. There are different types of project management software available in the market. There are advantages, disadvantages and challenges with each type of project management software tool. Software project management tools can be categorized as:

i) Monolithic or Simple Standalone Tools

ii) Mid-Range Tools

Chapter 3: Project Management Standards

(Sunanda G)

Introduction

A common usage of rules or guidelines in order to perform activities aimed at achieving an optimum degree of order in a given context is called as standard. It is established by common agreement, and is approved by a recognized body.

In this chapter, some project management processes and standards will be discussed. The processes laid out in Project Management Institute (PMI)'s PMBOK (*A Guide to the Project Management Body of Knowledge*) and Association of Project Management (APM), UK's PRINCE2 (Projects IN Controlled Environment) are described. The Australian Institute of Project Management's professional competency standard for project management and IPMA competency baseline are discussed in the unit.

Project Management Institute

Developed under a process based on the concepts of consensus, openness, due process, and balance, while ensuring all interested stakeholders can participate, PMI standards provide guidelines for achieving specific project, program and portfolio management results. PMI is an American National Standards Institute (ANSI) accredited standards developer, and their process conforms to ANSI procedures.

PMBOK

The Project Management Body of Knowledge (PMBOK) is a compilation of processes that are accepted as best practice for a profession in project management. It provides the base of project management, not matter the kind of project whether in, software, engineering or any other field.

Process Groups

Project management is accomplished through the appropriate application and integration of logically grouped project management processes, which are categorized into five **Process Groups**:

1. Initiating
2. Planning
3. Executing
4. Monitoring and Controlling
5. Closing

Knowledge Areas

As a project manager, one also needs to be aware of the project definition, difference between a project and operations in addition to the following Knowledge Areas:

1. Budget
2. Scope

Chapter 4: Ethics in Project Management

(N. Siva Prasad and Y V Subrahmanyam)

Introduction

Many philosophers define ethics as the science of conduct. Doug Wallace and John Pekel[1] define ethics as the basic ground rules by which humans live. These ground rules differ from society to society and individual to individual, and similarly from a project executed in one country to one executed in another.

The term "ethics" is commonly used to refer to the moral principles that are accepted by the majority of the members of society. Ethics play a significant role in the context of project management. Though projects are completed within a limited period of time, they deliver products or systems that may have a significant long-term impact on stakeholders and the environment. Therefore, project managers must exercise care when dealing with ethical issues that arise during the development and implementation of a project.

This chapter discusses the code of conduct for project management profession, ethics obligation matrix, and ethics in project procurement.

Ethics and Project Management

The decisions taken by project management professionals will have an impact on the quality of life of various stakeholders of the project. Project management professionals should therefore work in an ethical manner to win the confidence and trust of stakeholders such as employees, clients, and the public.

It is important to consider ethical issues when implementing a project because its success or failure affects various stakeholder groups.

Nixon in his article "Legal Lights: Business Ethics" (*Project Management Journal*, September 1987), identified some common ethical mistakes committed by businesses:

- "Wired" bids and contracts – the winner is predetermined
- "Buy-in" contracts
- Kickbacks
- Protecting team members – group cohesiveness
- Taking shortcuts in order to meet the schedule or budget
- Using inferior quality materials
- Compromising on safety measures
- Violation of standards

A project manager, especially in a public sector organization, will be faced with ethical issues concerning pollution, public safety, industry locations, utilizing public property, and so on. A code of ethics for the project management profession was

[1] *Fulcrum Group*

Chapter 5: Advanced Topics in Project Management

(Sunanda G)

Introduction

Modern Project Management is based upon a series of sensible steps to identify, specify, organize and track the activities of complex innovations. The aim is to produce predictable outcomes with control of budget, schedule and risk. When Project Managers effectively engage the real issues of their projects in a timely fashion, they produce quality results, on time and within budget. Here we discuss the advanced project management processes and methodologies to manage projects successfully.

The advanced topics in project management such as enterprise project management, lean project management, green project management, agile and DevOps project management are discussed in the Chapter. The more complex and advance project management method known as critical chain project management is explained in the unit. The current research going on across the world in project management discipline is also highlighted in the unit.

Enterprise Project Management (EPM)

Enterprise Project Management is an integrated approach for project management that consists of project budget, schedule, risk analysis, operating support, expenses, business and technology. It works in an organization as an integrated and whole system.

It works by enabling following processes:

- Common enterprise project information system
- Common enterprise analytical method for project decision
- Common enterprise strategic business framework for optimal business and technology decisions
- Common enterprise operating System for execution of projects.

Following are principles behind enterprise project management:

- Create and maintain a common project Management vision of the future shared by both the business and IT, driving continuous business/IT alignment.
- Increase the flexibility of the project management activities in linking with external partners
- Avoid or mitigate project risk and prepare the project enterprise for rapid, unplanned change
- Institute a program of progressive project process and technology refinement
- Create, unify and integrated business processes across the enterprise
- Eliminate duplicate and overlapping technologies, and decreasing support costs



QUALITY ASPECTS OF BUSINESS

Editor

Sashikala Parimi

Quality Aspects of Business

Editor:
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Chapter 1: Fundamentals of Business

(Sashikala P and Y V Subrahmanyam)

Introduction

A business is an organization that provides goods and services to the end users or consumers by using the economic resources or inputs by transacting in term of money or some other goods or services. Businesses are of four types. They are Service Business, Merchandising business, manufacturing business and Hybrid business. The business which provides intangible products that has no physical form is the service business such as firms which offer professional skills, expertise and advice and so on come under service business for example schools, banks etc., The business where the products are purchased at a whole sale prices and sold at retail prices is the merchandising business. In this type of business, the products are sold at a higher price than the purchased price so as to make profits. They sell the products without changing the form of the product. For example, grocery stores, convenience stores and distributors. In manufacturing business, the products are purchased for making a new product and there is a change in the products purchased. This business uses the combination of raw material, labor and machinery for its production process. Then these products are sold to the end users. The companies which has more than one type of business are the hybrid businesses. For example, in a restaurant the meal is made with a combination of ingredients, sell a bottle of cold drinks and fulfills the orders of the customers which is termed as a service.

Business organizations and industries are vital pillars in building a strong economy for the country and thus are the back bone of country's economy. Organizations may be of various types: Charitable, Service oriented, Government organizations, and Organizations both product and service centric. All the activities in a business unit are focused to ultimately give best quality service to customer to satisfy customer needs, and in turn achieve revenue and growth. However, an organization is not just one person. There are many stakeholders: individuals and groups who will affect overall functions of the organization or who are affected by organizational activities e.g., shareholders, board of management, employees, customers, vendors, subcontractors etc of various business functions who work as a team. Common functions are: Administration, Finance, Marketing, Operations and Manufacturing, Human resources, Service groups, Research & Development, Project development teams, Systems groups, each having specified functions. This chapter helps in understanding the individual functions, their interfaces and the need to work as a team to achieve and excel in customer satisfaction through quality.

Introduction to Business Organizations and their Functions

Following are the various business activities or Organization types: Organization by Type:

- **Global** businesses implies business across the Globe and may require organization structures satisfying both National and International aspects
- **National –** organization possibly stretches throughout the country
- **Regional –** could be through a country or wider area (North West, South East, etc.)
- **Local –** small organizations serving local area or community

Chapter 2: Quality Characteristics in Service Sector

(Sashikala P and Y V Subrahmanyam)

Introduction

In the first chapter, you are exposed to the various functions of business and one of the activities of the organization definitely is service. Some organizations may be totally focused on services, without any manufacturing.

One shall understand various service quality characteristics to ensure prompt and satisfying service to customers which will lead to increasing business and sustained growth. Service is an intangible act, and thus additional care need to be taken to plan, train, and implement the same. While this chapter it focuses on realization of the fulfillment of necessity of various parameters, the subsequent units will detail the planning and implementation schemes.

Concepts of Service to Customer

Service definition: The entire business systems revolve around two major activities: Manufacturing (products) and Services. While 'Make in India' may focus on 'Manufacturing', service sector till date has been growing rapidly in India. It's also known as the tertiary sector. Primary sectors are: agriculture, fishing, and mining etc., secondary sector is similar to manufacturing. The development of a country's services sector is an indicator of its economic development. India's services sector presently accounts for around 60 per cent of its gross domestic product (GDP). It has matured considerably during the last few years and has been globally recognized for its high growth and development. According to the Department of Industrial Policy and Promotion (DIPP), Indian services sector has attracted the highest amount of FDI equity inflows in the period April 2000-September 2014, amounting to about US$ 40,684 million which is about 18 per cent of the total foreign inflows.

As per Cambridge Dictionaries online, the definition of service is:

'A system or organization that provides for basic public need: the ambulance/ health/Postal/prison service'

Philip Kotler defines it: "a service is an act of performance that one party can offer to another that is essentially intangible and does not result in the ownership of anything. Its production may or may not be tied to a physical product." Thus service is defined as an intangible product.

Service may include one or more functional components including: Planning, design, procurement of spares, repair, maintenance, warehouse inventory, distribution, actual service etc.

Service areas: The major activities in the service sector in India are covered by Information Technology Enabled Services; which include Business Process Outsourcing (BPO), E-Seva, E-commerce etc. In addition it covers a wide range of other areas such as:

- Administrative and support to sales
- Apparel and readymade garments
- Advertising

Chapter 3: Quality Approaches

(VSSN NarasimhaMurty Kadiyala and Y V Subrahmanyam)

Introduction

The area of quality globalized the word ‘guru’ by exploring and identifying a number of proponents of principles, strong theories and practical models for quality management. The present strong profile status of quality management owes a lot to a number of professional experts. They made significant contributions, and championed the evolution of quality right from its definition-assessment-documentation-inspection stage to the point of self-certification (CMM-Capability Maturity Model). This is made possible through their creative works and teachings, shared through presenting various practical situations. Most prominent among them can be named as: Dr. W. Edwards Deming, Dr. Joseph Juran, Philip Crosby, Armand V. Feigenbaum, Shigeo Shingo, Dr. Kaoru Ishikawa, and Dr. Genichi Taguchi. They made a significant impact on the industrial world through their marvelous contributions to improving not only quality at businesses, but also various organizations spanning state and national governments, educational institutions, product and service industries, military organizations, healthcare organizations, and the like. The crux of all their teachings establishes that Total Quality Management (TQM) methodology/approach is one of the best vehicles for ensuring organizational quality sustainability.

W Edwards Deming (1900–1993)

W Edwards Deming, considered to be founding father of quality movement, is the best known for advising top managements of industry that most problems are systemic and that it is top management's responsibility to improve the systems by defining processes, so that organizational professionals (management and non-management) can perform their jobs more effectively. Deming proved that higher quality leads to lower costs and higher productivity as a result of less rework, lesser mistakes, fewer delays, and effective use of time and materials, which, in turn, lead to long-term competitive strength. With improved competitiveness, a firm is bound to achieve a greater market share and thus grow in business, providing assuredly more and more employability opportunities. Thus he emphasized quality as a facilitator of ‘sustainability’, quite earlier than the term sustainability is seen as the critical need and became popular.

Studying Deming’s Fourteen Points, System of Profound Knowledge, and teachings on statistical control and process variability are a global phenomenon. In emphasizing management's responsibility, Deming identified that in manufacturing organizations, workers are responsible for 10 to 20 per cent of the quality related problem. The remaining 80 to 90 per cent is under management's control. Workers need to be made responsible for communicating to management the information they collect and document regarding the system. Deming's approach advocates change and cultural transformation by institutionalization and organization-wide approaches.

Chapter 4: Mapping Deming Principles in Services

(Sashikala P and Y V Subrahmanyam)

Introduction

Dr. Deming is a pioneer in quality education, design and implementation which has given proven quality results and thus is acclaimed as the quality 'GURU'. While all the other Gurus have also made substantial contribution to the quality world, Deming is the most popular for the P-D-C-A (Plan-Do-Check-Act) quality cycle.

Create Constancy of Purpose for Improving Products and Services

Constancy of purpose requires

- Aiming at innovation
- Focus on research and education
- Processes for continuous improvement of product and service
- Investment in the maintenance of equipment, furniture, and fixtures, and new aids to production in the office and in the plant

According to Deming, in order to be competitive in market it is necessary to have "constancy of purpose" towards quality. He believed that it is a long term philosophy to survive in the business and not short term or a luxury. In the principle of Deming it has to remember that the planning is for long term delivery of quality.

According to Deming, a more visionary style is desirable. Instead of doing the same things repeatedly with efficiency, Deming believed that businesses should also innovate, conduct research, and improve product design continuously. He also felt that short term solutions will have an effect also for short term.

He also felt that the consequences of the activities of the businesses are for the advantage of the customer. So, the customers need to be considered first while making decisions in the business. The businesses cannot survive without customers. Since the needs of the customer change drastically over a period of time, it is necessary for the businesses to prepare for new challenges and in all changes the goal of continuity should be kept in mind.

For example, the purpose of healthcare is to ensure equal and complete health related services at an affordable cost to everyone alike, independent of caste, creed, color, rich, poor, physical or mentally ill, conscious or unconscious, infant to senior citizens, patients with leprosy, aids, smallpox, etc. diseases. The purpose shall encompass the safety, security, survival to highest possibility, and ultimately to the best satisfaction of the patients. The service teams (Nursing homes, Doctors, Nurses, Diagnostic centers, Blood banks, etc.) need to create constancy of purpose. This helps them to have integrity with the organization, helps looking for continual improvement of service to society, aiming at long range needs, helping them to be competitive, and achieve excellent customer feedback and delight.

Customer Service Environment



Editor
Venkata Siva Gabbita

Customer Service Environment

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Venkata Siva Gabbita

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Chapter 1: Service Approach Documentation

(Shankha Sengupta and Y V Subrahmanyam)

Introduction

Service in a layman's term is defined as an action which is undertaken to assist others in some related deed fulfillment, or to carry out the work on other's behalf. In economic parlance, service is highlighted as a transaction with non-involvement of physical goods, or in present day classification, having goods as a complementary or supplementary aide to the actual exchange of economically viable products. For example, in cases of legal consulting, the type of services rendered characterizes the type of theoretical or situation-based mental solution provided by the experts to the client/s in exchange for a fee. Such kind of services are generally termed as pure services. Whereas, there may be instances where the actual service may be supplemented by the introduction of physical products, such as in the case of restaurant services, where the physical product in the form of food items delivered, actually completes the service. Such services are designated as mixed services.

As service is intangible, it cannot be mostly reversible. Therefore, it is necessary to ensure that loss of product characteristics do not occur during service delivery. Various service environments can be termed as:

Product Related Service:

Annual maintenance, Warranty, Emergency fixation, Preventive maintenance, Selling the product, Product installation, Product usage training, Failure repair, Product upgradation, Product integration to already existing product etc.

Service Backbone Sectors:

Hotels, Tourism, Event management, MICE (Meetings, Incentives, Conferences, Exhibitions), Medical wellness, Citizen services, eservices, IVR, BFSI, ecommerce, Hospitals, Religious, Retail, Transportation, SMACS, Broadband, Internet, etc.

Third Party Service Scenarios:

Warranty maintenance, Annual maintenance, Preventive maintenance, Emergency call, Service at site, Service during delivery, Service during installation and training, Service to train, Service to customer nominee, Third party services for medical insurance, Service during disasters, Service during fire and emergency, Serving an angry customer, etc.

In order to train and educate service people, and to constantly update the service manuals with changing product features and allied maintenance, documentation is very crucial. While the competence of a servicing person may be high, it is also essential that, the communication and negotiation skills, politeness, convincing customer in various situations, collecting the customer voice, maintenance of records for future use and audit are critical requirements.

Chapter 2: Service Management

(Shankha Sengupta and Y V Subrahmanyam)

Introduction

Service management can be defined as all those steps included for successful service activity. The various stages involved include: planning, deploying personnel, defining processes for execution, implementing, and finally controlling the total service environment for a given organization. In the product scenario, the first stage of service is the interaction between the people performing the actual sales and the customers at various retailer places. As product is sold, all allied services and maintenance after sales are very critical areas demanding best service management approach. Thus, it is an integral part of the supply chain in the present day context. The objective of discussing the crucial aspects of high performance service management leads to optimal service focused customer interactions, excelling at all stages of services, leaving best customer experiences. All processes across numerous service locations need to be coordinated along the defined supply chain for customer satisfaction. This chapter focuses on the organizing and controlling part of management focusing the service sector.

For example, we can consider the example of a resort service within the hospitality industry. The specific nature of the service could be defined as providing rooms to the customer along with optional or additional facilities in the form of paid benefits. But in effect, the service delivery commences even before the customer actually arrives at the resort. Hospitality services in present times cater to the requirements of the customer even through online channels as well. The initial information about the type of resort, the criticality ratings, the types of rooms available, the types of supplementary and complementary services provided, the room rates charged, and related provisions are made knowledgeable to customer through online platforms in the form of dedicated or third-party websites. The customer is even facilitated to reserve the room/s of his/her choice within the stipulated dates through a varied congregation of payment options. Once the accommodation is booked, the service provider, the resort, has to generate an online receipt of the transaction and provide a copy to the customer while maintaining the same in its records for future perusal. Additionally, the resort has to ensure that the customer is reminded of the booking in frequent intervals to ensure generation of customer perception regarding the service provider's willingness to serve. Next, the moment the customer arrives at the resort, a series of designated front-line employees are required to greet the customer, ensure smooth completion of physical registration process, and simultaneously, a second series of invisible second-line employees are responsible to transfer the customer's luggage to his/her room even before the customer is graciously maneuvered to the room. Similarly, the resort has to ensure that every additional order placed by the customer is properly documented, the complementary offerings are duly delivered, service failure activities are taken care of, and the remedial procedures acknowledged in the form of written memorandum for future reference. The service delivery process

Chapter 3: Service Delivery

(Shankha Sengupta and Y V Subrahmanyam)

Introduction

Customer perceives the organization and forms a mental image by the service experience. Thus it helps in better brand building. Service includes the people (customer/service personnel) involved, the art of communication, the relation building, actual service rendered, satisfaction of the customer and customer experiences. Customers also look at providing high return on investment, customer service with promising least time to perform, service staff with adequate soft skills, and low cost and high value (Frugal models). One known model is where service guarantee includes, an assurance of penalties for inadequate/inappropriate service. These assurances give a lot of confidence to customer and thus builds better image to the organization. The professional behavior and a suitable body language of the service person have immense value to the total process of delivery. With the modern process like eservices, BPO (both inbound and outbound calls), Interactive Voice recorded systems, outsourced services, and third party service scenarios, customer expects a quick, soothing, and action oriented response, and clarification of the query in mind with ultimate delivery excellence.

The service delivery process is an outcome of a series of individual activities designed and clubbed together in a sequential format to enable initially identification of the requirements of the customer based on the first-derived information retrieved, identification of a conglomerate of optimal service solutions, engaging in an economic and rationalistic feasibility analysis with the customer, and finally identification of the best possible solution keeping in mind the constraints of the customer. As such, the deliverance could also be mediated by the representation physical setting in which the service is being delivered, coupled with the temperament of both the customer and the service provider. Probable outcome of the service delivery process could be explained in terms of two parameters: expected satisfaction and perceived satisfaction. Expected satisfaction denotes the overall understanding gained by the prospective customer regarding the typicality of the service to be delivered and the desired satisfaction level thus generated through second- and/or third-party reviews. It highlights the probable experiential satisfaction which the customer has at the back of his mind even before he/she has entered the service setting. Perceived satisfaction specifies the actual satisfaction derived by the customer during the time of the service being delivered or after the completion of the service delivery process. Therefore, 3 situations might arise after the service delivery is completed which the service provider should remain really considerate of: (i) Perceived satisfaction lower than expected satisfaction, resulting in customer dissatisfaction; (ii) Perceived satisfaction equals expected satisfaction, which implies the customer is baseline satisfied, but there is requirement for further improvement; and (iii) Perceived satisfaction higher than expected satisfaction, which entails that the customer is elated with the delivery process, and likely to return to avail the same in future. An ideal service delivery should imbibe and encourage achievement of the last two objectives, to develop service exclusivity, differentiation, brand value, and higher retention probability.

Chapter 4: Respect for Service User's Rights

(Y V Subrahmanyam)

Introduction

In complete service scenario, it shall be reemphasized that the service user has all rights to choose his/her service provider based on previous experience, quality of perceived service, competence of service personnel, market image, pricing of spares etc. In addition, the privacy and confidentiality needs of the customer also need to be maintained. Service provider's etiquette, manners (both with customer and customer nominee) and presentation styles have also influence on the selection of service provider. This includes the charging for spares, right to purchase spares separately by customer himself/herself. Thus to be excelling in service sector, the provider needs to understand the service users rights to full extent to protect them and as well earn good name at service.

Service Choice is Customer's Selection

Introduction to Citizen Charter: Govt. of India made a Citizen's Charter pertaining to the public services and made the same mandatory for all service organizations also to document their own citizen chapter and adhere to the same in toto.

Exhibit: 4.1: Citizen's Charter

Citizen's Charter is a document, which represents a systematic effort to focus on the commitment of the Organization towards its Citizens in respect of Standard of Services, Information, Choice and Consultation, Non-discrimination and Accessibility, Grievance Redressal, Courtesy and Value for Money. This also includes expectations of the Organization from the Citizen for fulfilling the commitment of the Organization.

Citizen is defined as: client or customer

Source: http://goicharters.nic.in/faq.htm (Government of India.)

A glimpse of the citizen's charter from Amrita Institute of Medical Sciences and Research Center (AIMS) Cochin is presented below. Linked to these activities are the vigilance commissions, which are active in public sectors, banks, LIC etc.

Exhibit: 4.2: AIMS Mission

Amrita Institute of Medical Sciences & Research Centre (AIMS), Cochin continues to provide dedicated patient care and endeavors to improve its services on a constant ongoing basis.

We strive to provide:

- Total dedication to understanding and fulfilling patient's needs
- Total devotion to providing efficient and reliable patient care services
- Efficient, prompt and courteous service with dedication to integrity and fairness

Chapter 5: Public Services

(Ramesh Krishnan)

Introduction

A citizen of the biggest democratic country like India, with world's second largest population and elected Government, looks forward for many services provided by the government to him. To satisfy this, Government has initiated many e-services facilitating the citizen services. This includes: Public sector industries, banks, roads and railways, education etc. In addition, for running the government; Tax and allied services, payment of water, power, property taxes, birth and death registrations, shops licenses, e-tenders, transport reservations, e-governance, educational awareness programs, right to Information etc.

For keeping the citizen comfortable and for services to turn out socially amicable, it's necessary that government listens to the voice of the customer, and suitably amends the processes supporting the above activities. This may include: training the people involved in public services, materials, processes, location, timings etc. While serving the citizen, as all the activities are aimed at bettering citizen's quality of life, it is necessary that they educate citizens on support to health services for workers, public private partnership in achieving success in activities related to all social causes like Swatch Bharat, and prove the improvement of quality of human life by the proposed e-services.

Citizen Services and Quality Aspects

These can be classified as

- Facilitating services
- Supporting services
- Portals are driven by technology giving wider access, any time access and easy facility for archival and searches.

Well-accepted parameters of quality in citizen e-service portals include:

- Building citizen trust
- System quality
- Information quality
- E-service quality
- Ease of use
- Usefulness for the users
- Citizen satisfaction
- Improved quality of life of the citizen

Quality Steps for Achieving International Standards



Editor
Sashikala Parimi

Quality Steps for Achieving International Standards

Editor:
Shashikala Parimi

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Quality Steps for Achieving International Standards

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Chapter 1: Quality Assurance and Control

(Sashikala P and Ramesh Krishnan)

Introduction

Quality can be defined as a characteristic that a product meets certain required specifications. It can also be considered as to check if there are any seeming defects or non-conformances in the product. So, quality is also defined as to determine how good or bad the product is or how much it meets the expectations of the customer. The quality management systems focus on the definition of how well the quality meets the customer's expectation. Quality Management Systems (QMS) are planned to help guarantee that a product or service meets or exceeds the customer's expectations continuously.

A quality management system (QMS) is defined as an official system where the documentation is done about the processes, procedures, and responsibilities for achieving quality policies and objectives. A QMS helps manage and direct the activities of an organization to meet customer and regulatory requirements and improve its efficiency and competence on a continuous basis.

Though the importance of a QMS is not on profits, it can increase the outcome of the company if implemented properly. In fact, many organizations have successfully used quality management systems to increase their earnings sharply, through the hidden and unconsidered benefits that may not immediately be seen when looking at the framework of a QMS. These benefits include:

- Tangible gains in the output
- Increased efficiency in the usage of company resources
- Improved customer loyalty that leads to reiteration of business
- Sensitive employee and company morale that reduces turnover rates and hence educing costs of training new employees
- Challenging goals and targets that encourage company growth and expansion
- A sense of accountability and an understanding of individual contribution that nurtures open communication and active participation from employees on all levels
- Flexibility that enables fast and appropriate reactions to opportunities and obstacles
- Measured and comprehensive tracking and monitoring systems that are capable of detecting defects, gaps in production and customer satisfaction, and core issues within processes, goals, or functions

Effective quality management systems can significantly contribute to the success of processes and projects. Both Quality Assurance (QA) and Quality Control (QC) constitute an integral part of an organization's quality management system (QMS). However, for effective implementation and delivery, all the stakeholders need to understand the difference. Only then can output be delivered on time, allocated budgets be met and stated and implied customers exception be met satisfactorily.

Chapter 2: Managing Quality in Service – Quality Roadmap

(Sashikala P, Ramesh Krishnan and P.V.L. Raju)

Introduction

As part of the quality initiatives, organizations use “cutting-edge” tools like Total Quality Management (TQM), Six Sigma, etc. for improving efficiency and effectiveness of manufacturing, business, and other service processes. Each organization, however, selects relevant tools and methodologies applicable to it is nature of business.

The following seven principles will help in the implementation of quality in an organization:

Customers First: "Putting customers first" is the foundation for managing quality. An organization that follows TQM trusts that service and product quality should meet, and confidently should exceed the expectations of the customers. The roles of each individual and every process in that organization are clearly defined under this goal. The success of any business is influenced on how new customers are attracted and how the existing customers are retained.

Manage and Improve Processes: In the quality program, the word "process" denotes how the work is performed. The quality of the services, products and delivery can be improved by improving the processes. The productivity, operational efficiency, and elimination of waste can be improved. The Process management includes all activities essential to deliver a product or service, as well as maintenance, service planning, and training. Manage by Fact: An organization that practices TQM depend on facts and data to support its decisions and operations. For example, it may use market research to approve philosophies on the expectations of the customers. The processes are documented to set a standard for improvisation. It will measure itself on crucial areas such as on-time performance. These measurements help managers in setting the path for operational and strategic planning and provide feedback on how well and how fast organizational goals and objectives are being achieved.

Cultivate Organizational Learning: Continuous improvement in customer satisfaction and operational performance requires commitment to learning.

Learning helps organizations to come out of their old practices. Learning is especially required in solving problems, changing procedures to meet the changing needs of the customers, understanding the importance on how the customers can be satisfied and accordingly designing and reengineering the processes so that the work can be performed in an enhanced way.

Train, Empower, and Recognize Employees: Employees are considered as most important assets. Their value must be protected and enhanced. This means train employees so that they recognize and resolve problems which are the basis for the dissatisfaction of the customer, empowering employees to take actions that satisfy customers, and recognizing employees for efforts and contributions that improve performance.

Chapter 3: Managing Quality in Service – International Quality Standards

(Sashikala P and AVLN Rao)

Introduction

In their quest to satisfy the ever changing needs, expectations, and aspirations of customers, organizations, both business and non-profit/governmental, implement quality improvement programmes. International quality standards offer cutting-edge tools and techniques to achieve business excellence through quality improvement. These standards address both product and service quality. They also look at equipment and processes. The approaches, specific methodology and routes are, however, varied. For some like healthcare providers, there are exclusive standards.

An assessment of the services provided by an organisation based on customer satisfaction or an established set of internal key performance indicators can be referred to as managing service quality. Various organizations adopt numerous techniques for this quality assessment for continuous improvement of services and meeting service level agreements. Historical evidence can be found that nations rebuild their economies with a strong focus on product and service quality control with the help of various statistical process control methods. Service quality is crucial to many kinds of organizations not only to assess individual employee performance but also to test the effectiveness and efficiency of various quality improvement strategies put in place along with refining its brand reputation.

A rich service quality in an organization often translates to better sales and related profits overall along with improvement in customer loyalty ad brand perception. Porsche, for example was ranked top in a luxury brand customer satisfaction index ranking in 2019, followed closely by the Japanese luxury automaker, Lexus, in the United States. The study suggests that implementation of technology into sales and service scheduling at a dealership along with effective communication by means preferred by the customer contributes to higher customer satisfaction.

A large organisation in an enormous industry was able to achieve the highest ranking in customer satisfaction, evidently through constant and effective communication with dealers and agents. Feedback from the dealerships is invaluable due to the fact that they are on the front lines of customer service and have detailed knowledge on customer expectations and requirements. Feedback from dealerships and customers not only contributes to refining service quality but also product quality. When communicated properly, automakers can acquire important data about the reliability and sustainability of their product and also about potential defects. Customer feedback is hence proven to be just as crucial. This evidently contributes to their brand reputation and overall profit. All of these parameters contribute to the service reliability, responsiveness of the dealer, service fairness and convenience as well as empathy. A study shows that these factors would have a positive effect on word of mouth and brand trust among customers. Service quality becomes crucial especially when an organization cannot depend on product quality alone.

Chapter 4: Managing Quality in Service – Quality Awards

(Sashikala P and PVL Raju)

Introduction

Organizations, both business and non-profit/governmental, implement quality improvement programmes to stay fit and address changing needs, expectations, and aspirations of customers. International quality standards provide "cutting-edge" tools and techniques to implement quality improvement projects and programmes, and achieve business excellence. Total Quality Management (TQM), Six Sigma, Total Productive Maintenance (TPM), ISO, the Capability Maturity Model Integration (CMMI), IEEE, ANSI, and NABH standards are popular examples of quality standards. Each organization selects appropriate standards based on the nature of their business to address both product and service quality, and complies with their requirements. They also look at technology, equipment and processes. For hospitals and healthcare providers, there are exclusive standards. Some address specifically computer software and Information Technology (IT) business.

Some standards have associated certification of organization and people. Internationally accredited bodies carry out training and assessment for certification. Armed with organizational excellence, some organizations also cap themselves with relevant quality certifications like ISO (for any Organization), NABH (for Hospital and Healthcare Providers) etc. These organizations also comply with applicable standards in their area of work and activities. A few standards come up with quality awards as well.

Further, governments and professional bodies have come up with quality awards for both organizations and people. This chapter makes a brief mention of different national quality awards instituted by countries and professional bodies and gives an overview of popular Indian quality awards in some detail.

Quality Approach in Indian Environment

The Government of India set up the Indian Standards Institution (ISI) in 1947 to issue national standards for systematic industrial and commercial growth. However, ever changing socio-economic scenario led to a need for strengthening this body and also according it a statutory status. Thus, the Bureau of Indian Standards (BIS) Act 1986 enabled BIS to take over ISI and to build a climate of quality culture involving greater participation of consumers in formulation and implementation of National Standards.

Subsequently, Quality Council of India (QCI) was set up jointly by the Government of India and the Indian Industry Associations, to establish and operate national accreditation structure to promote quality, through National Quality Campaign. The Department of Industrial Policy & Promotion, Ministry of Commerce & Industry, is the nodal ministry for QCI. Thus, the quality approach in Indian environment is steered by the activities of BIS and QCI, with involvement of the key stakeholders of

Chapter 5: Characteristics of Quality Professionals

(Sashikala P and PVL Raju)

Introduction

It is well agreed upon, and discussed and known is that only thing that is constant is change. Change is the fact of life, and 21st century is no exception. Markets change; products change; customers change; so does the notion of Quality. Information Technology and Internet have redefined our life and life styles. Thanks to the transparence of information system, the quality of Organization's Products / Services becomes known to the customer as soon as it is launched! Newly developed Products and Services are unlikely to provide assured revenues to companies, if they do not withstand the Quality Standard demands of the unforgiving customers. Excellence in quality is the essence. What is relevant in 21st century is how Quality will be delivered and meet the customer's expectations that are also very dynamic and organizations have to strive hard to keep pace with rising expectations of their customers as the case of Virgin Trains (Exhibit 5.1) demonstrates.

Characteristics of Quality

Following are some of the important characteristics of Quality.

- Quality can be defined as and is essentially: fitness or worthiness of use of the product or service. The product or service achieves the intended objective.
- Quality also means meeting the customer's expectations, and ideally ought to exceed his expectations. In other words, customer perceives the quality of a product or service to be positive, and his satisfaction is commensurate with the price he pays. Delighting the customer is the essence of quality.
- Quality is superiority of the company's product/service to that of its competitors, and the refinement brought about by the company itself over a period of time.

Exhibit 5.1: On the Right Tracks Of Customer Expectations

Virgin Trains has been a pioneer in UK rail industry. The company has been providing the lifeline of rail travelling serving 35 million passengers every year. With a view to gear up its customer service the company did a path breaking marketing research to find out the expectations of its customers during train travel.

The research throws up interesting and highly diverse expectations of train travelers. Many of the travelers have experience air travel as well as travel by train in other countries, and as a result their expectation level has significantly increased. Simple refreshment and comfortable seat with access to toilet are now perceived to be very basic services that the service provider has to offer. The expectations of the customer has gone up a notch higher and more menu options

Contd. .....

Chapter 6: HR Competence Building

(Sashikala P, Ramesh Krishnan and PVL Raju)

Introduction

Workforce aspiration, global competition, dynamic information technology and the ever demanding customer expectations, are all the factors which are changing the face of HR to ensure that quality professionals are on board for organizational effectiveness and sustainable performance. HR is the gatekeeper of the people and has to play an instrumental role to embrace the cultural change. It has to think strategically and create employee engagement strategies to retain human talent in the organization. A successful HR manager has to do a balancing act between understanding the "Big Picture" of the company's objectives while simultaneously understanding the employee aspirations and protecting the interests of the employees. In other words, there must be alignment of HR and organizational priorities. It implies HR has to recruit employees with right attitude; train them for organizational needs; create competency models for jobs; and configure suitable compensation management and performance incentives.

HR professionals need business insight, HR expertise, leadership qualities and the ability to establish HR as a supporter. In addition, HR professionals are also considered as change agents. In order to fulfill this role, HR managers must have four primary competencies: communication, analytical capabilities, relationship-building skills and leadership qualities.

Relationship-Building

Creating a dependable HR department that works collaboratively to achieve the goals of the department as well as help the organization in reaching its goals related to workforce development is a competency that HR managers must have. Relationship-building and interpersonal relationship skills are fundamental to an HR manager's success. An HR manager must have the ability to establish trustworthiness and belief as well as balance the responsibility to be an supporter for both the organization and its employees.

Leadership

Leadership skills are an essential competency for HR managers. HR managers are responsible for creating strategic plans for the HR department as well as the overall workforce. Therefore, leadership skills are critical, particularly in the process of justifying the functional elements of a strategic plan to the company's management team. In addition, HR managers have to direct the activities of the HR department, and in doing so, they need the type of leadership skills that influence HR generalists' and HR specialists' commitment to the HR department goals.

Identifying suitable professional-HR competency framework

Contemporary organizations are essentially people driven. One of the most important activities of HR in present day organization is to develop competency frame work for



Service Quality in Healthcare

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Chapter 1: Quality Principles Specific to Healthcare and Implementation

(Shubhagata Roy and Suresh Kokku)

Introduction

Healthcare industry places a high premium on quality of service more than any other industry because of the involvement of the lives of humans. Leading companies in all industries often advertise that their service quality differentiates them from competitors. But, in healthcare the quality of service has a direct impact on the health and safety of the customers those who get served; known as patients. Indeed, service quality that does not meet the minimum required National/International standards of healthcare providers can mean as big a difference between life and death.

Quality is strategic differentiating parameter/tool for sustaining competitive advantage. Improving quality through better and improved infrastructure and tested processes lead to a reduction of waste, rework, and avoid undue delays, help lower costs, gain higher market share, and an assured positive company image/brand. This results in improvement of productivity and profitability. Hence, it is very important to define metrics; measure and improve quality of healthcare services (Mosadeghrad 2014) for increased patient experience management.

Compared to other industrial service sectors, healthcare service quality may be difficult to define and measure for obvious reasons. Distinct healthcare industry characteristics such as heterogeneity, intangibility, and simultaneity make it difficult to quantitatively define and measure quality. However, healthcare service quality depends on organizational service processes and customer and service provider interactions/encounters. Many healthcare quality parameters such as timeliness, consistency, and accuracy may be hard to measure beyond a subjective assessment by the customer (Mosadeghrad 2014).

Healthcare system, policies and acts, accountability

The health system stakeholders include the people, institutions, diagnostics, nursing, pharma resources and all the activities whose primary purpose is to improve the health of the population in the defined geographical area. World Health Organization defines a health system to include “all the activities whose primary purpose is to promote, restore or maintain health” (WHO 2000). A well-functioning societal health system working in harmony is conceived and built on having well trained and deeply motivated health workers, a well maintained infrastructure and a reliable supply of medicines and technologies, backed by adequate financial support, strong community health plans and evidence based policies. India has a three tier healthcare delivery system i.e. Primary, Secondary and Tertiary. Figure 1,1 shows the structure of healthcare delivery organization in India.

Chapter 2: Healthcare Services Accreditation Process

(Suresh Kokku)

Introduction

This chapter describes current structures and processes used at national and international levels, to promote sustainable quality systems and accreditation processes in healthcare.

There is high awareness and pressure across the globe towards the pursuit of healthcare quality, as healthcare organizations attempting to engage in more effective management of resources and services, amidst known concerns about increasing costs, competing priorities and patient safety. Accreditation of hospital is one approach to streamline the processes and manage the quality in an organization wide basis. Accreditation process involves the assessment and audit of work and organizational practices against available National/International predefined standards, conducted by multidisciplinary allied clinical and all other allied services teams. The level of adherence/compliance against these standards is evaluated by an external accreditation team of surveyors, on behalf of an independent Quality body (accreditation agency), and on the basis of assessment and observations, an accreditation rating is arrived at for the organization. Arising from this, the multidisciplinary teams move forward into the appropriate continuous improvement phase of the standards based accreditation cycle, in order to identify risks and opportunities for the development and enhancement of health services.

National and International Quality Standards (JCI, NABH, IPAS, NQS)

Quality is a multi-faceted concept which can be defined in various ways. At a broad level, quality reflects the extent to which a healthcare service or product produces a desired outcome (Runciman et al 2007). Dimensions of healthcare performance are, therefore, those definable, practically preferably measurable and subsequently actionable, parameters of the system- those that are related to all its functioning to maintenance, restore, and improve health. Independently operating professional, academic and commercial organizations make major contributions in standardizing the delivery of healthcare services.

JCI

The Joint Commission International (JCI) was created in 1998 and a set of accreditation standards was developed for international use which was published in 2000.

NABH

National Accreditation Board for Hospitals & Healthcare Providers (NABH) was set up to establish, define, guide and operate accreditation programme for healthcare organizations. NABH is a constituent board of Quality Council of India (QCI), functions autonomously and supported by various stakeholders of healthcare industry.

Chapter 3: Quality in Patient Care Services

(Sashikala P and Suresh Kokku)

Introduction

Health facilities often face problems in providing the quick emergency care needed to manage complications and care for sick. General reasons include insufficient or unhygienic infrastructure; lack of competent, motivated staff; lack of availability or poor quality of medicines; poor compliance to evidence-based clinical interventions and practices; and poor documentation and use of information. Improving quality of care and patient safety are therefore critical if we want to accelerate reductions in mortality.

Quality of care is also a key component of the right to health. In order to achieve universal health coverage, it is essential to deliver health services that meet quality criteria.

Based on the various definitions in the literature, the WHO definition of quality of care is "the extent to which health care services provided to individuals and patient to improve desired health outcomes. In order to achieve this, health care must be safe, effective, timely, efficient, equitable and people-centred."

Safe. Delivering health care that minimizes risks and harm to users of health services including evading avoidable injuries and reducing medical mistakes.

Effective. Providing services based on scientific knowledge and evidence-based guidelines.

Timely. Reducing delays in providing and receiving health care.

Efficient. Delivering health care in a manner that maximizes resource use and avoids waste.

Equitable. While delivering health care there should not be any differences in quality according to personal characteristics such as gender, race, ethnicity, geographical location or socioeconomic status.

People-centred. Providing care that takes into account the preferences and objectives of individual service users and the philosophy of their community.

This chapter explains managing the quality in various departments in a healthcare organization. While addressing the quality issues, this chapter also touches various medico legal, ethical and psycho social issues (dealing with patient attendants etc), which hospitals and staff have to deal with on a daily basis. This chapter explains about the role of hospital administrator/manager in coordinating several of departments to yield the intended outcomes of excellent patient care in the hospital.

Quality of Support Services to Patient Commuting

The severity of the disease of a person can be an important factor which determines the willingness to access healthcare services irrespective of distance and cost. For instance patients undergoing haemodialysis have to commute to dialysis facilities three times a week to sustain their lives. Accessibility to these facilities has an important impact on dialysis patients. The frequent and long-term commuting leads to a huge cumulative time and becomes a burden on the patients' lives.

Chapter 4: Service Quality in Insurance and TPA (Third Party Administrator) Services

(Shubhagata Roy and Suresh Kokku)

Introduction

Need of health insurance is on the rise these days owing to threatening reasons like souring numbers of contagious and non-contagious diseases, changing disease patterns, low public spending on health care, high out of pocket expenses, poor public health institutes infrastructure, shortage of drugs and equipment supply in public healthcare setup, emergence of corporate hospitals, costly line of treatment in private hospitals due to highly paid qualified doctors and other challenges of health goals (Dilawari and Koley 2013). Healthcare service delivery and health financing in India is facing enormous challenges due to various factors. Despite some progress, we still have problems of high Out of Pocket Spending, inequality of services, fragmented social and regulatory standards. Although private health insurance companies entered in to market in 2001, their contribution to overall healthcare systems is still very small.

The privatization of insurance sector and constitution of IRDA envisage improving the performance of state of the insurance sector in the country by increasing benefits from competition in terms of lowered costs and increased level of consumer satisfaction. However, the implications of the entry of private insurance companies in health sector are not well studies in the context of India. There are several contentious issues in this sector which demands critical examination. Role of private insurance in achieving health goals varies which depends up on the economic, social and institutional settings in a country or a region.

Private Health Insurance (PHI) firms have key role to play in achieving the goals of access, quality and reduction in cost. One of the major objectives of IRDA would be bringing synergy between public and private players. Leveraging merging information technology could be a game changer in healthcare transformation in India.

PHIs need to carefully design and implement their strategies in a 1.3 billion-strong population segmented in various strata. There are key trends around operational efficiency, integration and standardization and customer awareness – of which PHIs should be cognizant. Their response to these trends will likely define the cornerstones of success stories in India. Various capacity building programs accompanied by other complimentary activities such as research, consultancy and institutional capacity building (SCHRAMM and ANI 2005) will help the private health insurance sector to its full potential.

Today's healthcare industry is largely dependent on the health insurance plans which are managed by the third party administrators (TPA). The IRDA has paved the way for insurance intermediaries such as TPAs to play a pivotal role in setting up well managed healthcare systems. TPAs have been set up to ensure better services to policyholders and to mitigate the risk of health insurers. However, given the demand and supply complexities of private health insurance and healthcare markets, insurance intermediaries face immense challenges relating to claims settlement and reimbursement (Bhat and Babu 2004).

Chapter 5: Ethics and Governance in Healthcare

(Sashikala P and Suresh Kokku)

Introduction

Though National Health Service (NHS) was categorized by constant change, from the beginning, three features NHS have persisted to be constant. It stimulates authoritative common sentiment. It is continuously focusing on changes and because of this its going to remain as an massive and vastly complex organization. Taken together, these features produce a complex relationship between the NHS, the government, other institutions (for example professional bodies, private hospitals) and different constituencies (the electorate, NHS employees, patients, other members of the public, the media). This relationship is more complicated by the nature of healthcare, whose delivery cannot be understood in the same way as the provision of other goods. This is for two reasons: first, health it is largely the responsibility of an individual, irrespective of the schedules of other interventions; second, provision of healthcare has thoughtful ethical consequences.

Defining governance is challenging, and there is no unanimously acknowledged definition in the academic literature. It is proposed way of thinking about governance in terms of a simple dichotomy. There are limitations to any dichotomy, however it is intended as a starting point for hypothesizing. The idea of 'mode of coordination', was introduced which is 'the complex of rules, roles and regulatory principles around which the social practices of organizations are structured'. In developing this, they draw on concept of rules as, 'routines, procedures, conventions, roles, strategies, organizational forms and technologies

It is tough to agree the point at which procedures that govern practices become institutionalized as (in) formal administrations, which advocates there is an interrelationship between systems of rule, and systems of rules. For example, an organization or workgroup culture may be strong that it acts as an informal regime. Nevertheless, there are in conceptual terms, differences between structures (both formal and informal) and processes

There is a difference between 'variance' and 'process' viewpoints in analysing healthcare The variance viewpoint emphases on 'the performance of an organization and the factors that determine the level of performance for example structure, strategy, or culture'; a process perspective, 'considers the events or stages that are necessary for the development of an organization or the acceptance of change. Applying this dichotomy, it can be seen how a rule-based or 'variance' perspective could mean assuming that the analytical focus for understanding public sector governance in general is the government, or changes in the configuration of modes of service-delivery. In the private sector, the 'rule-based' version proposes that the primary mechanism for addressing corporate governance problems would be the formal relationships between directors, the board and CEOs / Chairs (Cadbury Commission, 1992: 20-27; Salmon, 1992). In healthcare this could translate into an analytical focus on the structure of governing boards of hospitals, the influence and representation of clinical groups on the board, the effectiveness of mergers between hospitals, the design of new models of service delivery.

Chapter 6: Healthcare Services for Better Quality Environment and during Disaster Management

(Jaipal Dhobale and Suresh Kokku)

Introduction

It is a well-established fact from past experiences that a timely, well-coordinated and effective response in the aftermath of disasters not only prevents loss of life and damage to property but also facilitates a speedy recovery of normal life of affected communities. The important components of an effective response system are integrated institutional arrangements, modern and high technology based forecasting and early warning systems, proven and failsafe communication system, planned and action based rapid evacuation of vulnerable communities, quick deployment of specialized response forces and coordinated efforts of all stakeholders at various levels in dealing with any disaster (Disaster Management Division 2010). The main objective of disaster preparedness and response for hospitals/healthcare institutions is to ensure that they can remain functional and continue providing the necessary healthcare services during and immediately after an emergency.

In India, all natural disasters those occur excluding drought, pest attacks, hailstorm etc, will be handled by the Ministry of Home Affairs.

Identify Processes/Procedures for Handling Disaster Situation Leading to Loss of big Number of Humans

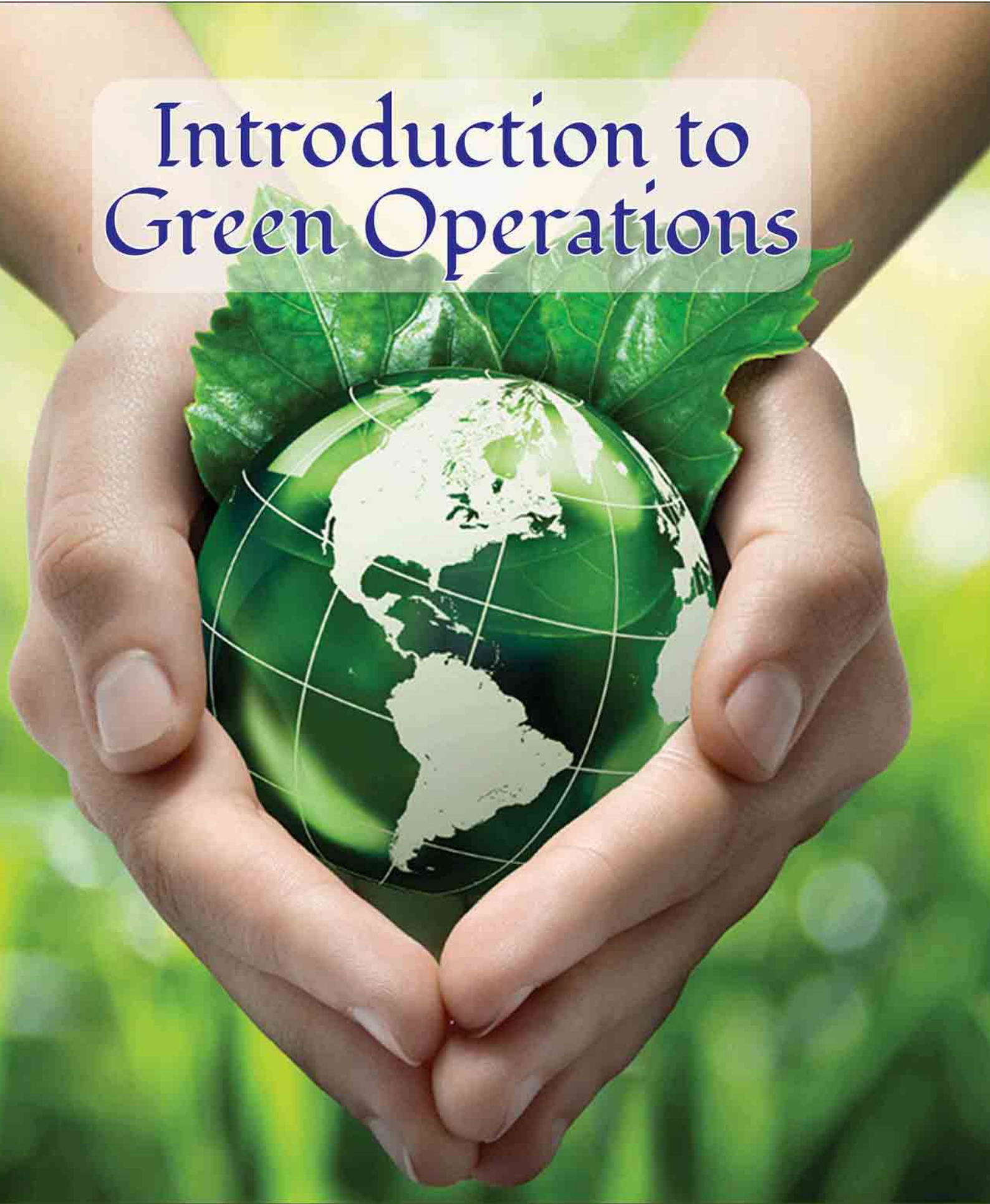
Earthquake, floods, hurricane, tsunami, nuclear accidents, industrial accidents, spread of disease in community, global warming are all well-known disasters needing highest attention of government as well citizens.

In any system of governance, after any disaster, the prime responsibility for ensuring safety and undertaking the rescue, relief, evacuation and rehabilitation measures rests with the concerned State Governments. The role of the Central Government is basically supportive, in terms of providing physical and financial resources within its capacity and complementary in sectors such as transport, early warning systems, etc.

Previous disaster experiences like Gujrat earthquack-2001, Indian Ocean Tsunami-2004 and the Kashmir earthquack-2005 have shown that disaster affect not only the population but also health facilities. During disaster hospital was reduced to a heap of debris when it was needed most. These experiences reminded us that it is not simply the structural resilience but also operational resilience of hospitals that needs to be taken care, if we wish to reduce the impact of disasters on hospitals. Based on these experiences hospital vulnerabilities can be categorized into –

1. Inadequate or complete no-compliance of structural elements of hospitals to building codes and other safety norms which result in the failure of hospital structures and their component non-structural elements.
2. Absence of documented hospital Disaster management plan.
3. Lack of planning and preparedness to respond to disasters.
4. Inadequate or complete lack of internal and external communication.
5. Lack of networking amongst hospitals.

Introduction to Green Operations



Editor
Arindam Ghosh

Introduction to Green Operations

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Chapter 1: Introduction to Green Operations

(Arindam Ghosh and B Bhaskara Rao)

Introduction

Climate Change concerns extending well beyond human imagination, brought to focus the need to adopt eco-friendly processes in all operations. United Nations had to intervene and awaken the society in general and the industry in particular, towards the global impact of environmental degradation, and the urgent need to address it. Manufacturing, the essential part of operations management contributes a lion's share towards environmental degradation. Thus arose a need to understand, design, implement and continuously improve environmental management through green operations. The chapter addresses all important aspects and enables the student to appreciate the need for ensuring effective green operations.

Introduction to Environmental Issues

Rapidly growing population and economic development are leading to a number of environmental issues because of the uncontrolled growth of urbanization and industrialization, massive intensification of agriculture and deforestation. Major environmental concerns include forest and agricultural degradation of land, resource depletion (water, mineral, forest, sand, rocks etc), public health, loss of biodiversity, loss of resilience on ecosystems, livelihood security for the poor etc.

- Environmental threats faced by the developed and developing countries are different. The issues in the former are due to their affluence and standard of living. Overconsumption is rated as one of the main reasons for the depletion of resources. US has a 5% of world's population but consumes 25% of the resources. The developed world with 23% of world's population, consumes two-thirds of resources. Massive industrialization of these countries resulted in uncontrolled Green House Gases (GHG), the major threat to human survival.
- The emerging nations, due to their thrust on rapid industrialization, started contributing towards emission of GHGs, with China overtaking the US as the biggest polluter. Developing countries are not too enthusiastic to accept emission norms because of the costs and technologies involved and contend that they impede their efforts for inclusive growth.

The environmental crises faced by other countries are mostly due to poverty.

Compliance to regulatory framework

Growing importance of Environmental Management became the most serious issue at the global, national and industry levels, necessitating global standards for guidance in designing, implementing and ensuring effective implementation. International Organization for Standardization (ISO) formulated ISO14000 series of standards for guidance but became more important due to the mandatory compliance insisted by the European Union and many enlightened organizations worldwide. However, research studies concluded that compliance to the standard and certification are just starting points in environmental journey in view of the new emphasis on sustainable growth and development.

Chapter 2: Important Acts, Standards and Regulations on Green Management

(Kaustov Chakraborty and B Bhaskara Rao)

Introduction

Under the aegis of the United Nations many initiatives were taken to study and understand the status and gravity of the problem and implement necessary actions to arrest environmental degradation across all areas- energy, water, air, resources, flora, fauna and healthcare. To provide guidance to all concerned for a common understanding about the problem and the need to mitigate it expeditiously through unified global action, standards were formulated. Many countries either formulated or adopted standards, regulatory frameworks and laws pertaining to environment. Some countries like those in the European Union made environmental certification mandatory for their business transaction. At country level, ministries and departments have been identified to formulate policy guidelines for activities such as environmental protection, pollution control, municipal solid waste management and Environmental Impact Assessment. Environmental regulations and guidelines refer to set of rules that provide guidelines to firms' activities so that they can change their operational parameter and operates within legally and socially acceptable parameters. The chapter provides an insight into all important aspects related to applicable acts, standards and regulatory framework for environmental management.

The Water (Prevention and Control of Pollution) Act, 1974

The legislations that have been enacted for controlling water pollution dates back to 1853, culminating in The Water (Prevention and Control of Pollution) Act, 1974 travelling through a number of legislations (21) brought in periodically. The basic aim of the Act is to provide for the prevention and control of water pollution and the maintaining or restoration of water.

Exhibit 1.1: Objects and Reasons for the Act

The problem of pollution of rivers and streams has assumed considerable importance and urgency as a result of the growth of industries and increasing tendency to urbanization. It is therefore necessary to ensure that the domestic and industrial effluents are not discharged into the water courses without adequate treatment.

Establish the Centre as well as in the States Water Pollution Prevention Boards, provide penalties for contravention of the provisions of the Act and establish water testing labs at Central and State levels to assess the extent of pollution, lay down standard and establish guilt or default.

Source: The Water (Prevention and Control of Pollution) Act, 1974

The preamble of the Act says:

" an Act to provide for the prevention and control of Water Pollution and the maintaining or restoring of wholesomeness of water, for the establishment of Boards for the prevention and control of water pollution."

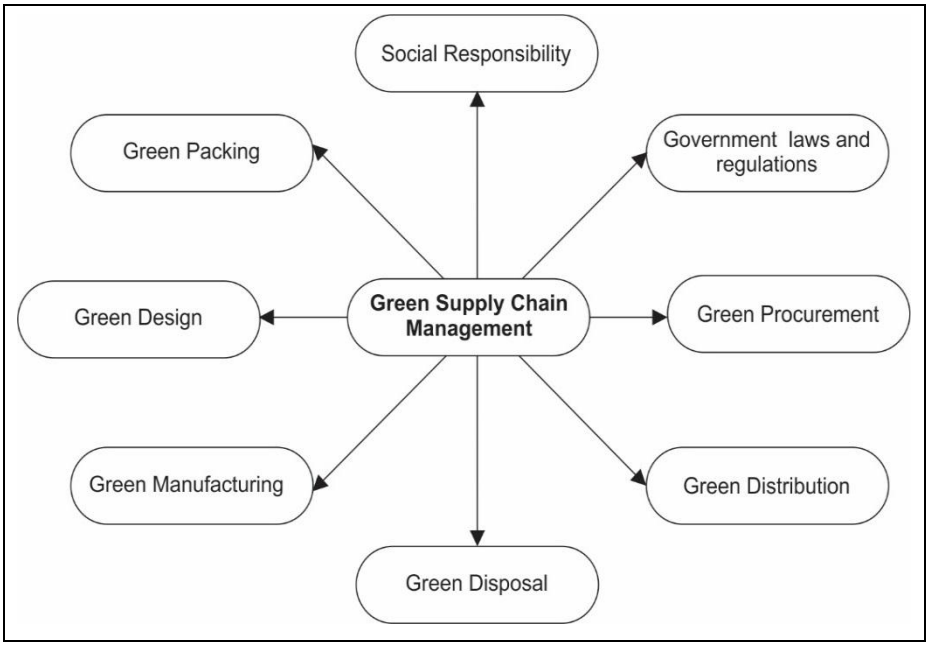
Chapter 3: Green Supply Chain Management

(Siddhartha Kushwaha and B Bhaskara Rao)

Introduction to Green Supply Chain Management (GSCM)

GSCM has emerged in the last few decades as a result of organizations wanting to make their businesses environmentally sustainable. GSCM covers every stage in the supply chain starting from product design, sourcing and supplier selection, manufacturing, transportation and the delivery of the final product to the consumers, and end-of-life management of the used product (Emmet and Sood, 2010, p. 4). GSCM can be implemented throughout the supply chain. GSCM can be implemented at the upstream activities by using green design, green marketing, and evaluation of suppliers' environmental performance. Downstream, GSCM can be implemented by practicing any recovery and recycling process after the product has provided its utility and also the disposal and sale of excess stocks. Within the firm, GSCM includes the activities which are related to green design, green packaging and green manufacturing.1.1 provides a concept map for GSCM.

Figure 1.1: A Concept Map relating to Green Supply Chain Management



Source: ICFAI Research Center

There are many reasons why companies choose to adopt GSCM. First of all, the government may impose laws and regulations to promote a sustainable environment, on the different industries. Secondly, the inter-firm rivalry is very high in the business world today. A company can therefore differentiate themselves and make their products attractive for their end customers by being environmentally friendly. In addition, if the competitors already have adopted GSCM, it might become necessary for the company to implement GSCM to stay competitive. Also many companies feel it's their social responsibility to reduce the "greenhouse gas emissions", reduce "waste", and to save "electricity". From different researches, green products have

Elements of Green Operations



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Chapter 1: Air Quality Management in Operations

(Arindam Ghosh and MN Rao)

Introduction

Air Pollution is a serious threat to humanity and environment. Air pollution may be defined as polluting the atmosphere using gases, particles, liquids or any other matter. This leads to deterioration of health of major constituents of environment i.e. plants, animals and humans. Additionally, it can affect the visibility and produce undesirable odors. Particulates are small discrete solids or liquids that remain in the atmosphere such as dust, fly ash, smoke, soot, and fog. Gaseous pollutants include combustible or non-combustible chemical substances such as carbon monoxide, volatile organic compounds, oxides of Sulphur and nitrogen. These pollutants are directly emitted into the atmosphere and often referred to as primary air pollutants. These primary pollutants may undergo chemical reactions in the presence of sunlight or react with one another to form secondary pollutants such as ozone, which is formed by photochemical reaction of NO, NO2 and volatile organic compounds. Secondary particles are strong light scatterers and also play a major role in climate change. Air pollution is incurred by various anthropogenic sources like industries, on-road and off-road vehicles, ships, agricultural activities etc. Additionally, natural sources which include forests, volcanoes and hot springs, also effect air quality. However, the magnitude of anthropogenic emissions easily overshadows later in most of the cases.

The gases which absorb and radiant heat are known as greenhouse gases (GHG). Anthropogenic GHGs released are main reasons of global warming. Some, prominent GHGs are Carbon dioxide (CO2), Methane (CH_4), Water vapor (H_2O), Ozone (O_3), etc. Among all the GHGs, CO_2 is most prominent. So, emissions of GHGs is generally calculated as tones of CO_2 equivalent, and generally expressed as tCO_2e.

To reduce carbon emissions, different regulatory bodies have implemented different carbon policies in different countries. All the existing or proposed carbon policies can primarily be classified under three main categories: Carbon cost or carbon tax, Carbon cap and trade, and strict carbon cap policy.

Major Sources for Industrial pollution

Industry plays an important role in the economic development of a region or country. However, it is also a major consumer of natural resources and a major contributor to the overall pollution load in the ambient atmosphere due to its varied activities. As a result, the nature of pollutants emitted into the atmosphere and resultant environmental impact, are also varied. Among the industries, thermal power plants, cement plants, textile mills, solvent plants, metallurgical industries, oil and gas industries, and pulp and paper mills are the dominant sources of air pollution. In addition to products of combustion like, smoke, SO2, oxides of nitrogen and fly ash, these industries emit some other species as shown in the Table 1.1.

Chapter 2: Water Management Operations

(Dennis Joseph and MN Rao)

Introduction

Water is said to be polluted when substances have built up in water to such an extent that they cause problems for humanity or environment. Oceans, rivers, and lakes can naturally clean up a certain amount of pollution by dispersing it harmlessly. At low levels, the chemicals in water probably would not present any real problem. However, if you poured gallons of chemicals into a river every few seconds through a pipe, the river would affect the properties of water. This, in turn, could affect the health of the humans, plants, and animals depending on the quality of water.

Water becomes unusable when it is polluted with some substances beyond a certain level. Presence of too much hazardous materials or pollutants in water, makes it unsuitable for drinking, bathing, cooking or any other uses. Most of these pollutants end up in water due to industrial, commercial, agricultural or even everyday human activities like transportation These major causes for water pollution have been identified as sewage leakages, high population density, oil spillages, nipa palm and water hyacinth, dumping of industrial waste, drilling activities, flooding, building lavatories over running, radioisotopes, heavy metals, combustion, toxic waste disposal, mineral processing plants, eroded sediments, deforestation, mining, littering, pesticides, herbicides, fertilizers , failing septic systems, house hold chemicals and animal wastes.

Water pollution is generally brought about by humans. It results from actions of humans carried on to better self. These could be treated under the various activities that man engages in, that lead to pollution. The growth of human population and their industrial and agricultural practices are the major causes of water pollution. Increase in population in urban areas is also a cause of water pollution, especially freshwater. Freshwater becomes polluted when sewage or the waterborne waste of society is discharged into them. Such practices of dumping sewage into freshwater sources like rivers and lakes happens quite often and is very dangerous to the health and well being of people. As more and more sewage is dumped, the amount of dissolved oxygen in the water reduces, which can severely affect the flora and fauna in these water bodies. So water pollution is not only a threat to humans, but also to every living thing.

When water bodies are polluted, they give out an obnoxious smell and would generally be devoid of aquatic life. Water pollution also occurs when hot water is discharged from cooling engines used in many industries. This leads to an increase in the overall temperature of the water and reduces metabolism of organisms, which in turn increases their oxygen demand. Effects of pollution may be better spotted in shallow, slow moving streams, than deep, fast moving rivers. Excessive amounts of fertilizers or detergents which gets washed down to rivers also increases pollution, and is a danger to life. Many chemicals which are a part of these fertilizers are carcinogenic in nature, and some like zinc sulphate and copper salts are non-biodegradable.

Chapter 3: Energy Management in Operations

(Sudheer Hanumanthakari and MN Rao)

Introduction

Globally there is a big rise in the number of Green Entrepreneurs. In India, organizations have increasingly started investing in Green technologies and Renewable energy sources. As per Stefanie Bauer (Project Manager and Technical Advisor, GIZ India) the funding in Solar Investments increased by 7-fold during 2010-11 (from $0.6bn to $4.2bn). Private Equity investments on clean technology are also increasing. This is helping the energy consumers to become a producer (a "prosumer") of renewable energy. Organizations are using distributed generation with renewable energy sources of all kinds and thus they are changing from energy consumers to producers of energy. With increase in multiple distributed prosumers there is a need for fundamental redesign of conventional Energy Management. Central Energy management between grid and load, local energy management between Renewable Energy sources and Energy storage devices need to be integrated. Apart from generating green energy, organizations worldwide are also practicing Energy Management Programs (EMP). EMPs are planned management approaches that establish how an organization will address its impacts on the environment.

While a lot of research is done to evaluate the reasons why organizations adopt EMP and the potential these energy strategies have for improving the environmental conditions (Bansal & Hunter, 2003; Darnall, 2006), questions still remain about whether organizations are using their EMPs to challenge their supplier networks to become more environmentally sustainable. An increasing number of governments worldwide have started to promote voluntary actions by private corporations to achieve their environmental goals. Compliance with environmental regulation has been reported as the most important stimuli for the support of environmental enhancement (Baylis, R., Connell, L. and Flynn, A., 1998). But, EMP adopters may have little reason to "green" their supply chains since they can market themselves as being environmentally proactive without undertaking any additional efforts. In spite of these concerns, the operational capabilities essential to adopt an EMP also may assist an organization's efforts to reduce its environmental impacts throughout its supply chain (Sarkis, 2001). In this chapter we will examine the potential EMPs have for promoting environmental sustainability through their networks of suppliers and customers.

Energy audits for industry and buildings

Energy audits are vital for assessing the energy performance of all major installations. Energy audits play a key role in developing an Energy Management Program (EMP) for an organization. The steps involved in an energy audit are:

1. Planning and preparation
2. Data gathering and review
3. Plant and building surveys and system measurements
4. Examination and assessment of current operating practices
5. Documentation and analysis of data
6. Reporting of the findings and recommendations

Chapter 4: Waste Management in Operations

(Siddhartha Kusuwaha and MN Rao)

Introduction

Waste is any material which is neither useful nor has any economic value to its owner/the waste generator. Wastes are categorized into solid, liquid, semi- solid and gaseous forms. The activities involved in integrated waste management strategy include waste generation, collection, transportation, recycling and final disposal of the waste. There are a number of different options available for the treatment and management of waste including minimization, re-use, recycling, energy recovery and land filling. This unit deals with overview of waste management and includes introduction to waste material, concept of wealth from waste, national and international scenario of waste management and overview of environmental laws and regulations focusing on waste management.

Introduction to Waste Material

Waste material includes all items that people no longer have any use for, which they either intend to get rid of or have already discarded. Additionally, wastes include- items which people are required to discard, for example, because of their hazardous properties. Several items that can be considered as waste include household rubbish, sewage sludge, wastes from manufacturing activities, discarded packaging items, cloths, polythene bags, tins, discarded cars, out of use mobile phones, old televisions, electrical items (e-waste), bio-medical waste (needles, syringes, soiled waste, body parts after surgery), used chemicals, garden waste, old paint containers, etc. Thus many of our daily activities can give rise to a large variety of different wastes arising from different sources. The place of generation of waste material which comes from households, commercial activities (e.g., shops, restaurants, hospitals etc.), industry (e.g, pharmaceutical companies, textile printing and dyeing, paper and pulp, electroplating and various manufacturers, etc.), agriculture, construction and demolition projects, mining and quarrying activities and from the generation of energy (eg., power plants). With such vast quantities of waste being produced, it is of vital importance that the waste is managed in such a way that it does not cause any harm either to human health or to the environment.

Municipal solid waste is generated by households, commercial activities and other sources whose activities are similar to those of households and commercial enterprises. It does not include other wastes arising from mining, industrial or construction and demolition processes. Municipal solid waste includes residual waste, bulky waste, and secondary materials from separate collection (e.g., paper and glass), household hazardous waste, street sweepings and litter collections. It is made up of materials such as paper, cardboard, metals, textiles, organics (food and garden waste), broken glass (from tube-lights and CFLs, discarded bottles), etc.

Industrial waste comprises many different waste streams arising from a wide range of industrial processes. Some of the largest waste generating industrial units include production of basic drugs and pharmaceuticals, electroplating of metals, food processing units, makers of beverage and tobacco products, wood and wood products production, paper and paper products units, textile printing and dying units, thermal power plants, manufacturers of petroleum and its products, dairy industries (milk and milk products), etc.

Chapter 5: Biomedical Waste Management

(Dennis Joseph and MN Rao)

Introduction

Waste is produced from all hospitals irrespective of their size. The waste from hospitals carries a higher potential for infection due to infectious waste and injury due to accidental needle prick. There is a risk for medical staff, patients, visitors, workers in support services and waste disposal facilities and the general public of getting infected. Around 20 blood borne diseases can be transmitted if the waste is not managed properly. The following types of occupational hazards can occur.

Any waste which contains infectious or potentially infectious particles are known as biomedical waste, a type of bio waste. There is a clear distinction between biomedical waste and other types of wastes like chemical, radioactive, universal and industrial waste. Most of such kind of biomedical wastes originate from medical laboratories or research laboratories. It is also generated from hospitals, health clinics, nursing homes, emergency medical services and offices of physicians, dentists and veterinarians. As biomedical waste contains infectious materials, it is restricted from releasing openly into the environment. Biomedical waste can also originate from morgues or funeral homes. Discarded tools from hospitals which were opened and used and which cannot be disinfected and reused are also said to be biomedical waste, as there is a possibility that they are contaminated with blood or other body fluids and has the ability to cause injury when it is not properly disposed. Discarded blood or objects with blood, used bandages, dressings, used gloves or any other medical supplies and laboratory waste are all classified as biomedical waste. So it is clear that biomedical waste can be solid or liquid. It can include cultures which are discarded, body parts from amputations and other animal or human tissues. Another category of biomedical waste are potentially contaminated sharps, which include used needles, scalpels and other devices which can penetrate skin and cause infection. Biomedical waste can be generated from activities such as disease diagnosis, prevention and treatment.

Biomedical waste has to be managed and disposed of properly. Proper disposal of biomedical waste is essential to protect the environment, general public who are at risk of exposure to these wastes. Biomedical waste is seen as an occupational hazard to healthcare and sanitation workers, and so the proper management and containment of biomedical waste is of paramount importance. Different steps have been identified in the management of biomedical waste, like generation, accumulation, handling, storage, treatment, transport and disposal.

The process of managing biomedical waste starts from the site where it is generated and accumulated. Proper care should be taken while collecting and handling biomedical waste. The containers used to collect biomedical waste must be strong and leak proof, and should be clearly marked with a biohazard symbol. Once biomedical waste is collected it might have to be stored until it is treated onsite or transported offsite for treatment and disposal. Different regulatory agencies have prescribed the best ways and modes in which to store biomedical waste. There are a lot of options and containers which may be utilized for storage. The process of handling occurs whenever the biomedical waste has to be transported from one place to another.

Chapter 6: Biomedical Waste Compliance Requirements

(MN Rao)

Introduction

The waste from hospitals carries a higher potential for infection due to infectious waste and injury due to accidental needle prick. There is a risk for medical staff, patients, visitors, workers in support services and waste disposal facilities and the general public of getting infected.

Biomedical waste management rules are framed to enforce safe practices in healthcare and allied sectors. By law, these establishments should comply with the rules framed under this section.

This unit explains. EHS- (Environment, Health, and Safety) concepts at length.

The forms to be filled by operators, Forms to be filled by transporters and Application for authorization and Accident Reporting .There is a need for understanding these concepts for proper implementation in the healthcare sector..

Definition

According to Biomedical Waste (Management and Handling) Rules, 1998 of India "Any waste which is generated during the diagnosis, treatment or immunization of human beings or animals or in research activities pertaining thereto or in the production or testing of biologicals.

The Government of India (notification, 1998) specifies that Hospital Waste Management is a part of hospital hygiene and maintenance activities. This involves management of range of activities, which are mainly engineering functions, such as collection, transportation, operation or treatment of processing systems, and disposal of wastes.

(Govt. of India, Ministry of Environment and Forests Gazette notification No 460 dated July 27, New Delhi: 1998: 10-20).

Exhibit 6.1: Form I (see rule 8)

APPLICATION FOR AUTHORISATION

(To be submitted in duplicate.)

To
The Prescribed Authority
(Name of the State Govt. /UT Administration)
Address.

1. Particulars of Applicant
   - (i) Name of the Applicant
     (In block letters & in full)
   - (ii) Name of the Institution:
     Address:
     Tele No., Fax No. Telex No.
2. Activity for which authorization is sought:
   - (i) Generation
   - (ii) Collection
   - (iii) Reception



Green Operations & Sustainability

Editor
Siddhartha Kushwaha

Green Operations and Sustainability

Editor:
Siddhartha Kushwaha

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Chapter 1: Green Monitoring and Control

(Arindam Ghosh and B Bhaskara Rao)

Introduction

Emissions and wastes are the raw and auxiliary materials which have mostly been purchased for a certain amount of money and are not been transformed into saleable products. Eco-Efficiency is high when nearly all raw and auxiliary materials are transformed to saleable products and waste is minimized. With rising customer awareness and regulatory pressure, organizations with Green monitoring and control systems (GMCS) will have a competitive advantage over companies that are unenthusiastic to embrace GMCS. Hence, across all type of manufacturing industries there is a shift in the focus towards GMCS from compliance to create value for shareholders and external stakeholders.

Air Quality Monitoring Systems

As climate change is considered as the most serious environmental concern for the mankind, globally the main spotlight of the international community is on monitoring the greenhouse gas emissions. In India also, the problem of air pollution is becoming a major health concern of the population. As per the Andhra Pradesh Pollution Control Board, an adult person breathes in about 20 thousand liters of air daily. The atmospheric air is a mixture of Nitrogen and Oxygen, with fractions of other gases such as Carbon dioxide, Argon, Water vapor and minute particles like dust. Even though clean air should be freely available to all plants and animals, human beings are gradually polluting it. The human interference with the environment is not only putting their health at risk, but also it's affecting the health of other animals too.

Rapid industrial and economic growth at developing countries such as India has increased urbanization and population pressure on both the local and national governments. The governmental agencies are under tremendous pressure to manage the urban environmental management systems to meet the needs of the expanding cities. Monitoring Air Quality has become a necessity for State & Central authorities to understand and take adequate steps to prevent air pollution and assess emission sources, in order to safeguard health and to the fight against the greenhouse gasses effect.

Kavi K. Khedo et. al., (2010), discussed about the Wireless Sensor Network Air Pollution Monitoring System (WAPMS) that is used in Mauritius to monitor the air pollution levels. WAPMS is a network of wireless sensors deployed at different locations in the island. An Air pollution monitoring system normally consists of:

- Gas Analyzers (for gases such as SO_2, H_2S, TRS, NO, NO2, NOX, NH3, CO, CO2, O3, THC, BTEX, VOC, etc.)
- Particulates Samplers (for TSP, PM10, PM2.5, PM1)

Figure 1.1 shows the Air Quality Monitoring System flow chart

Chapter 2: Role of Stakeholders in Green Operations

(Siddhartha Kushwaha and B Bhaskara Rao)

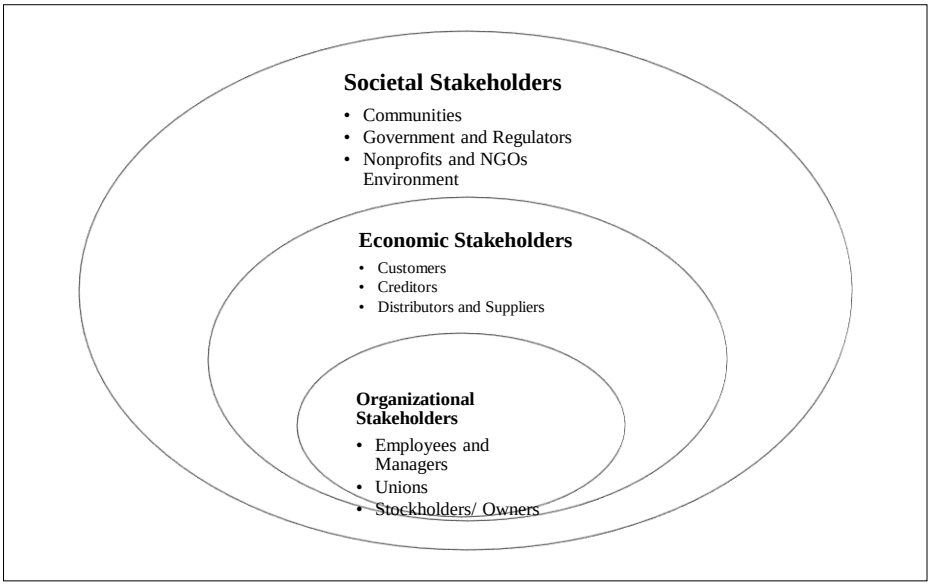
Introduction

Stakeholders play an important role in the implementation of environmental practices in the supply chain operations. Environmental practices can be implemented at the upstream of supply chain by using techniques such as green design, green marketing, and evaluation of suppliers' environmental performance. Downstream, environmental practices can be implemented by practicing recovery and recycling process after the product has provided its utility and also the disposal and sale of excess stocks with the support of external stakeholders. Within the firm, the "Organizational Stakeholders" can support environmental practices through the activities which are related to green design, green packaging and green manufacturing.

Types of Stakeholders

A firm has three types of stakeholders: Organizational stakeholders, Economic stakeholders, and Societal stakeholders. Organizational stakeholders are primary or internal to the company and are directly involved in development of a company. Societal stakeholders are secondary or external to the company and provide necessary elements for production of goods. The companies' economic stakeholders represent the interface between the organizational and societal stakeholders. The three layers of a company's stakeholders all sit within the larger context of a globalized business environment, driven by innovative technology that is increasing the importance of "Green Operations" for today's competitive business environment (Werther, Jr. and Chandler, 2006). Figure 2.1 shows a firm's stakeholders

Figure 2.1: A Firm's Stakeholders



Source: Werther, Jr. and Chandler, Strategic corporate social responsibility, pp. 4

Chapter 3: Sustainable Operational Performance

(Krishna Kumar Dadsena and B Bhaskara Rao)

Introduction

Now a days the relation of sustainability to the performance of operations management has grown significantly among the practitioners as well as academics for all business (Magon et al., 2018). Even though the importance of all three main pillars of sustainability namely: Economical, social and environmental have their impact on operational performance and management of any business. Therefore, considering the current and future concerning the impending energy crisis, growing environmental pollution and energy conservation practitioners have begun to explore the various facets of environmental sustainability in operational performance of their business (Van de Velde et al., 2010).

The environmental sustainability seems to be a big global concern. Issues such as, deforestation, Global warming, third world poverty, and climate change have captured everybody's attention. Researches globally done have shown the relationship between social well-being, environmental stewardship and economic activity (Carter and Rogers, 2008). In a period where environmental emergencies and need for social justice are increasing, corporate management can help companies to find a way to realize real sustainable businesses in view of their central role in the global economic and financial stability (Roberta Costa and Tamara Menichini, 2013). But, increased levels of involvement with sustainability activities represent additional job duties for corporate managers, and as such, add to their responsibilities of balancing traditional supplier criteria such as cost, quality, and delivery as well as coordinating intra and inter-firm flows of information (Preuss, 2005). Carter et. al. (2000) affirms these organizational expectations by asserting that firm environmental goals must be embedded with the company's management activities. They identify specific areas where firm's managers can make contributions such as buying recycled or reusable packaging, communicating company waste reduction goals to existing and potential suppliers, and using long-term life cycle perspectives when buying materials. In this chapter we will discuss how different environmental and social practices are helping companies in achieving sustainability goals.

What is environmental sustainability?

> "Cutting carbon in the supply chain is the next critical stage in the business contribution to reduce carbon emissions to tackle climate change and, represents a significant commercial opportunity"
>
> *– Tom Delay, Chief Executive, The Carbon Trust (2007)*

The above statement of a great mind clearly implies that those organizations who wish to survive in the cut throat competition and continue their business growth need to develop a sustainable strategy in successfully implementing green practices. The "UN Global Compact Office and Business for Social Responsibility (2010)" defines Sustainability as "the management of environmental, social and economic impacts, and the encouragement of good governance practices, throughout the lifecycles of goods and services."

Marketing Communication Tools and Techniques



Editor
Rishi Dwesar

Marketing Communication Tools and Techniques

Editor:

Rishi Dwesar

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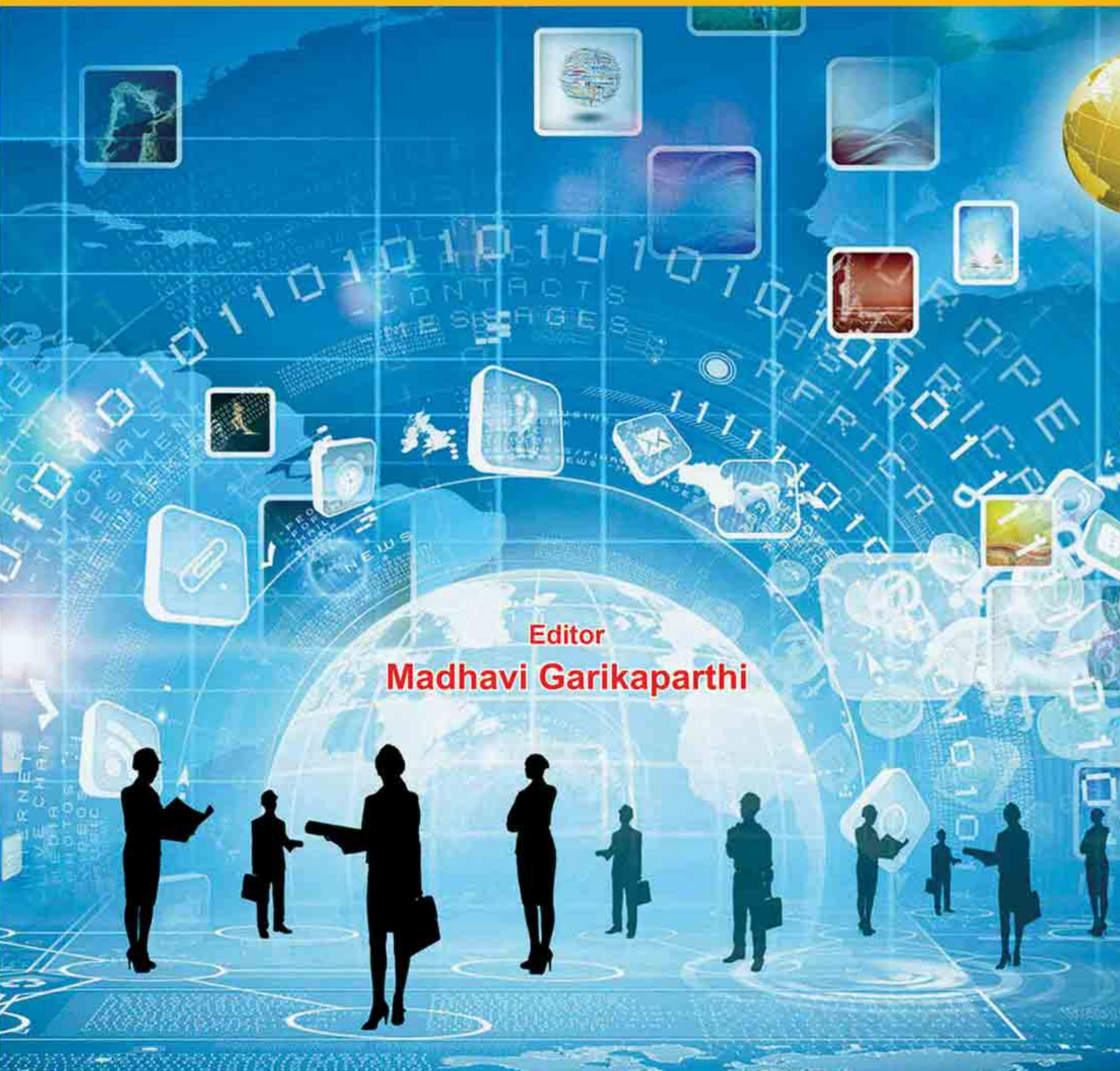
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Strategic Marketing and its Environment



Editor
Madhavi Garikaparthi

Strategic Marketing and its Environment

Editor:

Madhavi Garikaparthi

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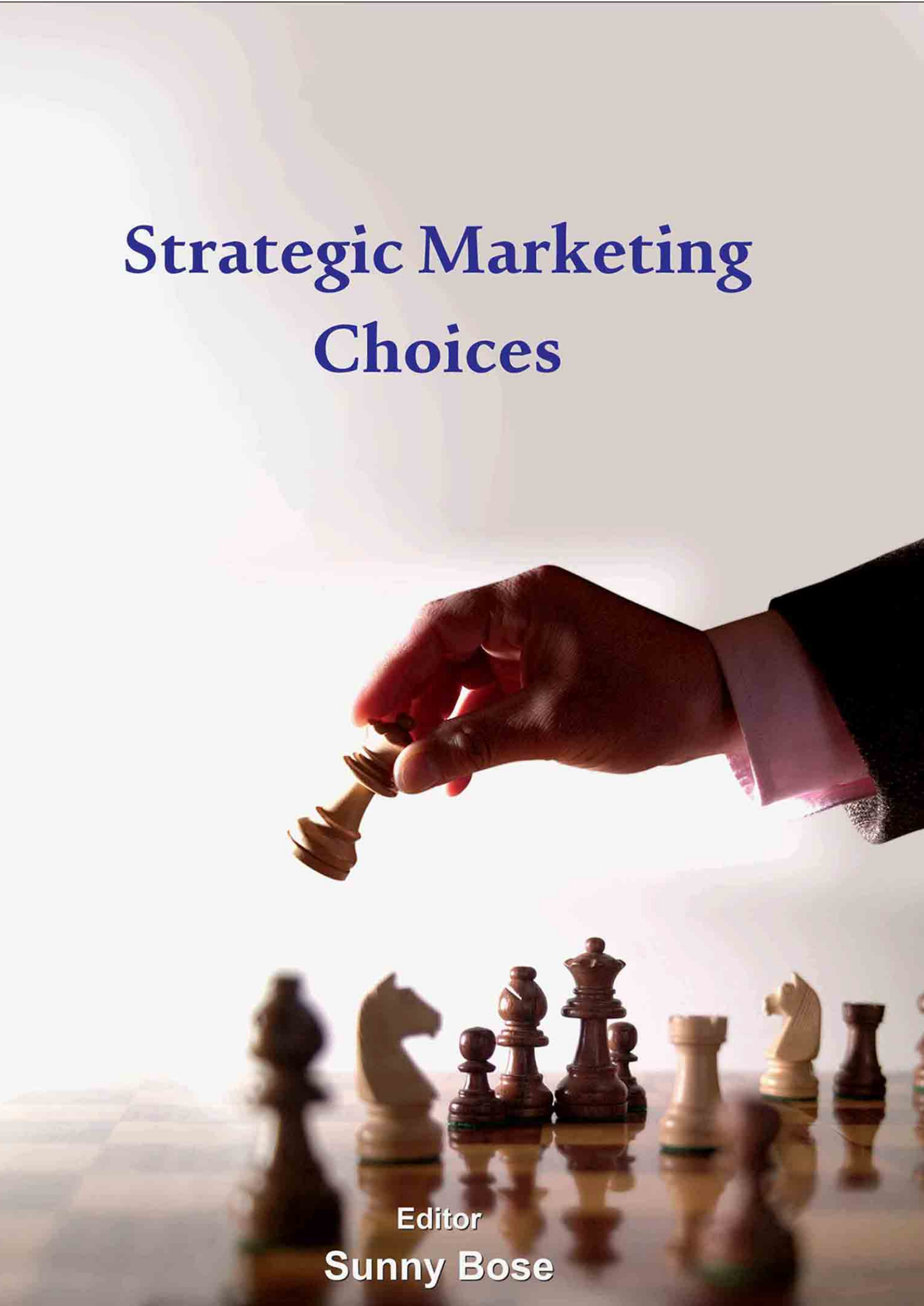
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Strategic Marketing Choices



Editor

Sunny Bose

Strategic Marketing Choices

Editor:

Sunny Bose

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Strategic Marketing and the Marketing Mix



Editor
Sunny Bose

Strategic Marketing and the Marketing Mix

Editor:

Sunny Bose

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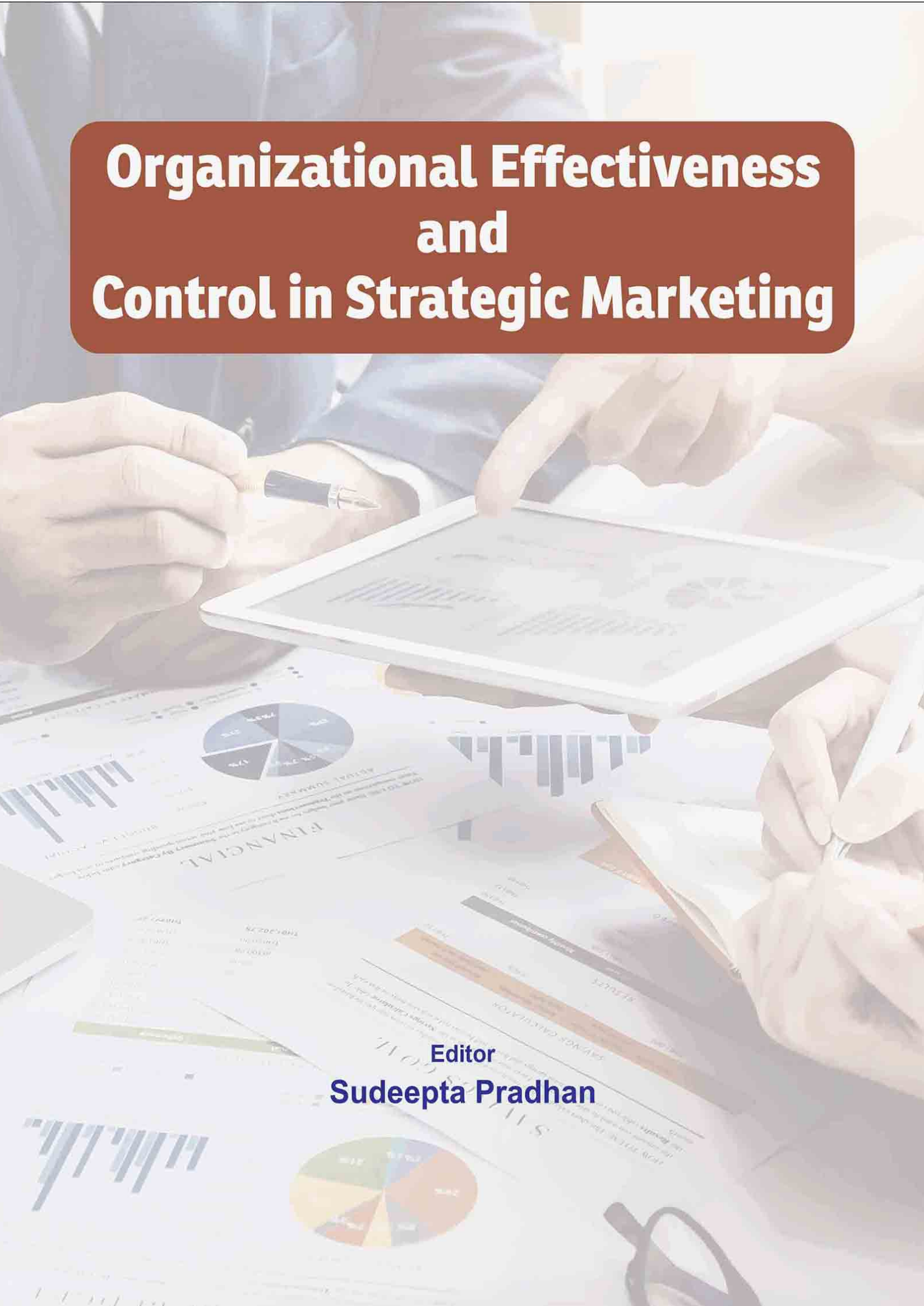
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Organizational Effectiveness and Control in Strategic Marketing



Editor
Sudeepta Pradhan

Organizational Effectiveness and Control in Strategic Marketing

Editor:
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New Age Strategic Marketing Management



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New Age Strategic Marketing Management

Editor:
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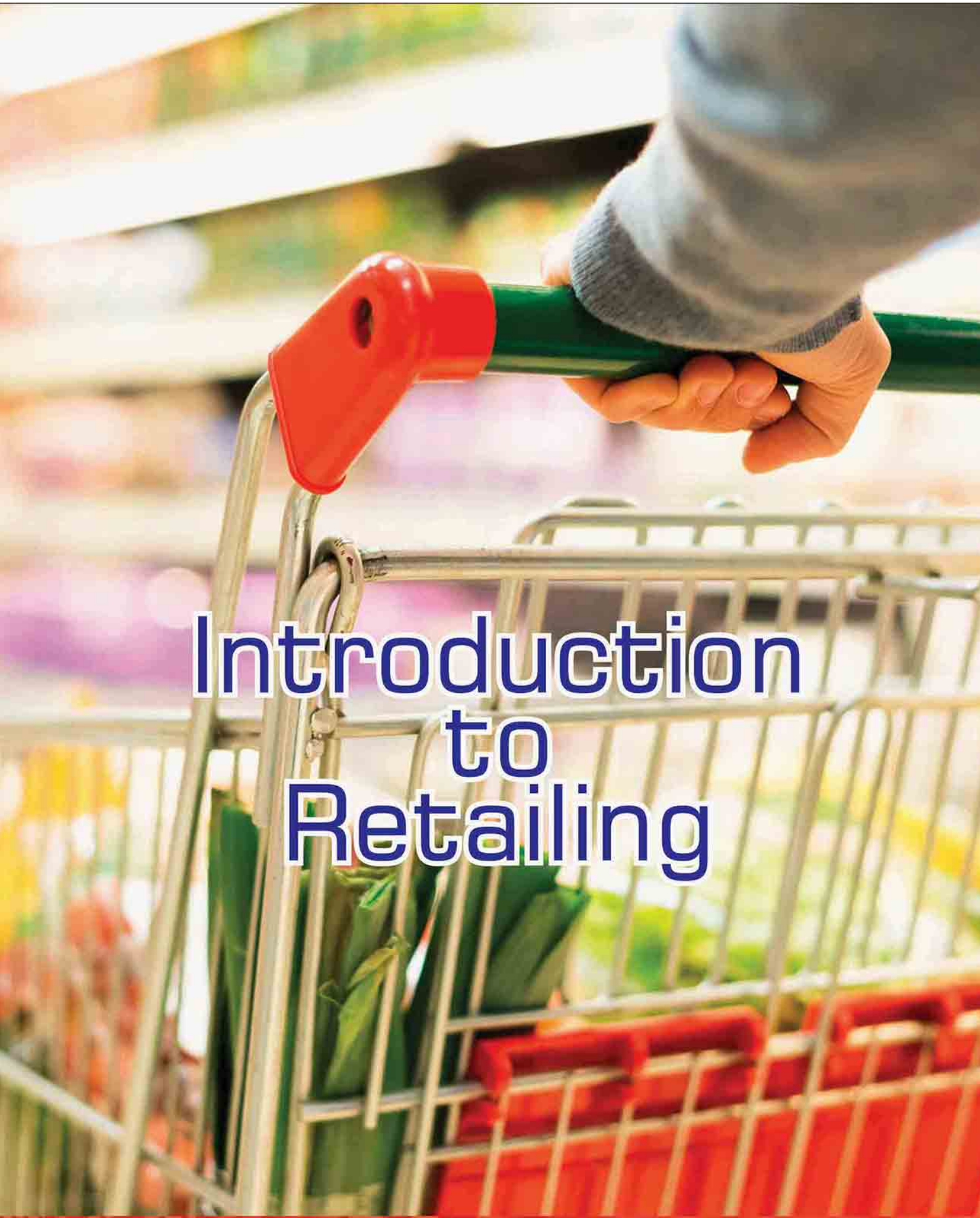
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Introduction to Retailing

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Introduction to Retailing

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Retail Strategy



Editor
Vaibhav Shekhar

Retail Strategy

Editor:
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Merchandise Management



Editor
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Merchandise Management

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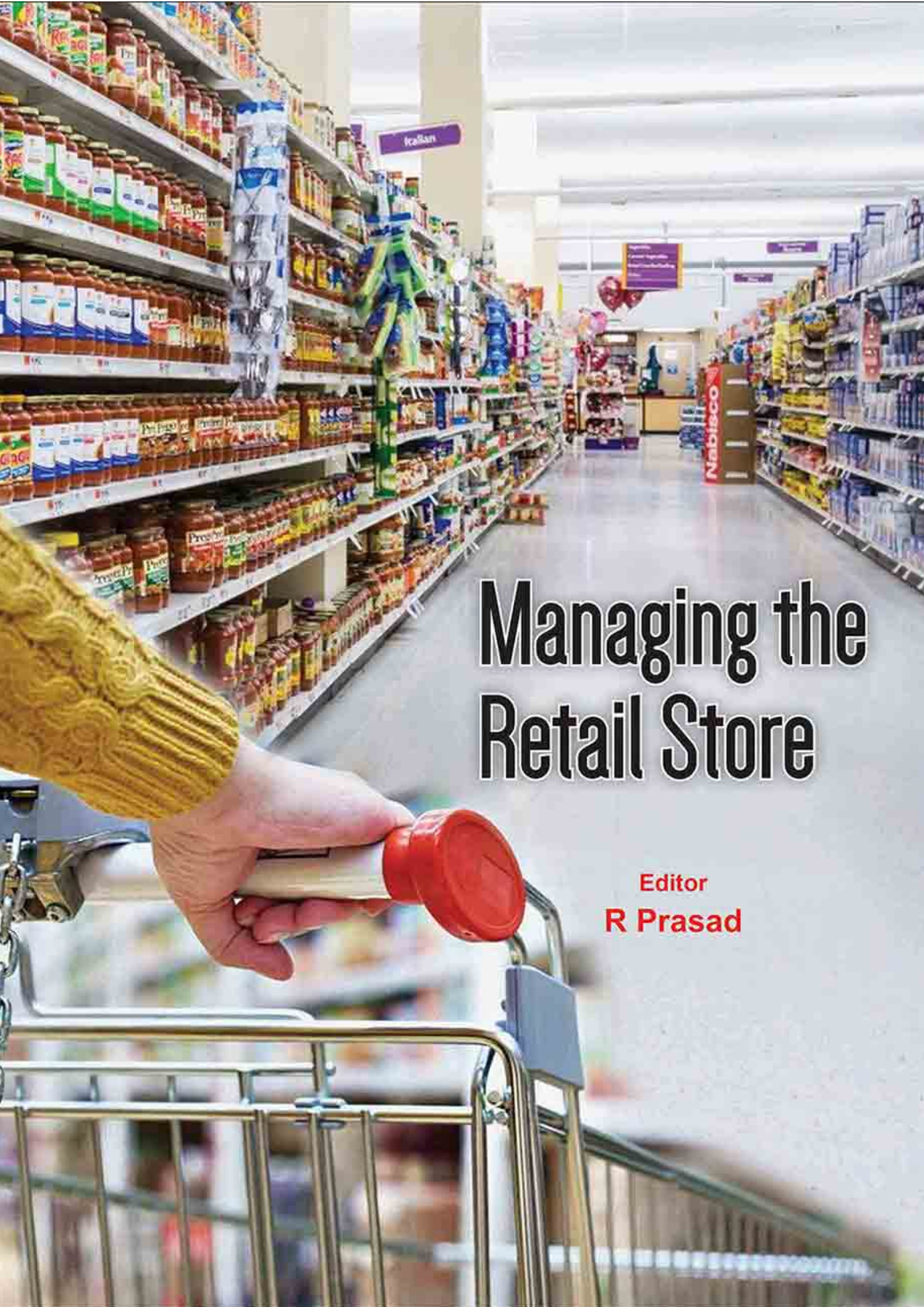
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Managing the Retail Store

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Managing the Retail Store

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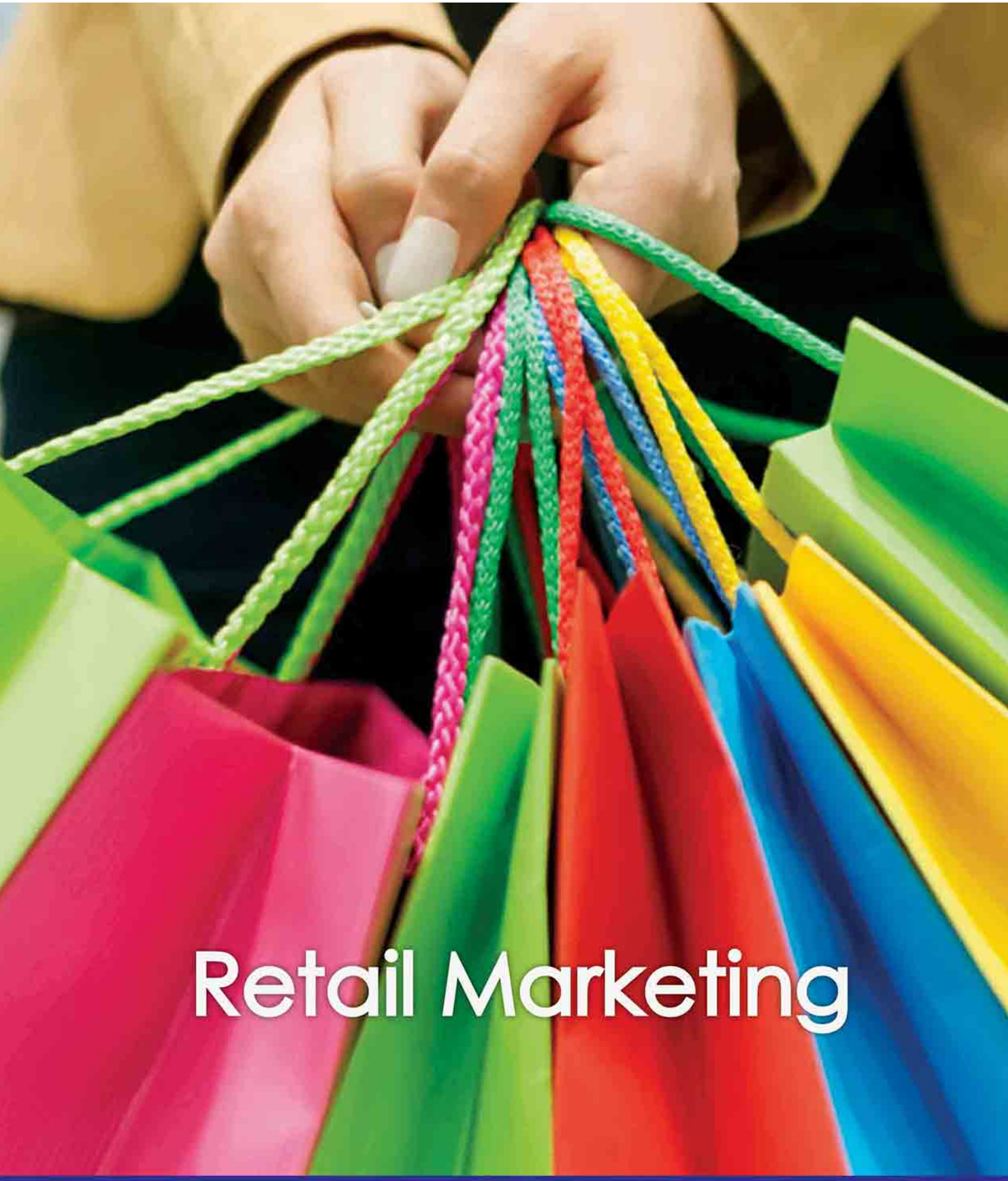
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Retail Marketing

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Retail Marketing

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Contemporary Issues in Retailing



Editor
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Contemporary Issues in Retailing

Editor:

Madhavi Garikaparthi

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Perspectives on International Marketing



Editor

Mohandas J Menon

Perspectives on International Marketing

Editor:
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International Marketing Strategy

Editor
Ankur Srivastava

International Marketing Strategy

Editor:
Ankur Srivastava

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International Marketing Mix



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Contemporary Issues in International Marketing



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Contemporary Issues in International Marketing

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Introduction to Services Marketing



Editor
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Introduction to Services Marketing

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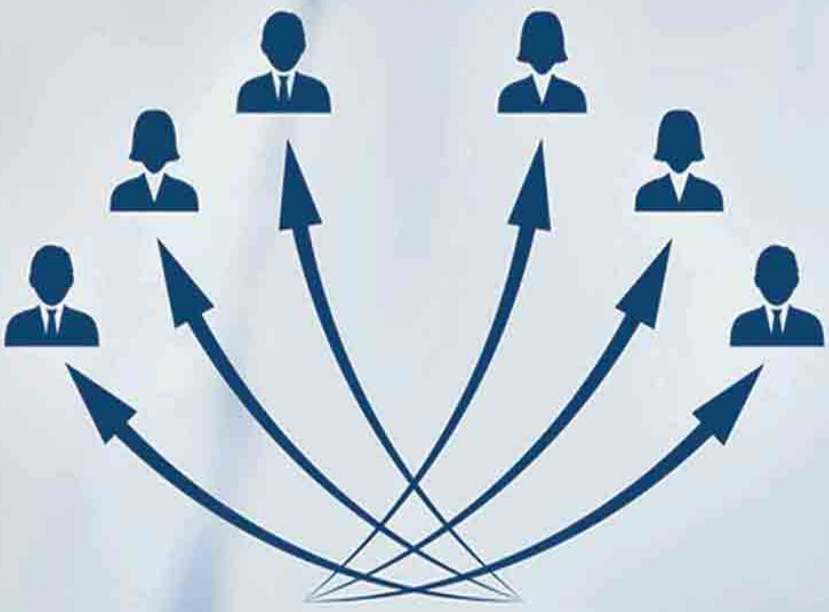
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Strategic Issues in Services Marketing



Editor
PVL Ramana

Strategic Issues in Services Marketing

Editor:

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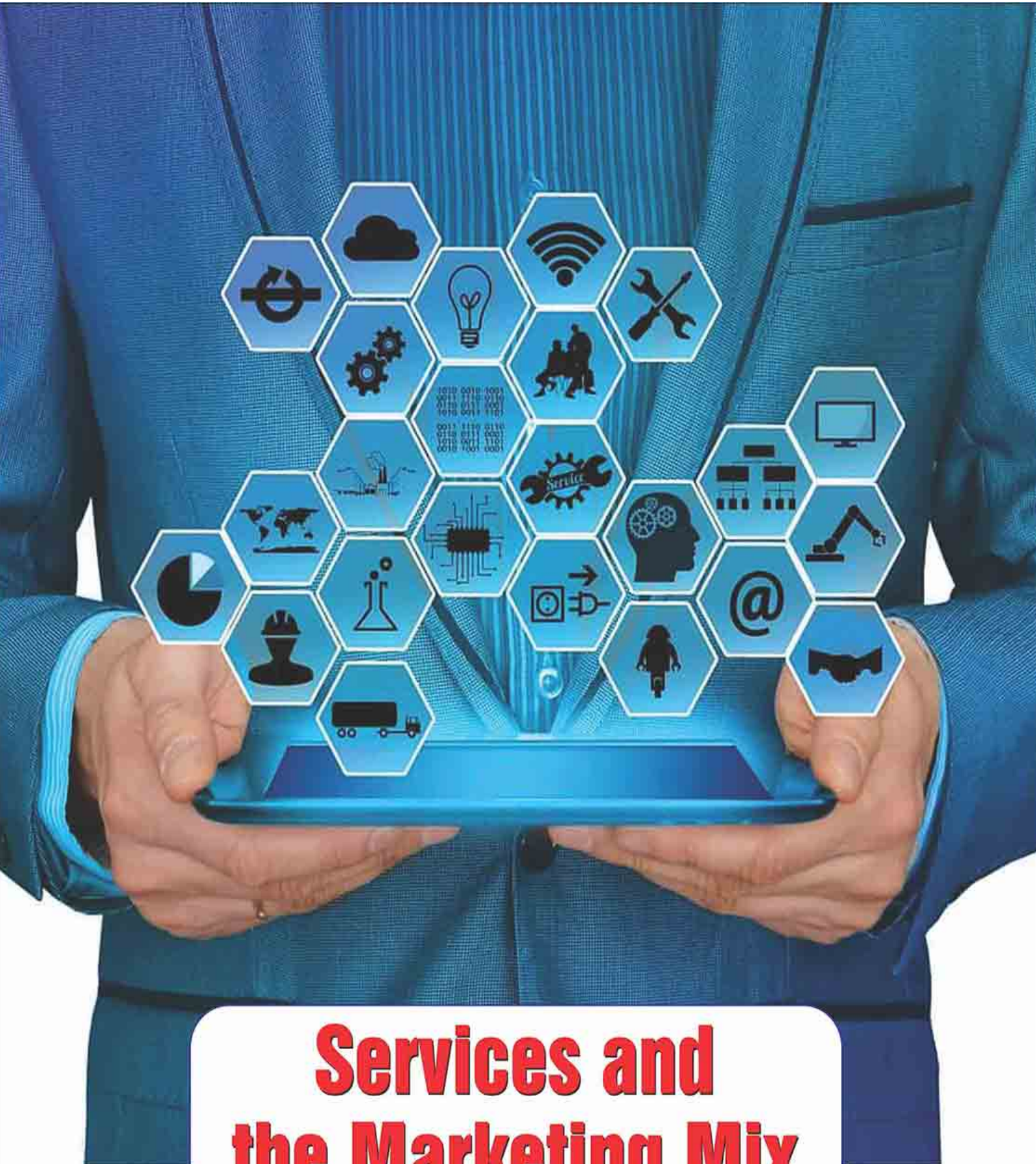
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Services and the Marketing Mix

Vol - 1

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Chakravarthi Koundinya

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Services and the Marketing Mix

Vol - 2

Editor
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Services and the Marketing Mix – Vol 2

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Maximizing Service Potential and Challenges for Senior Management



Editor
PVL Ramana

Maximizing Service Potential and Challenges for Senior Management

Editor:

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Introduction to Marketing Communications



Editor
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Introduction to Marketing Communications

Editor:
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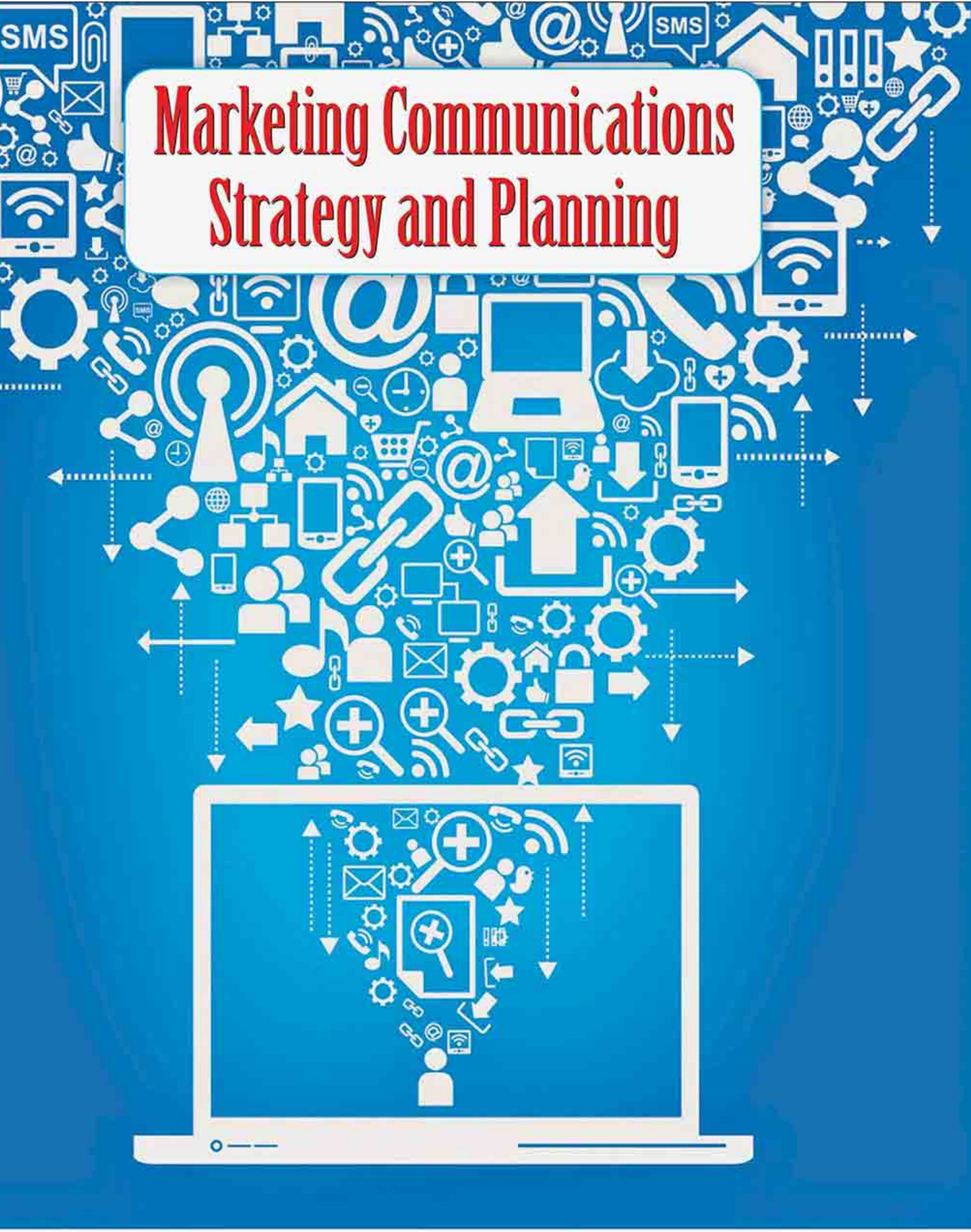
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Marketing Communications Strategy and Planning

Editor
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Editor:

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Marketing Communications Execution



Editor
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Marketing Communications Execution

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Dynamics of Marketing Communication



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Dynamics of Marketing Communications

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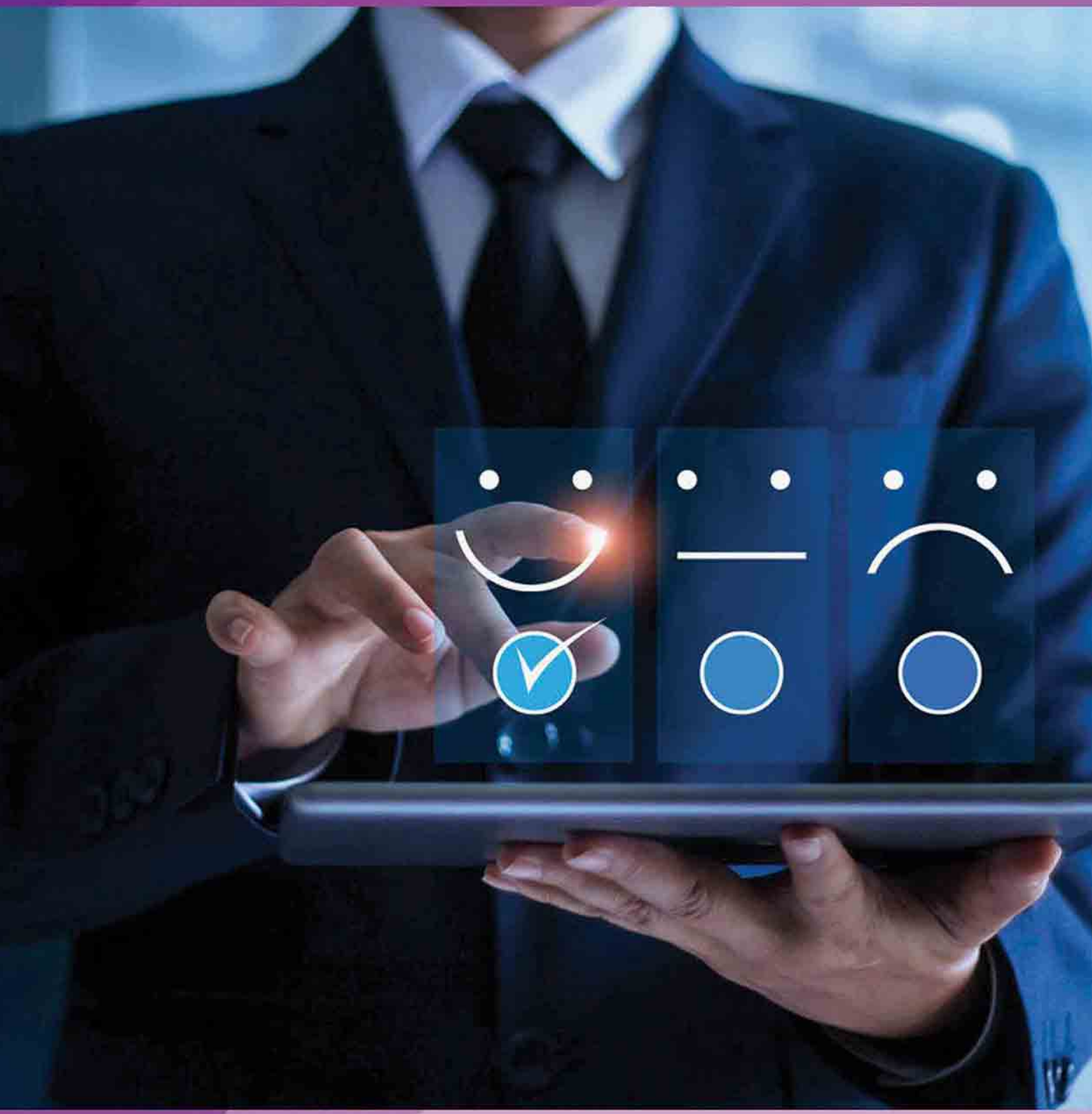
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Introduction to Customer Experience Management



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Introduction to Customer Experience Management

Editor:
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Customer Experience Management - Moment of Truth



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Customer Experience Management - Moment of Truth

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Dimensions of Patient Experience Management

Editor
Rashmita Saran

Dimensions of Patient Experience Management

Editor:
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Foundations of Marketing Management



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Foundations of Marketing Management

Editor:
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Product Development and Marketing Strategies



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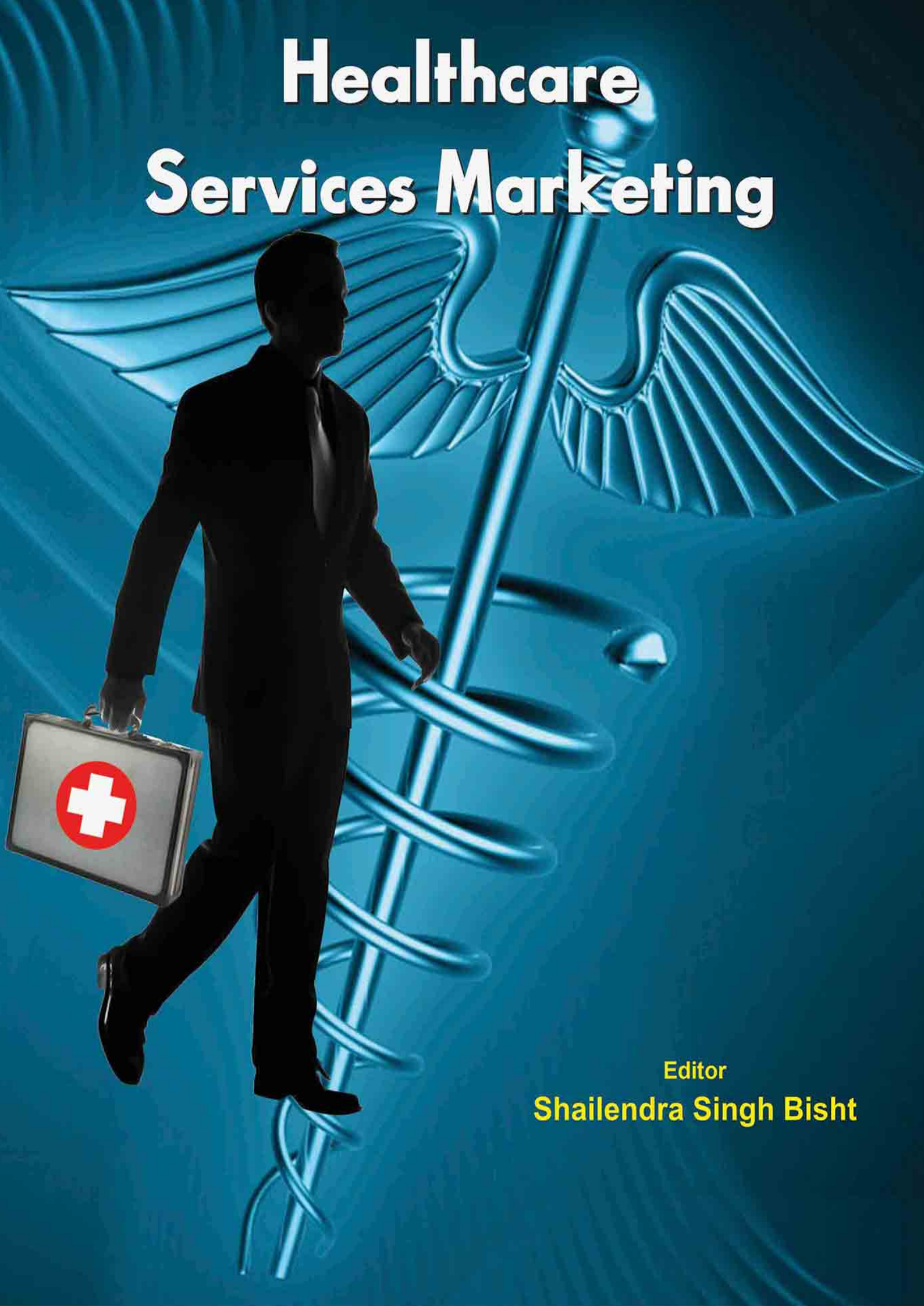
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Healthcare Services Marketing



Editor

Shailendra Singh Bisht

Healthcare Services Marketing

Editor:
Shailendra Singh Bisht

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Health Insurance



Editor
Sukanya Ashok Kumar

Health Insurance

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Sukanya Ashok Kumar

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Social Dimensions in Healthcare Public Relations



Editor
Sukanya Ashok Kumar

Social Dimensions in Healthcare Public Relations

Editor:
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Understanding Marketing Management and Buyer Behavior



Editor
Debajani Sahoo

Understanding Marketing Management and Buyer Behavior

Editor:
Debajani Sahoo

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Perspectives on International Marketing



Editor

Mohandas J Menon

Perspectives on International Marketing

Editor:
Mohandas J Menon

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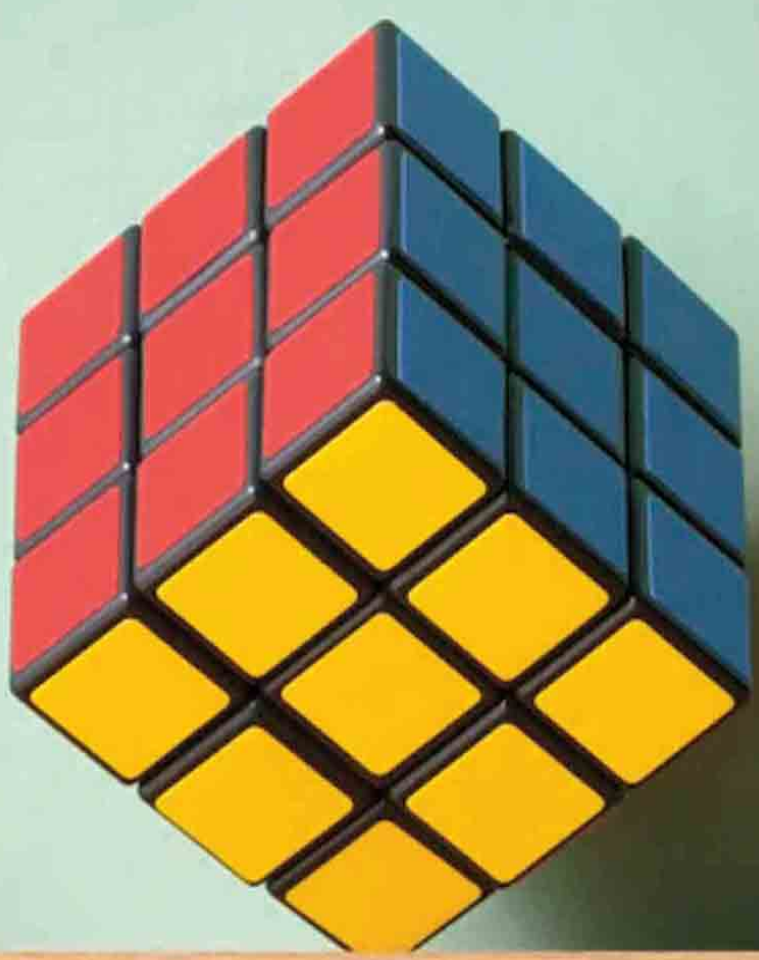
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The Marketing Mix

Vol - 1



Editor

Anuja Agarwal

The Marketing Mix – I

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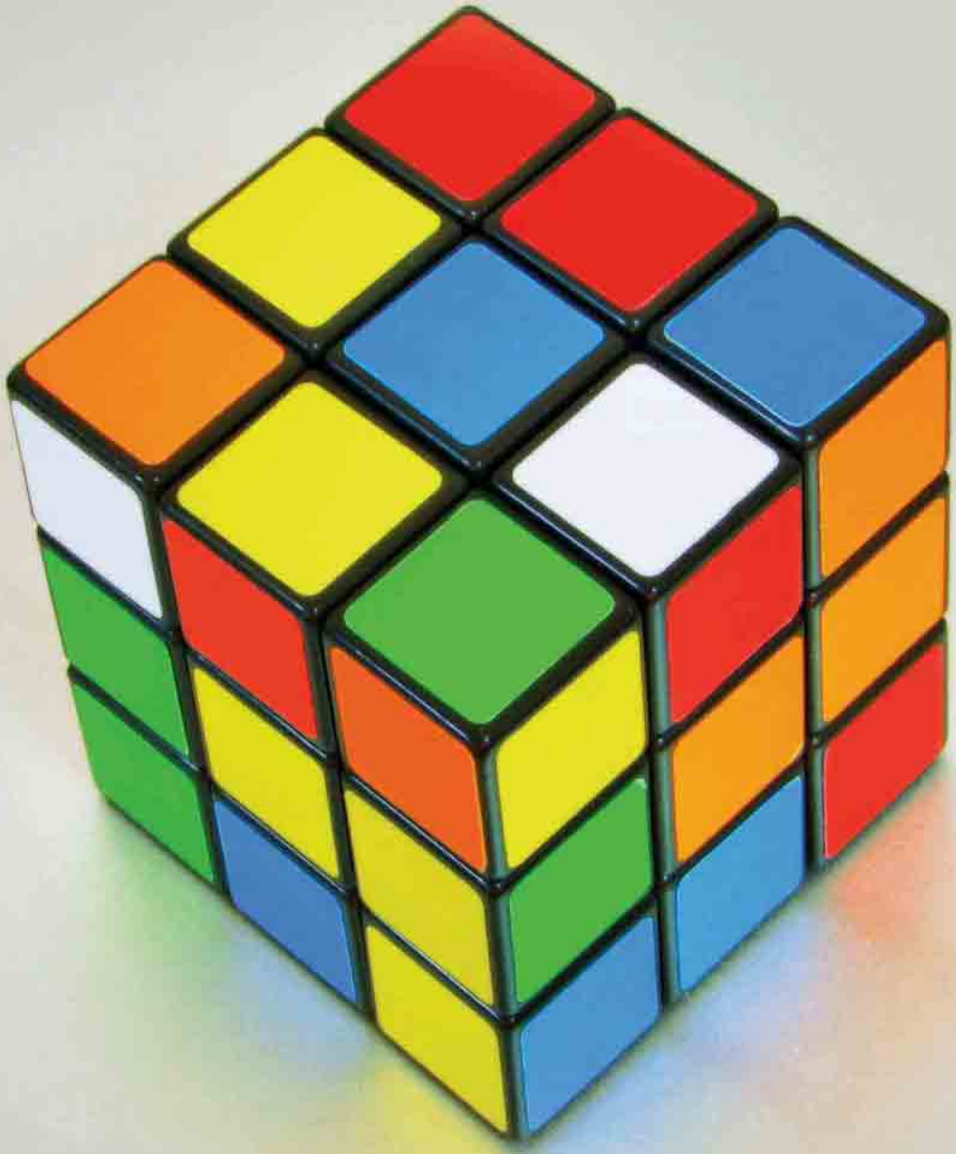
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The Marketing Mix

Vol - 2



Editor

Dwarakanath Siriguppi

The Marketing Mix – Vol II

Editor:
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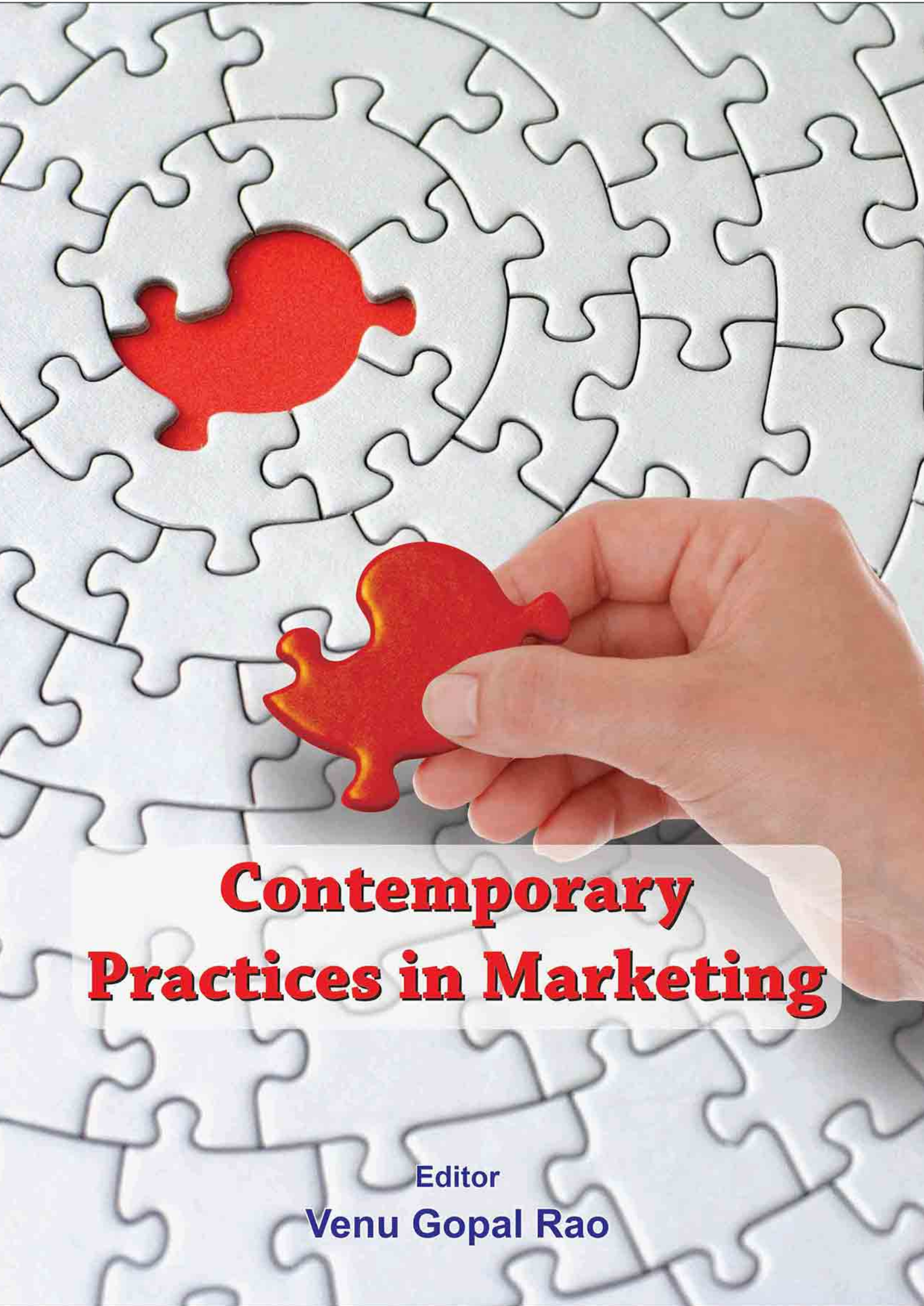
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Contemporary Practices in Marketing

Editor
Venu Gopal Rao

Contemporary Practices in Marketing

Editor:
Venu Gopal Rao

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Introduction to Technology Marketing



Editor
Shailendra Singh Bisht

Introduction to Technology Marketing

Editor:

Shailendra Singh Bisht

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Customer Management in Technology Marketing

Editor
Madhavi Garikaparthi

Customer Management in Technology Marketing

Editor:

Madhavi Garikaparthi

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Innovation and Product Management



Editor
Surjit Kumar Kar

Innovation and Product Management

Editor:

Surjit Kumar Kar

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Fundamentals of Management



Editor

Mohd Abdul Nayeem

Fundamentals of Management

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Chapter 1: Management: An Overview

(Rajasekhar David and Latha Revathy Nair)

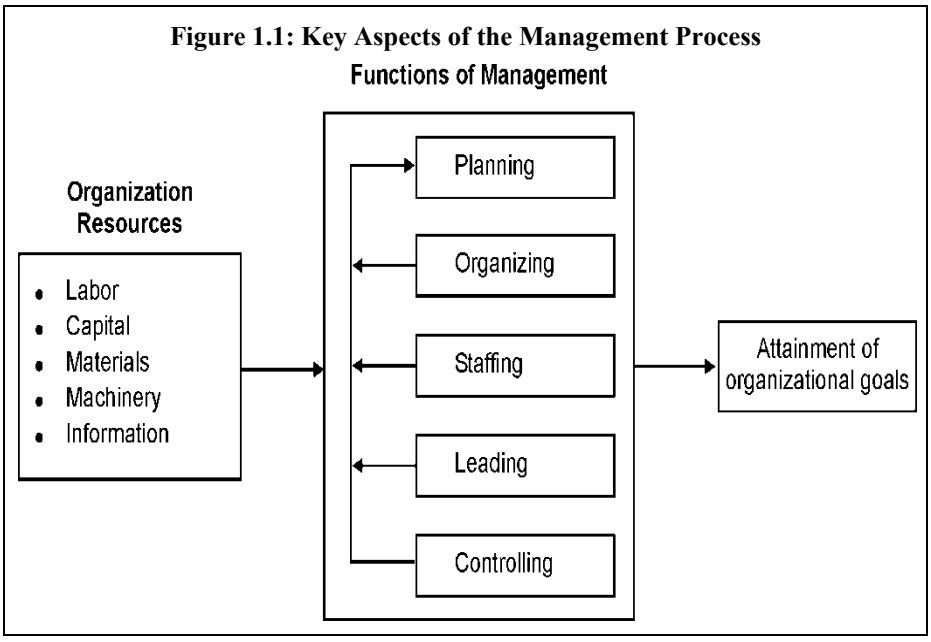
Introduction

This chapter provides an introduction to the concept of management. The term 'management' can be interpreted differently in different contexts. In one context, it may comprise the activities of executives and administrative personnel in an organization, while in another, it may refer to a system of getting things done. In a broad perspective, management can be considered as the proper utilization of people and other resources in an organization to accomplish desired objectives. Every organization works towards achieving some common goals and formulates methods to achieve these goals. Managers are the people within the organizations who play a vital role towards achieving the organizations' goals by monitoring and controlling the organizational activities. The chapter also explains the management skills required at various levels of the organizational hierarchy and various approaches to management.

Definition of Management

Management is the process of planning, organizing, leading, staffing, and controlling the activities of various resources within the organization through systematic, coordinated, and cooperative human efforts to achieve organizational objectives (Refer to Figure 1.1 for key aspects of the management process). Harold Koontz and Heinz Weihrich defined management as 'the process of designing and maintaining an environment in which individuals, working together in groups, efficiently accomplish selected aims.'

Figure 1.1: Key Aspects of the Management Process



Adapted from "Using Management Skills to Build Business Relationships," http://elearn.mtsac.edu/rjagodka/BUSM_20/chapter07.PDF.

Chapter 2: Evolution of Management Thought

Rajasekhar David and Latha Revathy Nair

Introduction

The previous chapter discussed various approaches to management and the functions of management. In this unit, we will discuss about the evolution of management thought.

The evolution of management began with the Industrial Revolution which occurred in the mid-1700. The earliest contribution to the concept of management can be traced to Robert Owen, a British factory owner who was concerned about the work environment of his workers and executed reforms in the operational process. In the nineteenth century, Charles Babbage advocated the principles of division of labor. Henry Robinson Towne, president of the Yale and Towne manufacturing company, focused on the development of management as a separate field of study and suggested the application of management principles to business situations. However, the development of management thought as a systematic study is a phenomenon of the twentieth century.

This unit discusses the evolution of management thought.

Early Approaches to Management

The Industrial Revolution, which began in Europe in the mid-1700s, was the starting point for the development of management concepts and theories. The rapid growth in the number of factories during this period and the need to coordinate the efforts of large number of people in the production process necessitated the development of management theories and principles. Many theorists and practitioners in the mid- and late 1800s (preclassical period) contributed valuable ideas that laid the foundation for subsequent, broader inquiries into the nature of management. Five principal contributors can be identified in this early period of development of management thought: Robert Owen, Charles Babbage, Andrew Ure, Charles Dupin, and Henry Robinson Towne.

Robert Owen: Human Resource Management Pioneer

Robert Owen (1771-1858) was a successful British entrepreneur in the early 19th century. He was one of the earliest management thinkers to realize the significance of human resources. He believed that workers' performance was influenced by the environment in which they worked. He proposed legislative reform that would limit the number of working hours and restrict the use of child labor. At his own factories, he introduced a standard working day of 10½ hours and refused to employ children under the age of ten. Owen's proposals were opposed by his business partners and were considered radical (child labor and long working hours were common practices during this era). He tried to improve the living conditions of his employees by ensuring basic amenities like better streets, houses, sanitation, and setting up an educational establishment in New Lanark.

Owen recommended the use of a "silent monitor" to openly rate an employee's work on a daily basis. Blocks of wood were painted in four different colors, with each color signifying a certain level of accomplishment. Depending on the productivity of the

Chapter 3: Managerial Functions

Asha Binu Raj and Latha Revathy Nair

Introduction

Managerial functions refer to the different roles and responsibilities of managers, who need certain skills to execute these functions. According to Mintzberg, there are five functions of management: planning, organizing, staffing, coordinating and controlling. Motivation is also considered as an important function of management. Planning is a prerequisite not only for achieving success but also for surviving in a complex and competitive world. The organizing function of leadership controls the overall structure of the company. The main purpose of staffing is to hire the right people for the right jobs to achieve the objectives of the organization. Leading is the art of influencing people to achieve group goals. The controlling function involves setting strategic and operational goals. This unit discusses all the managerial functions with suitable examples.

Planning

Planning is the process of bridging the gap between where we are and where we want to be in the future. In other words, planning is "looking ahead, relating today's events with tomorrow's possibilities." It is the process of deciding in advance what to do, how to do, when to do it, and who does what. Proper planning minimizes risk and ensures that resources are efficiently and effectively utilized.

Definition and Nature, Types and Significance of Planning

Definition

Peter Drucker defined planning as "a continuous process of making present entrepreneurial decisions (risk taking) systematically and with best possible knowledge of their futurity, organizing systematically the efforts needed to carry out these decisions and measuring the result of those decisions against the expectations through an organized systematic feedback." Thus, planning is the process of coping with uncertainty by formulating **a** future course of action to achieve specified results.

Nature of Planning

- **Planning is Goal-oriented:** Planning is a means for achieving set goals or objectives.
- **Planning is an Intellectual and Rational Process:** Planning requires managers to apply their imagination, creativity and their analytical skills to tackle problematic situations.
- **Planning is the Primary Function:** Planning is the initial activity in the management process. All other functions of management, i.e. organizing, staffing, directing and controlling, can be carried out efficiently only if they have been properly planned.

Chapter 4: Social and Ethical Responsibilities of Management

Preshita Neha Tudu and Latha Revathy Nair

Introduction

The previous two units, Unit 1 and Unit 2, have provided an overview of management and evolution of management thought, respectively. These two units have dealt with the basics of management and the approaches to management. As discussed in Unit 2, organizations function more effectively if they operate as open systems, interacting with and responding to changes in the external environment. Since such organizations are affected by changes in the external environment, managers must understand the nature of this environment. Managers must identify and react to forces, which affect organizations and the relationship between business and society. They are expected to anticipate and resolve social problems.

This unit discusses the social responsibilities of management and the arguments for and against social responsibilities of business. The unit also explains the ways to measure social responsiveness and presents some guidelines for ethical management.

Social Responsibilities of Management

A business operates in a society continuously interacting with it and can never function in isolation. Every part of the society contributes towards the conduction of the business smoothly eventually resulting in success of a business. It take its inputs like money, machines, manpower, material, etc., from its society. The output, thus, generated from inputs, the organisation sells it to the different strata of society. The business, for its very existence, depends on the society both for the procurement of required input and disposal of its output. Thus, it becomes imperative and obligatory that the business also give back to the society something good. This responsibility of business towards the society is called social responsibility. It is the responsibility of the business organization to serve and safeguard the social interests of the society it is operating in. Business organizations can aid in the development of weaker sections of the society, backward community, agriculture, social welfare and can also lead towards community development.

"Social responsibility is to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society." —Howard D. Bowen

According to Kenneth R. Andrews, "Social responsibility is the intelligent and objective concern for the welfare of society that restrains individual and corporate behavior from ultimately destructive activities, no matter how immediately profitable, and leads in the direction of positive contribution to human betterment, variously as the latter may be defined."

A socially responsible firm never works only for the maximization of organization's profit but also works towards the welfare of different sections of the society. Social

Fundamentals of Organizational Behavior



Editor
Sharda Singh

Fundamentals of Organizational Behavior

Editor:
Sharda Singh

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Fundamentals of Organizational Behavior

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Chapter 1: Understanding Organizational Behavior

(Niraj Kishore Chimote and PVL Ramana)

Introduction

With the advent of globalization, organizations are employing people from different cultural and ethnic backgrounds. In order to facilitate the smooth functioning of their organizations, managers have to effectively manage the most important resource available to them i.e. human resources. This is where organizational behavior plays an important role. Organizational behavior is a study that helps managers in understanding and analyzing the nature of an organization's workgroups and the individuals within a workgroup.

This chapter will discuss the various management roles and skills, and provides a theoretical framework for organizational behavior. It also discusses the challenges and opportunities of Organizational Behavior.

Behavior is the way in which one acts or conducts oneself, especially towards others. Behavioral science deals with the understanding of interpersonal skills and team skills. It also analyzes the impact of organizational systems on people's behavior.

Organizational behavior deals with two kinds of behavior of people at work.

- Behavior of people as individuals
- Behavior of people as groups

Stephen Robbins defines OB as "the field of study that investigates the impact that individuals, groups and structure have on behavior within organization for the purpose of applying such knowledge towards improving an organization's effectiveness."

OB is a study that analyzes and explains the behavior of the workforce acting as individuals and as groups in an organization. It attempts to apply this knowledge in the effective management of human resources in an organization. OB is a discipline that studies the effect of organizational structure and design, and the changes in the organizational environment on the behavior of the workforce. According to Fred Luthans, OB is "the understanding, prediction, and management of human behavior in organizations."

OB is considered as an applied science as it provides theoretical concepts that are applicable to real life situations. The knowledge gained with regard to the OB practices of one organization may be applied to several other organizations. Thus, OB can be defined as the systematic study and application of human aspects in the management of an organization.

Social sciences like psychology, sociology, philosophy, political sciences, and economics along with research studies contribute to the constant improvement and development of OB as a scientific discipline.

Chapter 2: Foundations of Human Behavior, Human Relations and Organizational Behavior

(Raghavendra Sode and R. Muthu Kumar)

Introduction

The previous chapter discussed management roles and skills, and provided a theoretical framework for organizational behavior. This chapter is about the foundations of human behavior and development of human relations and organizational behavior.

Several contributions have been made from various other disciplines such as psychology, sociology, anthropology, economics and political sciences in developing the subject of human relations and organizational behavior. Further, research studies conducted at different places in the world and the theories proposed by many researchers have helped in the development of OB.

Organizations and human beings are inseparable from each other. Understanding human behavior is associated with learning. Learning can be referred to as a relatively permanent change in an individual's beliefs and attitudes as a result of experience gained by him or her over a period of time. The nature of tasks assigned to employees also influences their behavior in the organization. All this will be taken up for discussion in this unit.

Objectives

Definition of Human Relations and Organizational Behavior

Human Relations

In the general context, the study of human relations deals with the interaction between different kinds of people. But in the organizational context, human relations consist of the interaction of people while performing their organizational tasks. SG Huneryager and IL Heckmann defined human relations as "A systematic developing body of knowledge devoted to explaining the behavior of individuals in the working organization."

Keith Davis defines human relations as "Motivating people in organizational settings to develop teamwork which accomplishes individual as well as organizational goals effectively."

Organizational Behavior (OB)

OB is all about studying how people act as individuals and as groups within organizations and applying this knowledge to better organizational functioning. Fred Luthans defines OB as "the understanding, prediction, and management of human behavior of organizations." OB can be defined as implementing human aspects in managing an organization.

Chapter 3: Diversity and Ethics

(M. Sitamma and PVL Ramana)

Introduction

The previous chapter discussed human behavior and the influence of internal and external factors on human behavior. This chapter is about diversity and ethics.

Diversity in organizations is increasing in the 21st century and managing people coming from diverse cultures in an organization is posing a challenge to managers. The people being appointed in the managerial positions are also selected from diverse backgrounds. When managers know the reasons for the emergence of diversity in their organization and its nature, they are able to better manage such diversity.

Ethics are the rules and standards which govern a person's behavior. Various factors in the cultural, organizational, and external environment along with individual and group behavior have an influence on the ethical behavior of an individual

This unit will describe the concept and nature of diversity, reasons for emergence of diversity and will discuss managing diversity in organizations. It will also explain ethics and ethical behavior in organizations.

Concept and Nature of Diversity

All individuals are different. They differ in performance level and working style. They differ in ethnicity, age, gender, culture, social class, abilities and home language. Some individuals have disabilities, and some are talented. These and other differences can have important implications for employee performance, satisfaction, organizational policies & practices. As all individuals are different from one another in many ways, diversity exists in many different forms and it is important for managers to understand and manage this diversity effectively.

Thus, diversity refers to the ways in which people are similar and different from each other in terms of dimensions such as age, sex, physical ability, generation, social class etc. Workforce diversity refers to a workforce who belongs to different cultural groups and thus has different qualities. When managers know the reasons for the emergence of diversity in their organization and its nature, they are able to better manage such diversity. This requires a set of skills for working effectively with a mix of people from different backgrounds, social classes, communities, of different ages and gender, and of different national and international cultures. Interpersonal sensitivity and respect for other cultures are essential if diversity is to be valued. Proper diversity management can lead to competitive advantage for organizations. Exhibit 3.1 illustrates how Ikea maintains gender equality.

Exhibit 3.1: Ikea Focuses on Gender Equality

Ikea India aims to become truly gender equal by 2022. This means that they will ensure equal opportunities for both women and men, and reach 50-50 gender balance in every unit, function, and level. It shows that they aim to build an organization that values gender diversity.

Contd….

Chapter 4: Managing Communication

(Asha Binu Raj and K. Veena)

Introduction

The previous unit was about Diversity and Ethics and dealt with issues like reasons for emergence of diversity, diversity management and ethical behavior in organizations. This unit is about managing communication in an organization.

Communication involves the exchange of ideas, thoughts, feelings, experiences, events, etc. It is an integral part of an individual's life. It is therefore inevitable that individuals in organizations communicate with each other. Hence, communication is a necessary component in the effective management of organizations. A proper channel of communication ensures an effective flow of information to all departments, co-ordination among the employees, identification of goals and the means to achieve those goals, etc. Therefore every organization strives to implement a communication channel that facilitates smooth functioning of the organization

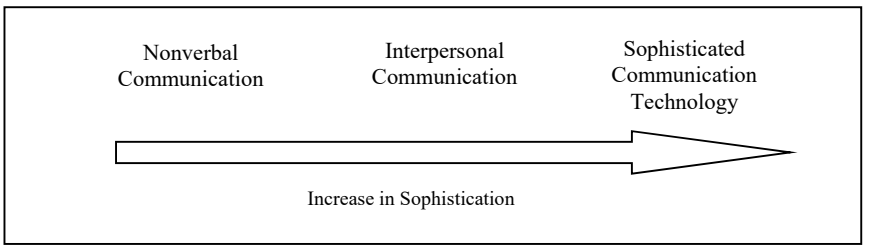
This unit will explain the historical background of the role of communication in organizations, importance of communication. It discusses different types of communication, barriers to communication and communication technology.

Definition of Communication

From the organizational point of view, communication is a process whereby two or more individuals exchange ideas and thoughts among themselves. Communication between members of an organization is a never ending process. It helps an individual to understand the people and environment of the organization in which he/she is working.

Figure 4.1 depicts a continuum showing the increase in sophistication of communication.

Figure 4.1: The Continuum of Communication in OB



Source: ICFAI Research Center

Historical Background of the Role of Communication

Classical management theorists emphasized only the one-to-one communication between superior and subordinate. This type of communication is based on the principle of 'chain of command.' However, organizations that follow this method of communication may not be able to communicate effectively. This is because communication between the top management and the employees is hindered by the



Individual Behavior in Organizations

Editor
A Kranthi Kumar

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Individual Behavior in Organizations

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Chapter 1: Personality and Attitudes

(Smita kulkarni and PVL Ramana)

Introduction

An individual's personality traits and attitudes determine his/her behavior to a large extent. Invariably, these factors also have an impact on the person's behavior at the work place. Hence, a study of the influence of personality and the attitudes of human beings is helpful in getting a better understanding of organizational behavior.

This chapter deals with Personality determinants and attributes that influence organizational behavior and explains the various theories of personality development. The chapter also describes the concept, sources, types and functions of attitudes.

Meaning of Personality

Personality is the psychological characteristic of human beings that influences the way people behave when they interact with others and react to a particular situation. Psychological characteristics are determined partly by heredity and partly by the environment of an individual. According to psychologists, personality is a dynamic concept that describes the growth and development of a person's psyche. The following factors play a vital role in determining the performance of an individual:

Personality Traits

There are five important personality traits that form the basis of an individual's behavior. They are:

Extroversion: Extroverts are those people who have a high degree of comfort in interacting with others. They are sociable, friendly, and outgoing in nature. On the other hand, introverts are reclusive in nature. They avoid developing new relationships and hesitate to interact with people. These traits play a great role in behavior as well as the attitude of employees toward their jobs as well as the organization. For instance, an extrovert would be highly satisfied as a public relations (PR) officer.

Agreeableness: Individuals who give preference to group interest rather than to their individual interests in order to maintain peace and accord are said to be agreeable in nature. Employees with such a personality trait help in developing a good working relationship in the organization. On the contrary, less agreeable people are more self-centered and give preference to their individual needs.

Conscientiousness: Individuals who are very conscientious are generally very responsible and achievement-oriented in nature. They set specific goals and dedicate themselves to the achievement of that goal. In organizations too, such people perform their jobs better and strive toward achieving of organizational goals. Less conscientious people set a number of goals but fail to achieve any of them.

Emotional Stability: Emotionally stable people can endure stressful situations. They tend to feel emotionally secure. Such people can overcome tensions and perform their jobs effectively even under severe pressure.

Chapter 2: Motivation

(Prerna Chhetri and R. Muthu Kumar)

Introduction

The previous chapter was about personality and attitudes, which discussed issues like personality traits, personality determinants and attributes that influence organizational behavior. This chapter is about Motivation.

Motivation is a psychological phenomenon and is regarded as the cause of behavior. Motivation along with perception, learning, personality, and attitudes helps in analyzing human behavior. In an organizational set-up, managers need to motivate employees to ensure greater commitment on the part of employees. Motivation is constituted by elements such as needs, drives, and incentives. Knowledge about these elements helps in understanding motivation.

This chapter discusses the various motives of individuals and the theories of motivation.

Definitions of Motivation

Different theorists and practitioners of management have defined motivation in different ways. The term motivation is derived from the Latin word 'movere' which means 'to move.'

According to Stephen P. Robbins, motivation is "the willingness to exert high levels of effort toward organizational goals, conditioned by the effort's ability to satisfy some individual need."

Motivation is a condition which causes a certain behavior in an individual to achieve certain goals, and is initiated by physiological or psychological deficiency or need in an individual.

Needs, drives, and incentives are the elements of motivation. Needs are the basis for drives, which in turn, form the basis for achieving incentives.

Needs

Need is created by a physiological or psychological imbalance. Psychological needs may arise sometimes without any deficiency or imbalance. For instance, people who have a strong need to progress may strive continuously to achieve more even when there are considered to be fairly successful by others.

Drives

Drives, also called motives, push individuals to satisfy their needs or to reach their goals. Hence, we can consider drives as an important element of motivation. Existing needs push individuals to achieve goals by transforming themselves into drives. For example, the need to achieve forms the basis for the achievement drive.

Incentives

Incentives lessen the strength of drives and alleviate needs. Physiological or psychological balance is brought back by incentives. For example, eating reduces the hunger need. Here, food facts as the incentive (Refer Exhibit 2.1)

Chapter 3: Perception

(Smita kulkarni and PVL Ramana)

Introduction

The previous chapter was on motivation in which we discussed the various motives of an individual and the theories of motivation. This chapter is about perception.

Employees working in an organization differ from each other in many ways such as in their height, complexion, cultural backgrounds, educational qualifications, etc. People also differ in their thought processes and the way they look at things. Every individual has his or her own perception of different situations. Further, two individuals may not have the same perception about a similar situation. People also tend to believe what they perceive to be true irrespective of the objective truth. Perception thus is a major driving force in shaping the behavior of a person. Therefore, perception forms an important part of the study of organizational behavior.

In this chapter the significance of perception and perceptual selectivity is discussed. The chapter also explains factors influencing perception, perceptual organization and impression management.

Meaning and Significance of Perception

Perception is a cognitive process wherein an individual collects, organizes, and interprets data from the environment to obtain a meaning from it. In fact, perception differs from person to person for the same situation. Each person interprets the data in their own way and may come up with different meanings. For instance, when the boss comes to each employee's desk, one employee might think that he/she is trying to be friendly with the employees; another might think that the boss is keeping an eye on the employees. It is also possible that people's perception of events or situations is nowhere close to reality. People react to situations based upon their perception of reality rather than the reality itself. Therefore, understanding the variations in the perceptions of individuals will help in understanding their organizational behavior better. Similarly, the perception of members in one organization differs from that of people in another organization. It is these differences in perception that make some organizations employ strict control over employees (as they believe that a disciplinarian environment will ensure success in business), while others encourage team culture and co-operation to enhance the performance of the organization.

Sensation vs. Perception

Often confusion arises over the relationship between sensation and perception. Behavioral theorists believe that individuals interpret situations based upon their senses and stimulation and that this was how they gained knowledge of the world. Individuals use their sensory organs to sense -- for instance, eyes to see, ears to hear, skin to feel, nose to smell, and tongue to taste. Therefore, sensation is the basic behavior of individuals caused by their physiological functions.

Chapter 4: Learning

(Prerna Chhetri and K. Veena)

Introduction

The previous chapter was about perception, in which we discussed the meaning and significance of perception, and sub-processes of perception and impression management. This chapter is about Learning.

Learning is defined as 'the acquisition of knowledge or skills through study, practice, or experience.' Learning brings about a relatively permanent change in the behavior of a person. It is of high significance in the study of organizational behavior as most of the behaviors exhibited by people in organizations are learned. Understanding ways in which people learn helps to predict and explain the behavior of organizations. In fact, organizations, like individuals, must learn new skills and acquire knowledge about emerging theories and techniques so as to survive and compete effectively in the dynamic business environment.

This chapter explains the different theories of learning and suggests how behavior can be managed.

Significance of Learning

The concept of learning is significant in understanding, developing, and managing human resources in an organization. Scholars and practitioners of behavioral science agree that analyzing learning helps in managing the human resources of an organization effectively as all the behaviors of people are learnt either directly or indirectly. For example, the skills of a worker, attitude of a manager, style of dressing by an accountant, are all learned behaviors. Hence, the process and principles of learning can be utilized by organizations to mold the behavior of employees and enhance their performance (Refer Exhibit 4.1)

Exhibit 4.1 Learning – Enhancing Competence of Organizations

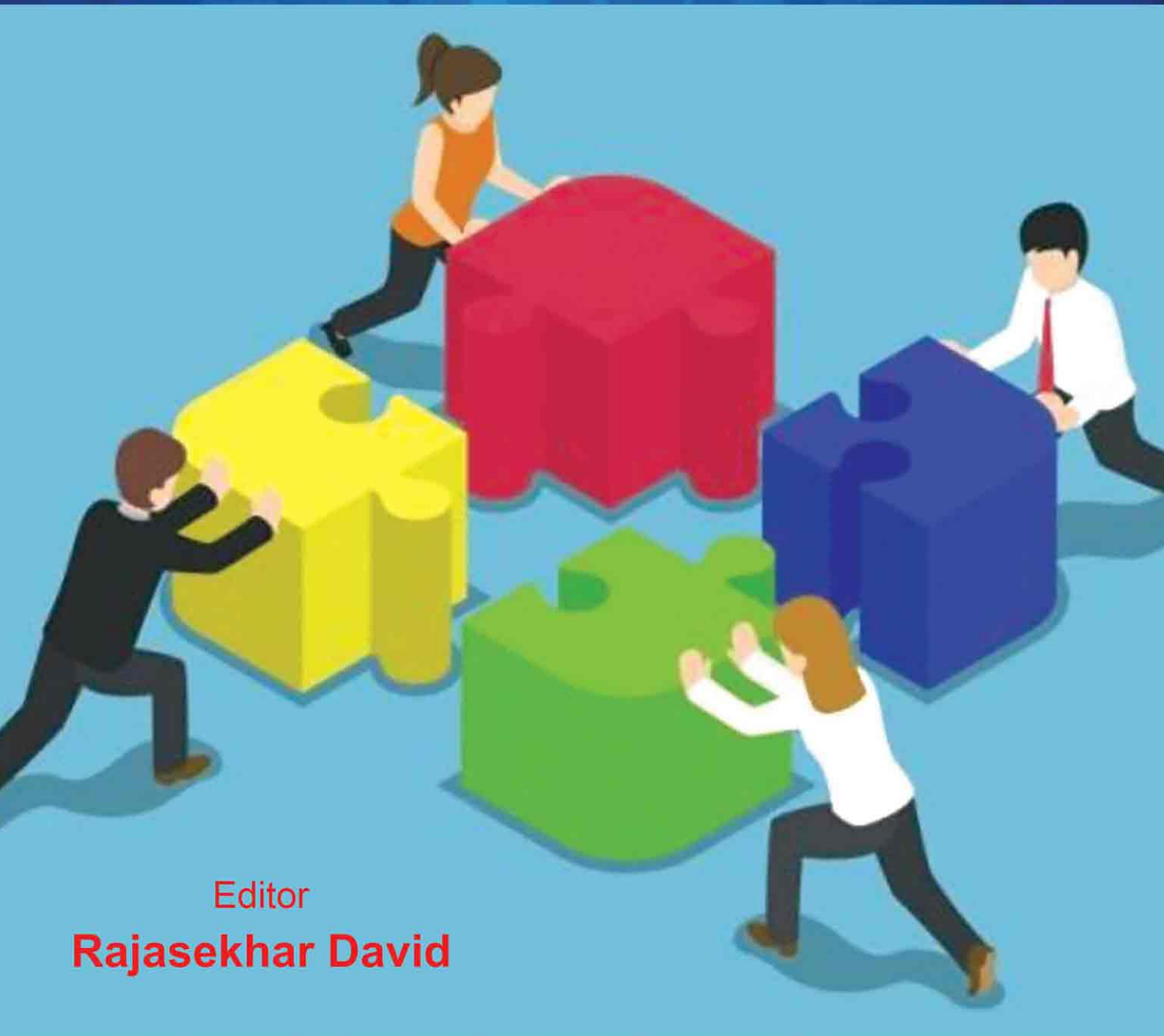
"Between now and the year 2020, learning at the individual and organizational levels must be a distinctive competence of our corporation. In these times of accelerating change and uncertainty, we must be able to anticipate what we will need to know and then teach and learn it faster and better than any other corporation on earth." This is a statement of the Motorola University Board of Directors which highlights the significance of learning for organizations in the competitive business world.

Source: http://www.dist.maricopa.edu/users/bleed/learnin.html.

The Theoretical Process of Learning

A perfect theory of learning would be one which can be applied across different situations and different sections of people. Behavioral scientists are still making efforts to develop such a theory. The existing theoretical approaches to learning are the behavioristic, cognitive, and social learning theories. These theories help to understand the behavior of people in the workplace.

Dynamics of Organizational Behavior



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Dynamics of Organizational Behavior

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Chapter 1: Leadership

(Asha Binu Raj and PVL Ramana)

Introduction

The study of leadership in organizations is very crucial in the field of organizational behavior. An effective leader is capable of inspiring and motivating even the most inefficient employees to strive toward attaining the goals of the organization. According to Warren G. Bennis, Founding Chairman of the Leadership Institute at the University of South California, "Failing organizations are usually over-managed and under-led." Therefore effective leadership plays a vital role in ensuring the smooth functioning of organizations.

This chapter lists leadership traits and explains the various theories of leadership.

Definition of Leadership

Leaders are people who have a vision, set goals to realize the vision, and motivate and gain the commitment of their people to work toward the achievement of the goals. However, all leaders do not follow the same method to attain their goals. Some leaders believe in employing coercion to influence their subjects, while others gain the confidence of their followers by sharing knowledge and caring for their well-being.

Leadership and management are different from each other. The following are some of the distinctions between the two:

- Leaders have a personal and active interest in achieving goals. Managers, however, are passive about the achievement of goals.
- Leaders have an inborn power with which they strive to achieve goals. Managers need to be entrusted with power by the management.
- Leaders usually arise from a group and do not require any formal appointment. Managers seek authority as a result of their position in the organization. In other words, they derive their power from the formal authority that comes with their position.
- Leadership is concerned with coping with complexity while management is about coping with change.
- Leaders focus on developing a vision for the future, communicating the vision to people, integrating their efforts, helping them overcome hurdles and developing their abilities to realize the vision. Managers concentrate on developing plans, organizational structures and controlling the deviations from plans.

Chapter 2: Empowerment & Participation

(A Kranthi Kumar and K.Veena)

Introduction

The previous chapter was about leadership and it discussed various theories of leadership. This chapter is about empowerment and participation.

Organizations in the dynamic world are seen to get engaged in various change efforts. These change efforts, most of the time appear short-lived and faddish in its nature. The reason behind this can be ascribed to the mental perceptions people carry in the process of leading the change and serving as change agents in different firms. The root cause arises from the manner and lens through which they perceive the organizations, and themselves as front line change agents. People have two perspectives of looking at the organization. In the first perspective, people think from evolutionary standpoint in which they will view a radical change as a part and parcel during the course of evolution. In the second perspective, people imagine organizations as machines that are built and reassembled constantly to achieve success. Gardening metaphor can be extended to the organizations while creating an empowering work place. Empowerment in organizations cannot be a mechanical process. It is basically an organic process that must be nurtured carefully. During the process of nurturing empowerment cannot be forced upon the people. We can keep the soil ready in order to plant the seed, in the ray of hope that it grows. People's active participation will increase along with the sense of pride in what has been created, while nurturing the empowerment. In the process of empowering, organizations must see themselves as organizational gardeners. Employee empowerment is a state of being where-in employees are aware about their boundaries in which they are free to work with the experience and maturity in the organization. In organizational setting empowerment refers to, employee's decisions influencing the quality of products or service along with the quality of their work life. Research on empowerment reveal that empowered employees are more committed and do not mind walking an extra mile on behalf of organization. Therefore, efficiency and effectiveness at work place are the consequences of employees being empowered. Empowered employees naturally develop a sense of motivation, enabling them to gain authority, control while utilizing their knowledge, skills and abilities while dealing with internal and external stake holders. Studies reveal that the job satisfaction of the empowered employees is high when compared with the job satisfaction of under-empowered employees. Empowerment has significant influence on commitment, identification and job performance of the employees.

Empowerment - ongoing process

The idea of empowerment according to Rotter (1966) and Seligman (1975) is an ongoing process. The empowerment is never an end state, but, it is a process that people experience at various stages of life, within as well as out-side the organization. We all tend to behave in a highly, moderately and less empowered ways on the basis of our development and self-esteem.

Chapter 3: Conflict, Negotiations, & Inter Group Behavior

(Prerna Chhetri and Sheela Rosalyn)

Introduction

The previous chapter was about empowerment and participation, which discussed the concepts of empowerment and participation. This chapter is about conflict, negotiation and inter-group behavior.

Employees in organizations have different opinions and attitudes, due to their varying backgrounds. Therefore, there is a possibility that conflicts may arise during interactions between them. Although a conflict might foster a competitive environment to a certain extent, prolonged conflicts could prove detrimental to the organization. Hence, there is a need for these conflicts to be resolved at the earliest. An ideal way of settling conflicts is through the negotiation process. A study of the inter-group behavior of people in organizations is also essential for understanding and resolving organizational conflicts.

This chapter will discuss the conflict process, sources and classification of conflicts. It will also discuss the negotiation process and inter group relations.

Sources of Conflict

Conflict may be defined as the disagreement between two or more individuals or groups over an issue of mutual interest. Conflicts may arise when: one party (an individual or a group) feels that the actions of the other party will either affect its interests adversely or obstruct the achievement of its goals; the goals of both the parties differ significantly or are interpreted differently; or the basic values and philosophies of the two parties are different. Some of the factors which may lead to conflicts are:

- **Organizational change:** Generally, employees of an organization hold different views on the changes in organization with respect to technology, structure, hierarchy, etc., and this might lead to conflicts between them. For example, an organizational change can lead to restructuring of resource allocation that can be a potential cause for conflict. This conflict due to resource allocation can be between departments and between individuals as well.
- **Personality clashes:** When individuals do not recognize differences in personalities such as emotional stability, behavior, etc., it might lead to a conflict. For example, two individuals working together in a group may have different ways of executing the task based on their personality. Individual A, high on conscientiousness may want the execution to be precise and predictable. Individual B with low, may not work with precision and this can lead to conflicts between A and B.

Chapter 4: Foundations of Group Behavior

(Sharda Singh and PVL Ramana)

Introduction

The previous chapter was about conflicts and negotiations and discussed the conflict process, sources and classification of conflicts and the negotiation process. This chapter is about group behavior.

The term group can be defined as two or more persons interacting and working together for a common purpose. When people work in groups rather than as individuals, the goals of the organization can be easily achieved. However, working in a group is a complex task. Group dynamics refers to the interactions between the members of a group. A work group of an organization is the main foundation for the social identity of employees in that organization.

In this chapter, the nature and types of groups is discussed. The chapter also explains the stages in development of groups along with the structure, tasks, and processes of groups.

Nature of Groups

The term group can be defined as two or more persons interacting and working together for a common purpose. Different types of groups are formed to achieve specific results in organizations. The definition of a group as given by Harold H. Kelley and J.W. Thibaut is "A collection of individuals. The members accept a common task, become interdependent in their performance, and interact with one another to promote its accomplishment." Kurt Lewin popularized the term 'group dynamics' in the 1930s. There are three views on the nature of interaction between members of a group or group dynamics. The first view is the normative view, which describes how to carry out activities and organize a group. According to the second view, group dynamics consists of a set of techniques which include brainstorming, role play, team building, sensitivity training, self-managed teams, and transactional analysis. The third view explains group dynamics from the viewpoint of the internal nature of the groups. The formation of groups, structure, processes, and functioning are discussed in this view along with the effect of groups on individuals, other groups, and the complete organization.

Dynamics of Group Formation

People form groups for various reasons. Different classical theories of groups try to explain why people form groups. The theory of propinquity proposes geographical closeness as the reason. The propinquity theory provides a very basic explanation that people living or working at places located close to one another tend to form groups. But the theory doesn't explain the complexity of group formation. The balance theory says group formation results from the similarity of attitudes and values between people. Individuals with common interests maintain their relationship by a symmetrical balance

Chapter 5: Understanding Work Teams

(Asha Binu Raj and R. Muthu Kumar)

Introduction

The previous chapter was about groups and group behavior. It discussed nature and types of groups and the stages in development of groups. This chapter is about understanding work teams.

Work teams are increasingly becoming popular in modern organizations. They encourage co-ordination and co-operation among members, and this, in turn, has a positive impact on the goals of the teams as well as on those of the organization. Companies like Xerox and P&G utilized work teams to achieve better solutions to complex problems and also to formulate effective business decisions. Therefore, understanding work teams forms an important part of the study of organizational behavior.

This chapter will discuss benefits of work teams, types of work teams, and differences between work groups and work teams. The chapter will also explain team effectiveness and workforce diversity.

Definition of Work Teams

According to Gregory Moorehead and Ricky W. Griffin, a team is, “A small number of people with complementary skills who are committed to a common purpose, common performance goals, and an approach for which they hold themselves mutually accountable.” According to Stephen P. Robbins, a work team is a collection of people whose individual efforts result in a level of performance which is greater than the sum of their individual contributions. In other words, teams consist of a collection of individuals who work together toward the achievement of a common goal and also collectively take responsibility for the success or failure of their achievements. A team basically has a collective responsibility, positive synergy, individual and mutual accountability, complementary skills and common goal. A "high-performance work team" refers to a group of highly goal-focused individuals with specialized expertise and complementary skills who work together, collaborate, innovate and produce consistently superior results. The group continuously pursues performance excellence through shared goals, shared leadership, collaboration, open communication, clarity in roles and operating rules & procedures, effective conflict resolution mechanisms, and a strong sense of accountability and trust among its members.

Characteristics of High-Performance Work Teams

High-performance work teams are generally composed of a combination of purpose and goals, competencies, skills, knowledge, performance ethics, rewards, incentives and motivation, efficacy, leadership, communication, power and empowerment, and norms and standards. This facilitates the team to achieve its purpose and motivates the team members to work in collaboration to achieve team goals and show high level of performance.

Chapter 6: Informal Organizations

(Rajasekhar David and K. Veena)

Introduction

The previous chapter was about work teams and discussed benefits of work teams, types of work teams, and differences between work groups and work teams. This chapter is about informal organizations.

Apart from formal organizations, there are organizations which function informally. These informal organizations exist in all organizations and grow with the interactions between the personnel. The informal interactions and communications have an impact on organizational performance.

In this chapter, the nature of informal organizations is discussed along with their benefits and problems. It also discusses informal communication and a few guidelines to manage informal organizations.

Nature of Informal Organizations

Chester Barnard defined an informal organization as "any personal activity without conscious joint purpose, even though contributing to joint results." JL Gray and FA Starke referred to an informal organization as "patterns of behavior and influence stemming from human interaction within a formal structure." An informal organization is present in all kinds of organizations. Along with formal channels, people build relationships informally within the organization for communication and interaction. These informal interactions and communication have an impact on organizational performance. The Hawthorne studies (the Bank Wiring Room Experiments) proved that apart from monetary incentives, acceptance by group and group norms have a large impact on the performance of individuals toward attainment of organizational goals. Managers soon realized that by integrating the goals of groups in the organization with organizational goals, they could improve the overall productivity of the organization.

Formal Vs Informal Organizations

In formal organizations, the job profile of individuals guides their interactions with other members of the organization whereas informal organizations are based on social relationships developed by the individuals in an organization. Formal organizations give a designation to each person and power is derived by the position the person occupies, unlike in informal organizations where power is derived by personal characteristics. In a formal organization, control is exerted through rewards and punishments. In an informal organization, control over behavior of members is exercised through norms and sanctions. According to JL Cray and FA Starke, formal and informal organizations differ in organization structure; differ in their method of selecting the leader and basis of interaction among members. There are various factors that highlight the differences between formal and informal organizations. They are:

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The Organization System and Development

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Chapter 1: Foundations of Organizational Structure

(Ashok Kumar Goute and PVL Ramana)

Introduction

Organizational structures lay the foundation for the accomplishment of organizational goals and objectives. The structure of organizations defines the framework within which employees are required to function. It also establishes the authority and responsibilities of all the individuals working in an organization. This, in turn, facilitates coordination among various activities and ensures the smooth functioning of the organization. Therefore, organizational structures have a tremendous impact on the success or failure of organizations.

This unit will explain the key elements in designing an organizational structure, the types of organizational design and will discuss the relationship between organizational design and employee behavior.

Definition of Organizational Structure

According to Stephen P. Robbins, "An organizational structure defines how job tasks are formally divided, grouped, and coordinated." The organizational structure, according to Fred Luthans, represents the skeletal framework for organizational behavior.

Organization structure is the system of task, reporting, and authority relationships within which the organization does its work. An appropriate structure responds well to the purpose for which the organization was created and provides stability to the people and the intended activities within the organization. So, ideally, the structure should support member performance and present minimal obstacles as they strive for achieving the organizational goals.

Key Elements in Designing an Organizational Structure

Following are the key elements in designing an organizational structure:

Work specialization

Work specialization refers to the extent to which the jobs in an organization are divided into sub-tasks. Each of these sub-tasks is performed by an individual employee. In work specialization, employees are required to learn only those skills that they require to perform their individual tasks. As a result, employees gain specialized knowledge in their respective tasks. Work specialization has the following advantages and disadvantages:

Advantages:

- As employees specialize in a particular task, it improves their productivity and speeds up the work process.

Chapter 2: Decision Making

(Sharda Singh and R. Muthu Kumar)

Introduction

The previous chapter was about organizational structure and discussed the key elements in designing an organization structure, and the types of organizational design. This unit is about decision making.

Decision making is an integral part of management. Managers often need to choose one course of action from among several alternatives available. In fact, the type of decisions made by the managers will have an impact on the organizational functioning. External environment, past experiences, the cognition levels of managers and human relationships within the organization influence the decision making of managers.

This chapter explains the nature of decision making, types of decisions, creativity in decisions and how behavior-oriented decision making is beneficial for organizations.

Nature of Decision Making

Decision making involves consideration of different alternatives from which the best is chosen. A definition of decision making as given by Robert Kreitner is that it is "a process of identifying and choosing alternative courses of action in a manner appropriate to the demands of the situation. The act of choosing implies that alternative courses of action must be weighed and weeded out." The process of decision making helps an individual to narrow down the choices available to him in order to arrive at the most suitable option.

Herbert A. Simon explained that decision making is a three phase process which includes intelligence activity, design activity, and choice activity. Intelligence activity involves identifying the available alternatives for a particular course of action. In this phase, the conditions in the environment which necessitate decision making are studied in detail. Design activity of decision making by managers includes the assessment of alternatives and the factors influencing the decisions. Choice activity is the final phase of the decision making process in which managers select a particular course of action from various alternatives after considering all the factors which will have an impact on the decisions being made. Decision making is a vibrant process and involves feedback at each phase.

Exhibit 2.1 explains how some times decision-making leads to controversies.

Exhibit 2.1: WTO Decision Making – Rearing Controversies

The decision-making process of the WTO has come under criticism from many of its members. The decisions made by the WTO, specifically those on issues related to trade, are alleged to be influenced by the developed nations. Developing and

Contd. .....

Chapter 3: Power and Politics

(Sharda Singh and PVL Ramana)

Introduction

The previous chapter was on decision making wherein we discussed the nature of decision making, types of decisions, and creativity in decisions. This chapter is about Power and Politics.

The existence of power and politics is inevitable in organizations. In fact, power is one of the most controversial topics in the study of organizational behavior. Quite often, people in organizations use their power to fulfill their individual goals. However, power is not always a negative concept. For example, it is essential for superiors to exercise their power to deal with some employees and get work done through them. Hence, understanding power and its role in the working of an organization is essential for a proper understanding of the dynamics of organizational behavior.

This chapter will distinguish between power, authority and influence and will discuss the bases of power. The chapter explains the contingency approach to power and organizational politics.

Definition and Meaning of Power

According to Stephen P. Robbins, an organizational behavior theorist, power is, "the ability to influence and control anything that is of value to others."

Max Weber, a pioneering sociologist, defined power as follows, "the probability that an actor within a social relationship will be in a position to carry out his own will despite resistance."

In the words of Jeffrey Pfeffer, an organizational behavior theorist, power is, "the potential ability to influence behavior, to change the course of events, to overcome resistance, and to get people to do things that they would not otherwise do."

The most important element in the study of power is dependency. The greater the level of A's dependence on B, the greater is B's power over A in that relationship. Further, dependence is the function of the alternatives perceived by A and the importance given by A to these alternatives that B controls. A person can have power over another only if he has control over something that the other person desires.

Activity 3.1:

Carefully read through the definitions of power given above and try to define power in your own words.

Answer:

Chapter 4: Organizational Culture

(Asha Binu Raj and PVL Ramana)

Introduction

The previous chapter was about power and politics in which we discussed the bases of power, contingency approaches to power and organizational politics. This chapter nit is about organizational culture.

Culture is learned behavior. Organizations develop a culture of their own over a period of time. The culture of an organization makes it distinct from other organizations. The organizational culture influences the behavior of employees working for the organization and, to an extent, has an influence on people in society at large. Hence, understanding organizational culture gives an insight into the behavior of people in general. This chapter will explain the characteristics of organizational culture, describe types of culture, and will discuss changing organizational culture.

Definition of Organizational Culture

Organizational culture refers to a pattern of learned behaviors that is shared and passed on among the members of an organization. It comprises of the various assumptions, values, beliefs, norms, rituals, language, etc. that people in an organization share. It can be thought of as an evolutionary process that has been established, accepted and internalized over a period of time, by a majority of members of the organization.

Edgar Schein defined organizational culture as "a pattern of shared basic assumptions that the group learned as it solved its problems of external adaptation and internal integration that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems." Different organizations have different cultures and influence the behavior of individuals differently. In fact, organizational culture creates a distinct identity for individuals working for an organization.

The definition of organizational culture emphasizes that it is concerned with the subjective aspect of what happens in organizations. It refers to set of values and norms which are shared by the members of organization. Hence culture can have a significant influence on people's attitude and behaviour. Eldridge and Crombie (1974) define it as "the unique configuration of norms, values, beliefs and ways of behaving that characterize the manner in which groups and individuals combine to get things done". According to Deal and Kennedy (1982), culture is a system of informal rules that spells out how people are to behave most of the time. Schein (1985) defines it as "a pattern of basic assumptions – invented, discovered or developed by a given group as it learns to cope with the problems of external adaptation and internal integration – that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think and feel in relation to these problems". Thus it is the commonly held beliefs, attitudes and values that exist in an organization. Put more simply, culture is 'the way we do things around'. (Refer Exhibit 4.1)

Chapter 5: Organizational Change and Development

(A Kranthi Kumar and R. Muthu Kumar)

Introduction

The previous chapter was about organizational culture and discussed the characteristics of organizational culture, described the types of culture, and discussed changing organizational culture. This unit is about organizational change and development. Technological innovations, lifting of trade barriers and increased competition have made it necessary for companies to be highly flexible and adaptable to changing conditions.

The last 80 years has seen a series of theories emerging, on managing the change while re-organizing work. The large body of theoretical perspectives and associated organizational literature has not provided solutions that last. The one stop solution for change neither exists nor is universal. Change perhaps involves moving into a future state, with contextual orientation and a time frame that is hard to capture. Even after change taking place, the possible attempts to explain it, remains partial and are subjected to further revision. At any given time, it is hard to find a theory that is perfectly feasible in explaining change but, underlying frame works extend our understanding the process of change and its consequences for people's experience of work. The magnitude of influence the change has, on employees, managers, unions and change agents is subject to a significant debate when the concern is more stressed on speed, direction and effect of change. This essentially implies that the methods involved in accommodating change stands crucial to understand and explain the change. The objective of the chapter is to equip the readers with the insights on the successful experience of change that worked. It elucidates how the change unfolds itself to practice. It furthers on explaining the nature of responses employees exhibit along with the character of work place. This includes discussion on supporting forces and restraining forces, envisaging the harsh realities to facts associated with success stories.

Organizational change is a discipline that helps organizations in coping with the changes in the global business environment and acting in accordance with the changes. To put it in perspective, it refers to the transformation or adjustment that happens when organizations move from its status-quo to a level that keeps them prepared to deal with changing competitive landscapes (for example: technology, competitors and changing customer expectations). Changes in a smaller scale keep happening and are inevitable as a part of continuous improvement ranging from quality and productivity to conforming to the regulatory norms while hiring new employees. This will result in larger pressures which require larger responses. OD is an important process that can have a significant impact on the future of the organization. An inefficient OD program can have a negative impact on the performance of the organization. Therefore, managers must be careful while implementing OD. OD interventions are tools that facilitate the smooth functioning of the OD programs. Organizational change, development and organizational interventions are discussed in this unit.

Chapter 6: Future of Organizational Development

(PVL Ramana)

Introduction

The previous unit was on organizational change and development and discussed various types of organizational development initiatives. This unit is on the future of organizational development.

Organizational development (OD) is a dynamic process which addresses the problems that arise in an organization. Over time, many changes are made to the OD process. While it is not easy to predict the future of OD accurately, it can be done with the help of past and current trends. The possible changes in the OD processes and practices are discussed in this unit.

This unit will discuss the strengths of OD, the future of OD and possible changes in OD practices and processes.

Strengths of OD

The strengths of OD can be listed as follows:

- The OD process is carried out based on some proved fundamental processes. The processes which influence the perceptions and feelings of the employees to work for the goals of the organization, encouraging employee participation and teamwork, preparing action plans to solve the problems, etc. help to add strength to the OD process.
- The approach of OD in encouraging democratic processes is similar to the structure of democratic governments all over the world.
- OD programs encourage individual development along with advances in technology. This adds to the strength of the OD process.
- Organizational problems are solved by OD techniques involving people across the organization.

The emerging theories and techniques of OD are increasing the effectiveness of OD programs.

Activity6.1:

List the strengths of OD in the priority which you think is more useful in the implementation of OD interventions. Justify your way of prioritizing the strengths.

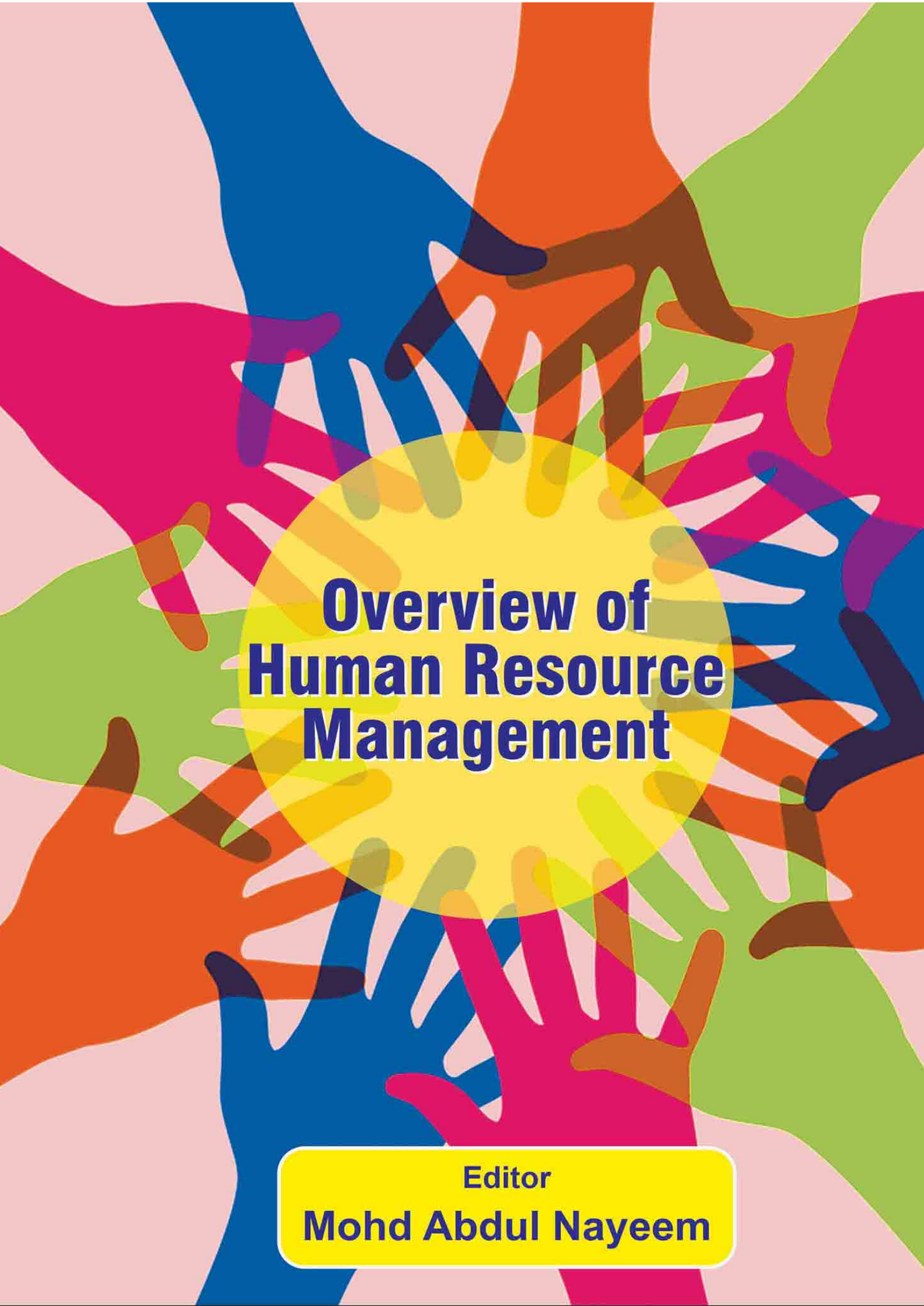
Answer:

The Future of OD

The factors that lead to uncertainty about the future of OD are discussed here:

Leadership and values

There are two approaches to OD. One is people-oriented and the other is profitability-concerned and technology-oriented. It has been found that the success of OD is fully



Overview of Human Resource Management

Editor

Mohd Abdul Nayeem

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Overview of Human Resource Management

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Chapter 1: Introduction to HRM

(A Kranthi Kumar and P.V. L. Ramana)

Introduction

In this chapter, we introduce you to human resource management. Human resource management (HRM) is one of the most difficult and challenging areas in modern management. The term human resource refers to knowledge, skills, creative abilities, talents, and aptitudes of an organization's workforce in totality. It also includes individual values, attitudes, and beliefs (Leon C. Megginson).

The traditional approaches to personnel management had stressed upon command and control. These approaches paved the way for newer approaches that emphasize greater freedom and support to the employee. Referring back to 4th century B.C. Kautilya's 'Arthashastra' has mentioned about, management of human resources along with quality, quantity. It also had an explicit discussion on staffing and personnel management. Before the 1980s, personnel administration was characterized by standardization, while consistency and conformity were the chief characteristics of the management policy. These days, however, flexibility has become a significant aspect of a company's corporate human resource strategy. Modern day organizations are characterized by a consistent change in its relationship with its external environment and human resources. This reflects the dynamic nature of business. In order to respond to the changes, organizations make a conscious effort to change organizational structure, policies and procedures from the inside and adapt to economic, political and social conditions that prevail in domestic and global platforms from the outside. To remain competitive in the business, organizations are looking for people with creativity, experience and ideas while recruiting prospective job seekers. On similar note, organizations are actively engaged in rigorous training and development activities of their existing employees so as to keep them competitive and relevant in the business. On the other side, the issues and problems associated with people in organizational setting are mostly human and social in nature rather than, physical or technical.

This chapter will give you the definition and concept of human resource management, and explain its history, functions, and emerging role. We shall then move on to discuss the human resource policies and procedures, and the role played by HR executives and the challenges faced by them. Finally, we would be discussing the concept of strategic human resource management.

Definition and Concept of Human Resource Management

Personnel/Human resource management is that organizational function which facilitates the optimum use of people (employees) to attain organizational and individual objectives. Organizations are made up of people and in order to achieve the organizational objectives using the minimum resources, it is important to utilize and

Chapter 2: Organizational Structure and HRM

(Kalaa Chenji and P.V. L. Ramana)

Introduction

In the last section of the previous chapter, we have discussed the concept of strategic human resource management. We have learnt that strategic human resource management involves designing human resource goals in alignment with organizational goals. In this chapter, we will discuss organizational structure, and understand its importance in the field of human resource management.

An organization comprises a group of individuals who work in coordination at different levels of authority and in different areas of specialization in order to achieve organizational goals. These individuals need a well-defined structure and system for synchronizing and directing their plans and activities toward the organization's goals. Organizational structure refers to the defined relationships among the elements of an organization, namely, people, tasks, structure, and information and control processes that characterize all organizations.

This chapter will explain the relationship between organizational structure and human resource management. We shall then move on to discuss formal and informal organizations, and distinguish between tall and flat organizational structures. We will discuss the concepts of responsibility, authority, and accountability, and then study the reasons for conflict between the line and staff functions. Finally, we would discuss the relationship of human resource management with the other functions in the organization.

Organizational Structure and Human Resource Management

An organization, operating in a relatively stable and known environment, faces chaos and turbulence when exposed to changes in the environment. These changes may be legal and political, technological, or economic and market changes. They may upset the organizational equilibrium. The extent to which this is affected depends upon the structure of the organization.

Based on a survey of British firms in the 1950s, Burns and Stalker classified firms into mechanistic and organic organizations. In a mechanistic organization, power and authority lie in the hands of a few people, and the tasks and duties of all the employees are clearly specified. On the other hand, an organic organization is characterized by flexibility, value for knowledge, low formalization and authority levels, and a decentralized management. Mechanistic organizations fail to survive and achieve success in a highly competitive market while organic organizations are more suitable for operating effectively in dynamic environments as they react fast and adapt easily to changes.

Chapter 3: International Human Resource Management

(Kalaa Chenji and K. Veena)

Introduction

In the previous chapter, we have discussed the relationship between organizational structure and human resource management. We have also studied the relationship of human resource management with the other organizational functions. In this chapter, we will discuss international human resource management, that is, how to manage human resources in international business.

In recent times, globalization has become a popular concept. Organizations across the world have crossed domestic borders to enter the international business arena. Large companies, tough competition, and greater challenges are the features of international business. The greatest challenge faced by companies in the international business arena is to operate successfully in different economies and cultures across the world. International organizations like the WTO (World Trade Organization) and cross-border trade agreements like GATT (General Agreement on Tariffs and Trade) have helped in eliminating trade barriers between countries and have bridged the distance between them.

Organizations need to adopt decentralization in order to operate successfully in global markets. This involves managing human resources with different backgrounds, a wide variety of customers and suppliers of varying nationalities, and adapting to the respective local demands and culture. The management of human resources in international business is known as International Human Resource Management (IHRM). The countries that the firm chooses to operate in can be different in terms of culture, language, economic situation, and political and legal systems. Management styles and conventions can also be different in each of these countries. Therefore, it is not easy for a firm to globalize its business.

This chapter will discuss the concept of and approaches to international human resource management, and study its features and importance. We will then move on to discuss the factors affecting international human resource management, and the different activities involved in it. Finally, we will discuss the concept of strategic international human resource management (Refer Exhibit 3.1).

Exhibit 3.1: Managing Change at Roche

Foraying into international markets is not an easy process. Once they enter the international business arena, organizations need to closely watch the economic, political, and sociological changes that take place from time to time. This makes the change management process a very complex task for the managers. And, if it is a global company, the process becomes that much more complicated.

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Employment of Human Resources

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Employment of Human Resources

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Chapter 1: Human Resource Planning

(Akbar Jan and P.V. L. Ramana)

Introduction

In this chapter, we will discuss the concept of human resource planning.

In recent times, organizations have come to accept the fact that a well-designed and comprehensive human resource planning (HRP) process plays a crucial role in the well-being of an organization. HRP ensures the availability of the right resources at the right place, to meet the future needs of organizations.

This chapter will discuss the definition and objectives of human resource planning. We shall then move on to discuss the process involved in human resource planning, and study the various ways in which the forecasted demand or surplus of manpower can be changed. Finally, we would discuss the growing importance of human resource planning, and the current trends in the field.

Definition of Human Resource Planning

HRP is defined as the process of ensuring the right number of qualified people for the right job at the right time to deliver the results in an efficient and effective manner. The process of HRP begins with understanding the organizational objectives, and translating them into a schedule of employee requirements, over a period of time. The next step is to devise plans to make the right resources available, in order to meet these requirements.

The main purpose of HRP is to assess where the organization is, where it is going, and what implications these facts have on the future supply and demand of human resources. It is the responsibility of the HR department to match the supply of human resources, with demand, in order to meet future organizational requirements.

According to Coleman, Human Resource Planning is defined as the "process of determining manpower requirements and the means for meeting those requirements in order to carry the integrated plan of the organization".

Edwin B. Geisler has defined human resources planning is, "the process by which a firm ensures that it has the right number of people and the right kind of people, at the right places, at the right time, doing things for which they are economically most useful".

According to Dale S. Beach, "It is a process for determining and assuring that the organization will have an adequate number of qualified persons, available at the proper times, performing jobs which meet the needs of the enterprise and which provide satisfaction for the individuals involved".

Chapter 2: Job Analysis and Design

(Sheela Rosalyn)

Introduction

In the previous chapter, we discussed human resource planning (HRP). We have learnt that HRP ensures the availability of the right resources at the right place, to meet the future needs of organizations. The first step in HRP involves assessing the existing human resources in the organization. An extensive job analysis provides the necessary inputs for this assessment. In this chapter, we will discuss job analysis and design.

Job analysis, as a basic exercise, can benefit and support many HR processes in the organization. Human resource planning, recruitment and selection, training and development, compensation management, and performance appraisal are some of the processes, which use the inputs provided by job analysis. Job specification and job description are the main outcomes of a job analysis.

This chapter will discuss the concept and process of job analysis. We shall discuss the various job analysis methods and information tools required to conduct a well-planned and well-executed job analysis. We shall then move on to discuss the concepts of job description and job specification, and study the uses and issues involved in job analysis. Finally, we shall discuss the concept of job design, and study the modern management techniques.

Concept of Job Analysis

Job analysis is the process of determining and recording all the relevant information about a specific job, including the tasks involved, the knowledge and skill set required to perform the job, the responsibilities attached to the job, and the abilities required to perform the job effectively. It is also known as job review or job classification. The end products of this analysis help in compiling a detailed description of tasks, determining the relationship of the job to technology and to other jobs, and examining the employment standards and accountabilities.

- Job description and job specification, the end products of a job analysis, are used as a basis for recruitment. They help in evaluating candidates against job requirements and selecting the most suitable one.
- Job analysis provides the inputs/parameters based on which training can be provided to the employees. A comparison of the job specifications with the existing competencies of an employee helps in identifying his/her training needs.
- Job analysis helps the management in evaluating the relative worth of each job. This is one of the basic inputs used in designing the compensation system.
- Job analysis plays a key role in designing and managing the performance appraisal system in an organization. It helps in identifying the key responsibility areas (KRAs) for a position and then setting the goals or objectives for the appraisal period. This forms the basis for the evaluation of an employee's performance.

Chapter 3: Recruitment

(Asha Binu Raj and K. Veena)

Introduction

In the last section of the previous chapter, we have discussed some of the modern management techniques. We have learnt some of the modern management techniques and alternative work schedules used by organizations to enhance job design such as job rotation, job enrichment, telecommuting, and working from home. In this Chapter, we will discuss recruitment.

Today's organizations have realized the value of human capital and its role in their development. Recruitment is the first step in the process of acquiring and retaining human resources for an organization. Given the competitive and dynamic business environment, organizations have to quickly assess their staffing requirements and recruit the right people. This is possible with the help of a well-defined recruitment policy. The human resource plan determines the level of recruitment and the methods to be used. Depending on this, the organization decides on the number of people to be recruited, the jobs for which they have to be recruited, and whether the recruitment is for permanent or temporary staff. After making these decisions, the modes of recruitment are finalized. All these decisions are taken in accordance with the recruitment policy of the company and the organization's long-term strategic goals.

This chapter will discuss the concept of recruitment and the factors that affect a recruitment program. We shall discuss the features that make up a good recruitment policy, and the various sources that can be used to recruit employees in the organization. We shall then move on to discuss the need for a flexible and proactive recruitment policy. Finally, we would discuss the need for evaluating a recruitment program.

Concept of Recruitment

According to Byers & Rue, recruitment is the process of seeking and attracting a pool of people from which qualified candidates for job vacancies can be chosen. Edwin B. Flippo defined the process of recruitment as the 'process of searching for prospective employees and stimulating them to apply for jobs in the organization'.

Though employment, recruitment, and selection are used synonymously, they have different meanings. Recruitment and selection together constitute employment. The process of recruitment starts with identifying the need for human resources and ends with getting prospective employees to apply for the available vacancies. The end of the recruitment process marks the beginning of the selection process.

The selection process deals with choosing the right candidates and getting the best job-fit. An effective recruitment program attracts the best people for the job and helps the recruiter, by making available a wide range of potential candidates to choose from. A good job description helps in attracting the right candidates for the job. Usually, the recruitment efforts and the costs involved are proportionate to the importance of the job to the company's business operations and the urgency to fill up the vacancy.

Chapter 4: Selection

(Ashok Kumar Goute and P.V. L. Ramana)

Introduction

In the previous chapter, we have discussed recruitment. We have learnt that recruitment and selection together constitute employment. In this chapter, we will discuss selection.

Selection of candidates is the next step after recruitment in an organization's acquisition of human resources. There is minimal interference of external factors in this area. The selection process involves a series of steps which help in evaluating the candidates. It has to be in accordance with the organizational requirements. Human resource planning, job analysis, and job specifications provide the basic requirements based on which the selection process should be designed.

This chapter will discuss the concept of selection. We shall discuss the selection process and the standards that need to be met by the selection method. Finally, we would discuss about interviews, the process of interviewing, and placement.

Concept of Selection

Selection can be defined as the process of choosing the most suitable candidate for a job from among the available applicants. Koontz defines selection as the process of choosing from among the candidates from within the organization or from the outside, the most suitable person for the current position or for the future position. It is an attempt to strike a balance between what the applicant can and wants to do and what the organization actually requires.

The selection process starts with gathering complete information about the applicant from his/her application form and ends with inducting the candidate into the organization. There may be two positive outcomes of the selection decision: selection of the right candidate and rejecting an unsuitable candidate. Two possible negative outcomes of the selection decision are selecting an unsuitable candidate, and rejecting the right candidate.

The selection process serves the purpose of selling the organization and the job to the candidate. During the selection process, when the candidate is being evaluated, he/she tries to assess the job, as well as the company and its culture. The company should provide correct and accurate information to the candidates. The selection procedure should be simple, in order to ensure that it does not upset or drive away the candidate. Proper care should be taken by the company's representatives to project the company in the best possible manner, because the organization needs the right candidate, as much as the candidate needs the right job.

The Selection Process

The selection process in an organization depends on the strategy and objectives of the organization, the tasks and responsibilities associated with the job, the qualifications

Chapter 5: Socialization

(Ashok Kumar Goute and P.V. L. Ramana)

Introduction

We have learnt that once the candidate accepts the offer and joins, the organization has to place him/her in the job for which he/she has been selected. In this chapter, we will discuss socialization.

When a new employee just steps into the organization, it represents a significant change for both the entities i.e. Organization as well as employee. The employee's eventually has to start interacting with unknown, and begin to form nascent impressions. These initial interactions and gained impressions might create a mental image about organizations. Some may resist situations, if prospective organizations leave the newly joined, to individually deal with new workplace ambience on a notion of "Swim or Sink". While, some might accommodate them as it is, as they further in the organization. Imagine, if the joining day of new employee/s is planned, scheduled and informed, then the process is rather simplified for both the entities (Organization and employee/s) building up the bond that is supposed to last long. To make this happen, organizations started to focus on the socialization of new employees. This is done by organization offering several programs that are aimed at improving employee connect, ranging from subordinates to people at the higher order in organizational hierarchy. As a result the employees get wide network of support, easing the pressure being novice to the organization.

The success of employee socialization in organization can be captured from the extent to which, there is, openness in communication, observed among superiors, subordinates, making employee understand the role and associated commitment. There is an inclined quest on, whether the event of socialization has a cognizable impact that can change attitude and nature of the employee. To put in perspective, given the essence of the socialization process, the answer would be, yes, it is possible to influence the existing habits, attitudes, beliefs and value systems, unifying personal and organizational interests. Thus socialization can be seen as a mutual perspective that stands dynamic between individual and organization. One of the basics assumptions organizations have on prospective employees is that apart from having professional competence, they also consider the quality of social competence as desirable. Social competence refers to the patterns of human behavior that reflect the individual capacity to operate in cultural settings gaining the social acceptance during his association with the organization that is new. The last three decades has seen considerable rise in capturing socialization from a scientific discipline, which helps prospective employees get acclimatized to the working environment. Behavioral scholars started associating it with social, cognitive, and motivational schools. All these research undertakings were in the direction of gaining and sustaining employee's acceptance of the organizational culture. The present chapter limits its scope to the socialization process that organizations undertake while making the employee familiar to the organization. When an employee joins an organization, he/she has to adapt to the new environment – a new work culture, different work activities, a new boss, a different group of co-workers and

Management & Development of Human Resources



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Neha Gahlawat

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Management and Development of Human Resources

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Chapter 1: Managing Careers

(Ashok Kumar Goute and P. V. L. Ramana)

Introduction

Organizations should give employees an opportunity to identify their competencies and aptitudes, and then provide them with the right opportunities. This will lead to the creation of a motivated and loyal workforce. Organizations should help their employees maximize their career motivation. There are three aspects of career motivation: resilience, insight, and identity. Career resilience is the degree to which employees can cope with the problems affecting their work. Career insight is the extent to which the employees are aware of their interests, skills, strengths, and weaknesses, and how these perceptions relate to their career goals. Career identity is the extent to which employees define their personal values, in accordance with their work and the degree of alignment between the two.

This chapter will discuss the concept of career and the career anchors. We shall then move on to discuss the elements of a career planning program, and the benefits of career planning to an organization and to an individual. We shall also discuss the issues involved in career planning. Finally, we will discuss career development cycle, career objectives, career path, model for planned self-development, and succession planning.

Concept of Career

A *career* can be defined as a sequence of positions, roles, or jobs held by one person over a relatively long period of time. It can also be defined as a sequence of separate, but related or connected work/life activities that provide continuity, order, and meaning in a person's life. A *career path* can be defined as the sequential pattern of jobs that form a career. *Career goals* are the future positions that an individual strives to reach as part of a career. *Career planning* is the process, by which an individual selects career goals and the path to these goals. Career planning could be individual, where an individual employee personally plans career goals or organizational, whereby the organization plans career goals for its employees. *Career management* can be defined as the process of designing and implementing goals, plans, and strategies, which help the HR professionals and managers to satisfy the needs of the workforce and allow individuals to achieve their career objectives. Career development programs help in the achievement of career objectives.

Career Anchors

Just as boats put down anchors to keep them from drifting too far, individuals put down anchors to stabilize their career choices. Career anchors are distinct patterns of self-perceived talents, attitudes, motives and values that guide and stabilize a person's career after several years of real world experience and feedback. According to Edgar Schein, career anchors are difficult to predict ahead of time because they are evolutionary and a result of a process of discovery. You are not very sure about them until you are confronted with a choice such as moving to other place or start your own business. For

Chapter 2: Performance Appraisal

(Asha Binu Raj and P.V. L. Ramana)

Introduction

In the previous chapter, we have discussed ways to manage the careers of employees. In this unit, we will discuss performance appraisal.

The performance of an organization is managed by monitoring and managing the performance of the individual employees in the organization. The objectives and goals of individual performance are determined on the basis of organizational objectives and goals. Hence, the successful performance of an organization is the result of individual performances and contributions. Performance appraisal management is a critical and sometimes controversial aspect of organizational management. Traditionally, performance appraisal has been related to rewards and punishments in the organization, but of late, the concept of developing employees, based on appraisal has gained popularity. In recent times, the measurement and evaluation of performance has been replaced by performance management.

Performance management, a dialogue-based joint process, is a continuous review, where the focus is on values and behaviors and is less likely to be linked to pay. While performance appraisal has a historical approach, performance management is concerned with things that need to be done to develop people, in order to improve performance.

This chapter will discuss the concept and objectives of performance appraisal. We shall then discuss the appraisal process and the various types of appraisers. We shall then move on to discuss the various performance appraisal methods and the appraisal interview. Finally, we will discuss the pitfalls, uses, and ethics of performance appraisal.

Concept of Performance Appraisal

Performance is the degree of accomplishment of tasks by an employee in his/her job, while the term appraisal refers to fixing the price/value of an object or thing. The process of evaluating the performance of employees and communicating the results of the evaluation to them, for the purpose of rewarding or developing the employees is known as performance appraisal. Performance appraisal is concerned with the process of valuing an employee's worth to an organization, with a view to increasing it. It is also called performance review, annual review, or annual appraisal.

Objectives of Performance Appraisal

The objectives of performance appraisal have been listed in Table 2.1.

Chapter 3: Employee Training and Management Development

(Niraj Kishore Chimote and Sheela Rosalyn)

Introduction

In the previous chapter, we have discussed the concept of performance appraisal. In this unit, we shall discuss employee training and management development.

Apart from selecting employees, organizations should also train them properly so that they have the ability to face the continuous challenges posed by a competitive business environment. Today, technological advancements and globalization of business have made it crucial for organizations to concentrate and invest substantially on training their employees to meet global challenges. In addition, the ongoing trends of greater work force diversity, flatter organizations, and increased global competition have heightened the importance of training and development in helping the employees take up greater responsibilities.

This chapter will discuss the definition and purpose of training, and then discusses how to assess the training needs, and the areas of training. We shall then discuss the employee training methods, and the evaluation of the training program. We shall then move on to discuss the concepts of training and development, and management development. Finally, we will discuss the various management development methods, and explain how to evaluate a management development program.

Definition and Purpose of Training

According to Michael Armstrong, training is "the systematic development of the knowledge, skills, and attitudes required by an individual to perform adequately a given task or job." However, for training to be successful, employees have to be convinced of its utility and effectiveness. A successful training program improves employee performance, which in turn, enhances the performance of the organization. The main objectives of training are:

Improving Employee Performance

Providing training to employees at the time they are recruited helps them in learning the job faster and ensures better performance. In addition, training helps in bridging the gap, between the actual and the expected performance of the employees and helps them in improving their performance, to meet the organizational performance standards.

Updating Employee Skills

The management has to continuously evaluate and adopt any technological advances that will enable the organization to function more effectively and efficiently. Training helps employees to update their skills and helps in integrating the technological changes successfully into organizational systems and processes.

Chapter 4: Compensation Management

(Radha mohan and P.V. L. Ramana)

Introduction

In the previous chapter, we have discussed the employee training and management development. In this unit, we shall discuss compensation management.

Employee compensation is one of the major factors that determine employee satisfaction in an organization. A good compensation system, which gives employees a fair deal helps in attracting and retaining employees, keeps the organization competitive, and motivates the employees, to perform at their best.

Traditionally, the pay scales in organizations reflected the importance of a particular job and the level of responsibility involved in it. With growing competition in today's changing business scenario, organizations are now under compulsion to determine an accurate system for job evaluation and employee assessment. Employees in an organization now consider fair compensation policies and the system of rewarding them, as key indicators of the management's outlook and concern toward them.

This chapter will discuss the definition and objectives of job evaluation. We shall then discuss the process, techniques, advantages, and limitations of job evaluation. We shall then move on to discuss the concept of compensation administration and the various concepts of wages. Finally, we will discuss the basic wage plans, the executive compensation, and concept of rewards, incentive plans, and employee benefits.

Definition and Objectives of Job Evaluation

Job evaluation may be defined as a systematic way of analyzing and evaluating jobs for determining the relative importance of each job in an organization. It forms the basis for designing the compensation management system in an organization. Other factors like the organization's size and structure, the industry to which it belongs, the strength of the employee unions, an employee's position and relative importance in the organization, the demand for a specific set of skills in that industry, and profitability also determine the compensation system.

Objectives of Evaluation

The primary objective of job evaluation is to establish the relative worth of different jobs in the organization and provide the basis for the compensation management system. Following are some of the other objectives of job evaluation.

- To establish the place and position of a job in the organizational hierarchy
- To clarify the responsibility and authority, attached to each job
- To manage internal and external consistency in the compensation system
- To maintain complete and accurate data regarding the description and specification of various jobs
- To ensure employee satisfaction regarding the compensation system adopted

Chapter 5: Occupational Safety and Health

(Raghavendra Sode and R. Muthu Kumar)

Introduction

In the previous chapter, we have discussed compensation management. In this unit, we shall discuss occupational safety and health.

As per the statistics of the International Labor Organization, every year, there are more than 125 million workers across the world, who fall prey to occupational accidents and diseases. These accidents sometimes prove to be dangerous and even fatal. A number of legislations have been passed to protect the interests of the workers regarding health and safety. However, it is also important that the corporate houses (both manufacturing as well as service) take the necessary measures to provide a safe and healthy work environment for their workers. Health and safety of the employees is, thus, a crucial aspect that helps in smooth and effective functioning of an organization.

This chapter will discuss the causes of safety and health problems at the workplace. We shall then discuss the provisions to prevent accidents at the workplace. We shall then move on to discuss the safety and health programs in organizations, and study the concept of stress, and its consequences on employee performance. Finally, we will discuss the challenges involved in the service sector.

Causes of Safety and Health Problems at the Work Place

The Factories Act, 1948, defines accident as "an occurrence in an industrial establishment causing bodily injury to a person, which makes him unfit to resume his duties in the next 48 hours." An accident is not anticipated or designed. It occurs due to the callousness of the employer, inattentiveness of the employee, and/or due to technical problems. The causes of accidents are:

Lack of Education and Training

A majority of the organizations do not provide proper training to their employees, regarding the usage and maintenance of their machinery and chemicals. Carelessness on the part of workers, while operating powerful machines, may also result in serious injuries. Unsafe machines should be fenced and instructions on how to operate them should be provided to the employees. Training should be imparted to those who are working in mines, chemical factories, and nuclear environments. Care should also be taken regarding storing and making use of chemicals and nuclear materials.

Human Errors

These errors are committed both by the employees as well as the employers. Employees who are careless and have the tendency to make mistakes are referred to as 'accident prone' employees. These employees should be identified and shifted to a safer workplace, so as to ensure that they do not cause any harm either to themselves or to

Managing HR Issues in Organizations



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Asha Binu Raj

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Managing HR Issues in Organizations

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Chapter 1: Grievance Handling

(P.V. L. Ramana)

Introduction

Employees differ in terms of their needs, expectations, and behaviors. When the needs of the employees are not fulfilled or their objectives not met, there is employee dissatisfaction. This, when formally brought to the notice of the management is referred to as a grievance. The grievance redressal procedure of an organization makes it possible for employees to cite their grievances. A solution is then reached at the individual level, instead of allowing such grievances to take the shape of industrial unrest. The organization should also keep track of such grievances, so that it can verify its policies and procedures from time to time, in order to avoid similar problems in future.

This chapter will discuss the concept and causes of grievance. We shall then discuss the need for having a grievance redressal procedure, and the conditions required to have an effective grievance redressal. We shall then move on to discuss the steps involved in the grievance redressal procedure, and the same in unionized organizations. Finally, we will discuss the concept of conflict resolution.

Concept of Grievance

Before discussing the concept of grievance, it is important to understand the difference between dissatisfaction, complaint, and grievance. *Dissatisfaction* arises when an individual is unhappy in his/her job and when the organization does not recognize his/her objectives. This dissatisfaction gives rise to *complaints* when the individual discusses the matter with another employee in the organization, and to *grievance,* when it is brought to the management's notice.

The main cause of employee grievance is a mismatch between the goals of the management and those of the employee. The grievance of an employee might not be a major issue for the management, but for the employee, it is of great significance, as it is concerned with his/her career and future in the organization. The management should, therefore, show genuine concern and adopt a humanitarian approach, while handling employee grievances. Yet, proper care should be taken to avoid any violation of rules and regulations, as it might lead to problems for the management in the future.

Causes of Grievance

According to the National Commission on Labor, "the complaints affecting one or more individual workers with respect to their wage payments, overtime, leave, transfer, promotion, seniority, work assignment, and discharge would constitute grievances." Such grievances should be addressed immediately, through a procedure that satisfies all the concerned parties. If not, these situations might lead to industrial conflict. Following are the factors that contribute to employee grievances.

Chapter 2: Disciplinary Action

(Ashok Kumar Goute and Sheela Rosalyn)

Introduction

In the previous chapter, we have discussed grievance handling. In this chapter, we shall discuss disciplinary action.

Disciplinary problems are caused by employees, who do not adhere to the rules and regulations of the organization. The task of managing sensitive indiscipline-related problems in an organization, vests with the human resource manager. The act of indiscipline has to be dealt with carefully and at the earliest, since it may affect the performance and morale of the entire workgroup.

This chapterwill discuss the definition and concept of discipline. We shall then discuss the aims, objectives, forms, and types of discipline. We shall then move on to discuss the acts of indiscipline or misconduct, and study the principles required to maintain discipline. Finally, we shall discuss disciplinary procedure, the approaches to discipline, and the various types of disciplinary action.

Definition and Concept of Discipline

Discipline takes place due to employer's dissatisfaction of employees. Discipline refers to a condition or attitude, prevailing among the employees, with respect to rules and regulations of an organization.

According to Earl R. Bramblett, discipline refers to the "orderliness, the opposite of confusion. It does not mean a strict and technical observance of rigid rules and regulations. It simply means working, cooperating, and behaving in a normal and orderly way, as any responsible person would expect an employee to do".

Employees should adhere to the rules and regulations, laid out by the organization, with respect to order and discipline. But there are some employees, who indulge in acts of indiscipline and the organization is therefore under compulsion to take necessary steps against them, so as to discourage such behavior.

Disciplinary action is taken against those employees, who fail to meet the obligations toward their job and the organization. The main objective of disciplinary action is to make an employee conform to the rules and regulations of the organization.

In the absence of strict disciplinary measures, employees may be habitually late for work, ignore safety procedures, act rude to customers or engage in unprofessional conduct with co-workers. They may, in short, engage in behaviors that are intolerable and highly prohibitive. Of course, it is true that true discipline is not a matter of rules and regulations alone. It is largely educational because it changes the very attitude of the workers towards their work and workplace.

Chapter 3: Trade Unions

(K. Veena)

Introduction

In the previous chapter, we have discussed disciplinary action. In this unit, we shall discuss about trade unions.

Trade unions are groups of worker representatives who fight for the betterment of workers. They play a crucial role in industrial relations. The trade union movement originated in India in 1850 to fight for the provision of better employment conditions to the then emerging Indian working class. Post-independence, the Indian trade union movement has undergone several changes. Today, trade unions in India face many challenges like continuous changes in the business scenario, rapid technological developments, and globalization.

This chapter will discuss the definition, concept, functions, and types of trade unions. We shall then move on to discuss the methods adopted by trade unions, and the various problems faced by them. Finally, we shall discuss the effect of globalization on trade unions.

Definition and Concept of Trade Unions

According to the Indian Trade Unions Act of 1926 [Sec. 2(b)], a trade union has been defined as "any combination, whether temporary or permanent, formed primarily for the purpose of regulating the relations between workmen and employers, or between workmen and workmen, or between employers and employers, or for imposing restrictive conditions on the conduct of any trade or business, and includes any federation of two or more trade unions."

From this definition, it can be inferred that trade unions are formed:

- As a result of the workers' desire to protect their economic interests in an organization
- To negotiate with the management and improve the working conditions at the organizational or industrial level
- To improve the relations between workers-employers, or workers-workers, or employers-employers.

Trade Union membership

Some workers join trade unions in the belief that it will offer them job security, while others join them to have a sense of belonging to the worker community. Of late, the changing attitudes of workers and the society toward trade unions have led to a reduction in trade union membership to a large extent. Following are some of the reasons for the declining membership in trade unions.

Chapter 4: Industrial Relations, Collective Bargaining and Workers' Participation in Management

(Ashok Kumar Goute and K. Veena)

Introduction

In the previous chapter, we have discussed about trade unions. In this chapter, we shall discuss industrial relations, collective bargaining, and workers' participation in management.

Between the 1920s and 1980s, industrial relations in India were adversely affected by the rapid changes in the economy and the industry. Industrial conflicts, strikes, and lockouts, became a common feature. However, significant changes took place in the history of industrial relations in India in the last decade of the twentieth century, due to the changes in the attitudes of the management and the employees.

This chapterwill discuss the definitions and concepts of industrial relations, collective bargaining, and workers' participation in management. We shall then discuss the approaches to industrial relations, and the objectives of industrial relations. We shall then move on to discuss the process of collective bargaining. Finally, we shall discuss the concept and purpose of workers' participation in management.

Definition and Concept of Industrial Relations

Industrial relations can be defined as the relationship between the management and the employees of an industry. Dale Yoder defined industrial relations as, "a whole field of relationship that exists because of the necessary collaboration of men and women in the employment process of an industry".

The concept of industrial relations has been widened, which shows the relationships that exists between the state and its employees, employers and the firms and organizations. According to the International Labor Organization (ILO), "industrial relations deal with either the relationships between the state and employers' and workers' organizations or the relations between the occupational organizations themselves".

Encyclopedia Britannica states that "the concept of industrial relations has been extended to denote the relations of the state with employers, workers, and their organizations. Following are the salient features of Industrial Relations:

- Industrial relations are the outcome of the employer-employee relationship in an organization.
- Industrial relations help in maintaining congenial relationships in an organization by setting a framework for the management and the employees.
- Industrial relations are based on mutual compromise and adjustment for the benefit of both the parties involved.

Chapter 5: Quality of Work Life

(Asha Binu Raj and P.V. L. Ramana)

Introduction

In the previous chapter, we have discussed about industrial relations, collective bargaining, and workers' participation in management about trade unions. In this chapter, we shall discuss quality of work life.

In today's dynamic business environment, organizations face tremendous pressure due to global competition, increasing competition for a talented workforce, constantly improving techniques of production, introduction of new technology, and employees, who want to achieve a balance between work and life. In this regard, the success of an organization depends upon its method of attracting, recruiting, motivating, and retaining its workforce. Organizations should adopt a strategy for improving the employees' quality of work life (QWL) which will not only help to achieve their own objectives but also to fulfill their employees' needs. QWL can be viewed as an alternative to the control approach that organizations use to deal with people.

This chapterwill discuss the definition and concept of quality of work life. We shall then move on to discuss the methods that can be used to improve the quality of work life, and the benefits of such quality of work life programs. Finally, we shall discuss how to implement quality of work life programs effectively.

Definition and Concept of Quality of Work Life

The American Center for the Quality of Work Life defined QWL as "Any activity which takes place at every level of an organization, which seeks greater organizational effectiveness through the enhancement of human dignity and growth... a process through which the stakeholders in the organization – management unions and employees – learn how to work together better...to determine for themselves what actions, changes, and improvements are desirable and workable, in order to achieve the twin and simultaneous goals of an improved quality of life at work for all members of the organization and greater effectiveness for both the company and the unions".

Walton. R.E, (1973) has devised an eight point criteria to measure the 'Quality of Working Life'. The categories are: (i) adequate and fair compensation, (ii) safe and healthy working environment, (iii) opportunity to develop human capabilities, (iv) growth and security, (v) Social integration, (vi) constitutionalism, (vii) total life space and (viii) social relevance. According to Lippitt, G.L. (1978), QWL broadly refers to 'the degree to which work provides an opportunity for an individual to satisfy a wide variety of personal needs to survive with some security, to interact with others, to have a sense of personal usefulness, to be recognized for achievement and to have an opportunity to improve one's skills and knowledge'.

Chapter 6: Quality Circles

(Sharda Singh and Sheela Rosalyn)

Introduction

In the previous chapter, we have discussed about quality of work life. In this chapter, we shall discuss quality circles.

Dr. Kaoru Ishikawa of Tokyo University and the Union of Japanese Scientists and Engineers, introduced the concept of quality circles (QCs), during the 1960s. This concept included the participation of not only the management, experts, and quality control staff on issues related to quality, but also the organization's total workforce. During the initial years of introducing this concept, the Japanese focused on improving product quality. These days, QCs are also used to bring about improvements in areas like safety, training methods, clerical problems, and cost reduction.

This chapterwill discuss the definition, concept, and importance of quality circles. We shall then move on to discuss the development and functioning of a quality circle. Finally, we shall discuss the various problem-solving techniques in quality circles, and study ways to solve issues that arise, while implementing quality circles. Refer exhibit 6.1 for quality circles in India.

Exhibit 6.1 : The Concept of 'Quality Circle' in India

The Quality Circle Forum of India (QCFI) was founded in April 1982, in order to promote the concept of quality circles in India by Bharat Heavy Electrical Limited (BHEL), Ramachandrapuram. It was established as a non-profit organization, with no political affiliations. The main aim of the forum is to create awareness about quality circles in India and to impart the skills that are required to implement them in organizations. QCFI believes that the concept of quality circles has tremendous implications and prospects for a developing country like India. The forum promotes the concept of quality circles through its twenty Chapters, located throughout the country. It also offers various courses, conducts training programs, and brings out its own publications, on the concept of quality circles.

Over the growing years, many other Indian organizations namely Mahindra & Mahindra, Bajaj Auto, Maruti, SBI, Hindustan aluminum, Steel Authority of India limited have successfully implemented several quality circle programs. Quality circle turns to be a successful movement in early 90's and series of successful attempts leads to publication of journals on quality circle initiatives called as 'Quality Circle India'. Following this, a number of Indian companies started publishing their quality circle activities as cases in their in house magazine and newsletters.

Adapted from "QCFI and its contribution to quality circle movement in India," http://www.geocities.com/Heartland/Acres/3257/.

Chapter 7: Emerging Challenges of HRM

(Preshita Neha Tudu and P.V.L. Ramana)

Introduction

"People are definitely a company's greatest asset. It doesn't make any difference whether the product is cars or cosmetics. A company is only as good as the people it keeps." – Mary Kay Ash

Human resources play a pivotal role in the organizations in myriad areas and contribute to organizations' profit and worth. An organization consisting of qualified, courteous and helpful employees is automatically differentiated from a competitor. Today's knowledge economy distinguishes one organization from another with the single most important and powerful factor that is the Human Resources. Employees who have well-rounded expertise provide a number of services to the employers, maintains and control various operations of the organization, and strengthen business operations. It is the employees' efficiency and talent that determines the pace and growth of the organizations. When employees leave their organisation they might be replaced by some other person but their expertise, experience, knowledge, capability and skill-sets cannot be replaced as every individual has a different skill-set and knowledge.

In 1999, Peter Drucker has said that "The most valuable assets of a 20th-century company were its production equipment,…..The most valuable asset of a 21st-century institution, whether business or non-business, will be its knowledge workers and their productivity." Therefore, it is prudent for human resource department to manage its employees in the most effective manner and make judicious use of their skills and knowledge.

Technological advances, Workforce Demographics, Globalization and Liberalization have changed the way business is being done and consequently various challenges are emerging in the field of HRM. This had led to a paradigm shift in the roles performed by HR professionals. The greatest challenge to HRM lies in its major functions, acquisition, development and retention of talented employees in the organization. Employees are human assets that increase in value when appropriate policies and programs are applied. Effective organizations recognize that their employees do have value; just as (or even more than) the organization's physical and capital assets have value. Employees are a source of sustainable competitive advantage.

HR Policies and Emerging Challenges

HR policies are defined as the body of rules and principles of conduct which aids in governing the organization in its relationship with employees. HR policies provide guidelines for employment relationships in the organization to ensure consistency in action and equity in its relation with employees.

HR policies are crucial to manage the emerging challenges. HR managers today are more involved in partnering with their top managers in both designing and

Non-Verbal, Oral, and Group Communications



Editor
PVL Ramana

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Chapter 1: Fundamentals of Communication

(Deepti Nair)

Introduction

Communication is the process of exchanging messages or information between two or more persons. Today, businesses are heavily dependent on information to meet organizational needs. Effective communication plays a key role in fulfilling these needs and contributes significantly to the individual as well as the organizational success.

This Chapter explains the importance of communication, as well as the basic forms of communication such as verbal and non-verbal. It illustrates the communication process and the possible problems that could arise in communication. The Chapter also discusses the barriers to communication and how they can be overcome.

The Importance of Communication

Effective communication is essential for the success of individuals and organizations. Individuals can effectively interact if they have good communication skills. These skills help in their career development, provide clarity of thought and smooth flow of information. Most of the successful managers have good communication skills. Organizations benefit from the internal and external information exchanged by the employees. It can be used by the managements to gain an edge over their competitors.

Communication also makes employees feel that they are an integral part of the organization as the organization keeps them informed about the happenings in the organization, and also receives inputs and suggestions from them for better management practices.

The Basic Forms of Communication

As mentioned, communication is vital for organizational functioning. Communication takes place both vertically and horizontally across hierarchies to accomplish organizational tasks. It is both internal, within an organization, as well as external, outside the organization. It can be of two types: verbal or non-verbal communication. Meetings, speeches, written communications, gestures, etc. constitute various forms of communication. Let us look at different types of communication.

Non-verbal Communication

Non-verbal communication is a primeval form of communication without the use of words. It is commonly used to express emotions like respect, disrespect, love, dislike, unpleasantness etc.

It is spontaneous and less structured. It is considered more reliable as it reflects the true feelings of the sender of the communication.

Generally, gestures and body language connect easily and quickly with the receivers than verbal communication. A communication could be more effective if one combines both verbal and non-verbal forms together.

Chapter 2: Non-verbal Communication

(Chetna Priyadarshini and P.V. L. Ramana)

Introduction

The previous Chapter explained the importance of communication in today's business world. It discussed how effective communication plays a key role in fulfilling business needs and contributes significantly to the individual as well as organizational success. This Chapter is about non-verbal communication.

Non-verbal communication is all those messages expressed through non-linguistic means. It also means 'without the use of words.' We may ask that why do we need non-verbal communication when we have so many words to express our feelings and thoughts? The answer is because non-verbal messages primarily communicate emotions and attitudes. They can contradict, substitute for, emphasize or regulate verbal messages. They can often be ambiguous, but they are more reliable as they are difficult to fake. Non-verbal signals largely communicate a person's subjective responses such as anger, appreciation, dislike or resentment to a particular situation. Despite the widespread attention being given to verbal messages in communication, studies show that over 90 percent of meaning in a message is accounted for by nonverbal communication. For example, one may repeat the verbal message while pointing in a direction when he is already explaining it verbally, in order to make the message more clear for the receiver. Further, we can emphasize on a particular verbal message by using a tone that indicates the real meaning of a specific word being spoken. For example, a commentator during a football match may emphasize through is tone when a team hits a goal, in order to show excitement and pleasure. One may also use non-verbal communication as a substitute for the verbal message. For example, one may use gesture such as putting a finger to his lips for indicating the need to be quiet or using facial expressions such as nodding instead of saying yes. This Chapter describes the various characteristics and components of non-verbal communication, such as paralanguage, kinesics, proxemics, mode of dress, etc. The Chapter also explains how non-verbal communication often says more than words do, and how these signs can be interpreted.

Characteristics of Non-verbal Communication

Having understood the impact of non-verbal communication, let us now look at some of its characteristics.

1) *Non-verbal messages primarily communicate emotions, attitudes:* Non-verbal signals largely communicate a person's subjective responses – anger, appreciation, dislike, resentment – to a particular situation. Messages on ideas or concepts can rarely be conveyed through non-verbal channels. In the case of facts, non-verbal communication cannot be used. For instance, a message that "*The sales meeting is coming up next Monday*," cannot be communicated using non-verbal signals. However, the attitude to the "sales meeting" – dread, eager anticipation – can be communicated through non-verbal signals.

Chapter 3: Listening

(Namrata Chatterjee and R. Muthu Kumar)

Introduction

The previous Chapter explained the various characteristics and components of non-verbal communication, such as paralanguage, kinesics, proxemics, mode of dress, etc. The Chapter also explained how non-verbal communication often says more than words do, and how these signs could be interpreted differently in various cultures. This Chapter is about Listening.

Listening is considered an important tool in business communication; it is a common observation that people spend a good amount of time listening to their bosses, peers or subordinates. Listening is the most frequent and most important type of on-the-job communication. Studies indicate that on an average, personnel at all levels spend more time on listening than on speaking and writing. Listening can improve work quality and boost productivity.

This Chapter discusses how listening can help an individual to update and revise his/her collection of facts, skills and attitudes, as well as improve their speaking skills. It lists the barriers to listening, the best approaches to listening, how to be a better listener and what the speakers can do to ensure and encourage effective listening.

Importance of Listening

Listening constitutes an important component of workplace studies indicate that on an average, personnel at all levels spend more time on listening than on speaking and writing. Top executives prefer to listen more with a view to getting a better feel about the issues. Exhibit 3.1 deals with a case illustrating the importance of listening.

Exhibit 3.1: Importance of Listening

Amit Suri was asked to represent his department at the Benefits Committee meeting of his company. The purpose of the meeting was to announce changes in the company's home loan schemes. Amit was representing his department to convey the support in favor of OTP (onetime payment); he was also aware that other department members favored MIP (monthly instalment payment) scheme.

The head of the committee began to speak. "I know you are all here to learn about our new home loan scheme, and I won't keep you in suspense. We have decided that the MIP scheme will be our primary scheme."

As he continued to talk, Amit fumed. As soon as the meeting ended, he rushed back to his department with the news. Everyone was upset. After some time, one of Amit's colleagues walked up to his desk. "Are you sure the MIP is the only scheme the company is adopting? I just spoke to a friend in the Accounts Department. He says the MIP will be the primary scheme, but those who wish to do so, can opt for the OTP."

Amit could not believe his ears. He called up another colleague, who confirmed what he had just heard.

Source: http://www.ergo84.com/lpchealth1/10errors.html

Chapter 4: Negotiations

(M. Sitamma and Subhash Sarma)

Introduction

The previous Chapter discussed the need for developing proper listening skills, different barriers to listening and the approaches to improving and practicing listening. This Chapter is about Negotiations.

Negotiation plays a vital role in business, at all levels. Be it solving a labor dispute, or facilitating a merger talk, negotiation is required at every stage. Effective negotiation must result in providing solutions to the parties involved.

The outcome of a negotiation depends on what approach is adopted. Negotiation is a delicate process and requires a lot of thinking and analysis.

This Chapter discusses negotiation and the bargaining, lose-lose, win-win, and compromise approaches to negotiation. It explains the various elements of negotiation preparation and the negotiation tactics used in different scenarios.

Concept of Negotiation

To quote a familiar proverb, "you do not get what you deserve, you get what you negotiate"

Negotiations occur in most societies and are a pervasive part of everyday life. They help people settle disagreements or differences. We negotiate on a daily basis, being aware of it or unaware. A mother negotiates with her child for eating food; the mother wants the child to eat, as she is worried about the little one's hunger, although the child is unaware of it. Day in and day out, in our workplace, we negotiate with our peers, superiors, and subordinates regarding the work schedules, contracts, salary etc. Friends negotiate to decide where to go for dinner or which movie to go for, family members negotiate when replacing a car, buying a house or even new clothes. Lawyers negotiate on behalf of their clients regarding legal claims. More complex negotiations can be seen between labor unions and the management of a company or between two companies as they negotiate the terms of a joint venture, between nations on political discussion, international trade agreements, arms control, and in peacekeeping. It can be seen that negotiation helps reach mutual agreements through communication in different contexts and is now seen as a necessary managerial skill.

Negotiation is defined by Roger Fisher, William Ury, and Bruce Patton in their seminal book on negotiating, *Getting to Yes: Negotiating Agreement Without Giving In* as "back-and-forth communication designed to reach an agreement when you and the other side have some interests that are shared and others that are opposed."[1] Zartman (1988, p.32) defines it "as a process of combining conflicting positions into a common position."[2] What these definitions help us to understand is that negotiation is a 'process' involving a series of activities by which the parties move from their conflicting positions to a common position of agreement.

Chapter 5: Interviewing

(Subhash Sarma)

Introduction

The previous Chapter discussed negotiation and the bargaining, lose-lose, win-win, and compromise approaches to negotiation. It also explained the various elements of negotiation preparation and the negotiation tactics used in different scenarios. This Chapter is about Interviewing.

An interview can be described as a goal oriented, interpersonal communication between an interviewer and respondent, primarily undertaken to accomplish a specific purpose, to obtain or provide information, to solve a problem or to persuade someone to take action. The purpose and relationship between the two parties involved determine the style and structure of the interview. Interviews can be classified as Employment, Performance Appraisal, Counseling, Disciplinary and Persuasive, depending upon the purpose of the interview.

This Chapter discusses how to plan for an interview, how to conduct an interview and the ethics of interviewing. It also discusses the various types of interviews. Although it appears to be very technical, the contents of the Chapter are prescriptive for people aspiring for moving up in the ladder.

Interview and Types of Business Interviews

An interview is a goal-oriented, interpersonal communication between an interviewer and a respondent. It is primarily undertaken to accomplish a specific purpose, to obtain or provide information, to solve a problem, or to persuade someone to take some action. The purpose and relationship between the two parties involved determine the style and structure of the interview. Depending on the purpose, business interviews can be categorized as:

Employment Interviews

Employment interviews take place when a specific job opening exists and applicants are to be screened for a position. They seek to determine an applicant's suitability for the job.

Performance Appraisal Interviews

These provide job-related feedback to employees. A supervisor and an employee together assess the progress the employee has made toward the achievement of certain predetermined goals. These interviews identify the areas for improvement and set new goals. The employee's long-term career plans are also discussed at these interviews.

Counseling Interviews

Counseling interviews address the personal and emotional aspects of employees and provide much needed guidance to them. These interviews are conducted to identify and address the root cause for non-performance like family problems, drug addiction, addiction to alcohol, etc. These kinds of interviews, however, require the respondent to open up and the interviewer to exhibit tolerance and willingness to listen.

Chapter 6: Group Communication

(Vijji Subramanian)

Introduction

The previous Chapter discussed the various types of interviews, the plan for an interview, how to conduct an interview and the ethics of interviewing. It described the guidelines for the interviewer and the respondent also. This Chapter discusses group communication.

Groups are formed to accomplish common goals. The objective of forming a group may be to accomplish a goal or to strengthen their interpersonal relations. Many groups fulfill both functions. While groups like families and clubs are predominantly social in their orientation, work groups function to complete a particular task or solve a particular problem.

Communication among group members is very important, as it leads to group decisions. If these decisions are to be effective, a group's members must be able to communicate freely and openly with the others. Groups generally develop certain norms for discussion and group members develop roles that affect the group's interactions.

This Chapter will discuss the factors in the group communication, such as size, longevity, leadership, perception and self-concept and status. It also shows the stages in the group decision making and the ways to plan for an effective meeting.

Factors in Group Communication

Several factors that affect the group dynamics shape the outcome of group discussions. Let us consider a few of these.

Size

The size of a group plays a major role in the group communication. Members of a smaller group can communicate better with each other than members of a larger group, who have fewer opportunities to interact with each other.

Longevity

The interrelationships among the group members depend on whether the group's nature is short term or long term. Groups formed for short-term goals, like those going on a tour, usually focus more on the task at hand, rather than on maintaining interpersonal relationships. Groups formed for long-term assignments, on the other hand, may devote a lot more time to maintaining relationships among members.

Leadership

A leadership that aims at achieving task goals, while maintaining interpersonal relationships within the group, accounts for greater group success.

Perception and Self-Concept

Each member of a group generally has his/her own perception about how the group should function, what kind of goals it should have, and how it should work toward it. At the same time, he/she also has a self-concept, which determines how he/she will interact with others in the group. The successful working of a group depends largely on

Chapter 7: Making Presentations – Getting Started

(Mushtakhusen S M and Vijji Subramanian)

Introduction

The previous Chapter discussed the factors in the group communication, such as size, longevity, leadership, perception and self-concept and status. It also explained the stages in group decision making and the ways to plan for an effective meeting. This Chapter is on making presentations.

Communication is generally initiated to convey a message. Clarity is required for the effective conveyance of the message. In public speaking, the speaker has a preconceived purpose. He/she must determine and clarify that purpose before conveying the message. By doing this, the speaker can select better ideas, language and delivery methods that will help in goal realization.

This Chapter will explain the types of speeches – informative, persuasive and entertaining. It also explains the general and specific purposes of speech, the methods of speaking and analyzing the audience. It also puts forward the non-verbal dimensions of presentations.

Speech Purposes – General

There are three general purposes for speeches -- to inform, to persuade, and to entertain. These are applicable to both public and private communication. Let us now briefly examine these three types of speeches.

Informative Speeches

The purpose of informative communication is to increase the receiver's knowledge about and understanding of a subject. A speaker whose immediate purpose is to impart information often uses dramatic illustrations to entertain his or her audience, thus holding their attention.

In informative speaking, the speaker's main concern is to make the audience understand and remember the information presented. How much the listener knows at the end of a talk is the real test of such speeches.

Persuasive Speeches

The major function of the persuasive speech is to induce the audience to think, feel, or act in a manner that the speaker wants them to. It may induce the listeners to shun their old beliefs, frame new opinions, or strengthen their pre-existing beliefs.

The following are examples of subjects that need persuasive treatment.

1. Final examinations in our colleges should be abolished.
2. Students should be given time off to campaign on behalf of political candidates.

Chapter 8: Organizing and Presenting the Speech

(Mushtakhusen S M and R. Muthu Kumar)

Introduction

The previous Chapter discussed the types of speeches – informative, persuasive and entertaining. It also explained the general and specific purposes of speech, the methods of speaking and analyzing the audience and the non-verbal dimensions of presentations. This Chapter is about organizing and presenting the speech.

Organizing the contents of a presentation is helpful to both the speaker and the listeners, and it makes the presentation more effective. It enables to combine ideas in a variety of ways and thus determine the sequence that is best fitted to their audience and helps accomplish the purpose. Clear organization also helps to retain ideas with greater ease.

A well-organized presentation also benefits the listeners, as it facilitates understanding and keeps the listener active. It also increases the effectiveness of the presentation and has a greater impact on the listeners.

This Chapter will introduce the methods of organizing presentations and explain how organized presentations are more effective, and have a greater impact on the listeners.

Need for Organizing

The process of organizing a presentation benefits speakers in several ways. It enables them to combine ideas in a variety of ways and thus determine the sequence that is best fitted to their audience and to the accomplishment of their purpose. Clear organization also helps them to retain ideas with greater ease. Finally, ideas that are well organized have an added credibility attached to them and this benefits the speakers.

A presentation that is well organized also benefits listeners, who must understand a message the moment they encounter it. Proper organization facilitates this and keeps the listener active. Organizational clarity increases the effectiveness of the presentation and has a greater impact on the listeners.

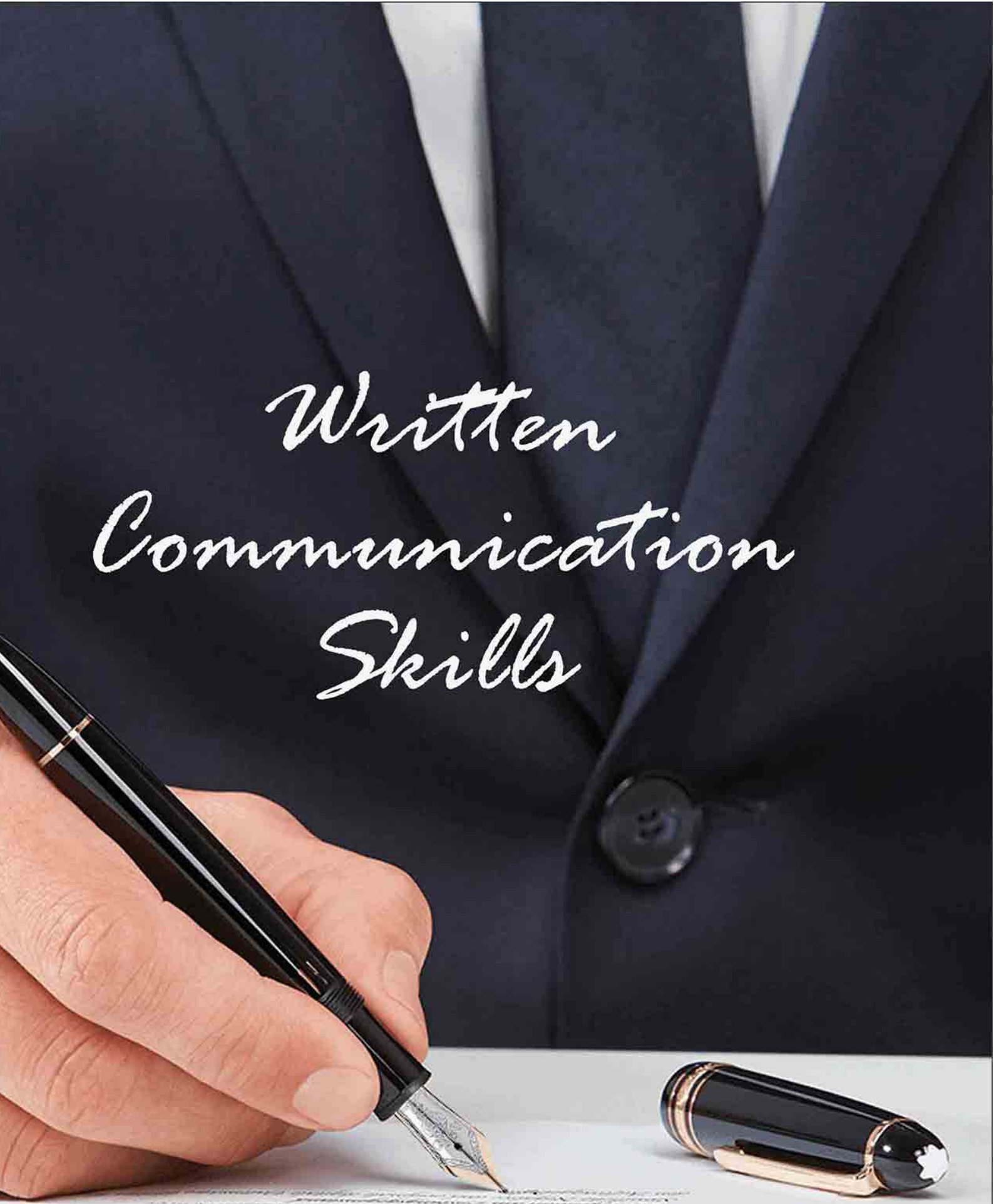
While a message can be organized in many ways, it is commonly organized around the core statement. In such an organization, a core statement representing the central idea of the message is formulated. The main points are then added to supplement it. If required, sub-points are used to substantiate the main points in such an organization.

While organizing a presentation, it can be structured into -- the introduction, the body, and the close.

The Core Statement

The simplest form of speech has essentially two ingredients: (1) a statement or point that requires clarification, amplification, or proof and (2) the materials

Written Communication Skills



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Written Communication Skills

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Chapter 1: Letter Writing: Writing about the Routine and the Pleasant

(Sindhu Ravindranath and Deepti Nair)

Introduction

This Chapter is about letter writing.

Correspondence is an integral part of any business. Businesses need to communicate with their customers, suppliers and other business partners to conduct business. More often than not, this communication is in the written form.

Clarity in messages is an important aspect to enable trust and ensure integrity between the communicator and the receiver. When written communication is written appropriately, clearly, in language which is understood by the receiver, it will clearly define the goal expected to be achieved through the communication, identify problems that are present and arrive at the most clear, positive or appropriate solution. This kind of communication is very important to businesses for success. When the person representing the business – owner, employee, manager, or any kind of stake holder, communicates to any employee, client or stake holder it should be clear and understood as intended. Hence clear written communication is very important.

An effective written communication is the one that conveys the subject clearly. The writer should have good knowledge of the subject, clear purpose, and target audience. These principles of letter writing hold good for both oral and written forms of communication. Writing is more active than passive communication and enables critical thinking and problem-solving skills and help identify and clear personal misconceptions. Ineffective written communication leads to work place incompetence, waste of time and worst -misinterpretation leading to loss of trust and efficiency. Hence written communication requires to have a quality benchmarked by the organisation and be relevant as well as implemented efficiently. The communication should enable feedback as well.

This Chapter explains the importance of understanding the audience at whom the letter is targeted, organizing the message and the types of business letters.

Understanding the Audience

Before composing any message, the writer should be aware of the subject and have a clear picture of what he/she wants to convey and what he/she wishes to achieve through the communication and last but not the least at all, about the audience or the beneficiary of the communication.

It calls for cultivating a “you” or “reader-oriented” attitude. The writer then has to transfer this understanding or mental picture of the audience into the written form by selecting the content carefully and organizing the different parts of the message effectively.

Chapter 2: Writing about the Unpleasant

(Sindhu Ravindranath and P.V. L. Ramana)

Introduction

The previous Chapter explained the importance of understanding the audience, at whom a business communication letter is targeted, organizing the message and the types of business letters. It also helped to identify the types of letters that are used commonly in business situations.

Many a time, an unpleasant situation can arise in business. These situations have to be communicated to other parties. It may be a bank refusing a loan to a customer, or a manager turning down a request for a favor by a subordinate. It is important that bad news is conveyed delicately, but clearly. A skillful manager is one who handles communicating unpleasant information to the listener, without evoking negative feelings in the listener.

Diplomacy and tact are required in all such communication, and those are the key attributes that a manager in this situation will require. It must be done in such a manner that audience co-operation is ensured, and they can be persuaded to accept tough decisions. The writer should ideally place himself/herself in the audience's shoes to understand the feelings that the letter might evoke.

This Chapter lists the various ways in which a manager can write a negative letter and the points that she should keep in mind while handling such communication. It emphasizes the need to have a positive note while presenting facts and reasons for refusal of favors with fair and realistic explanations.

There are three modes of conveying information: face to face, voice to voice and written to read. While face to face is regarded as the best mode of communicating irrespective of what the news is, in an organisation and professional setting we require to adhere to written to read mode of conveying messages. Unfortunately, it is considered the most ineffective given that the body language is absent in entirety as well as context sometimes.

Writing for the Reader

Conveying bad news requires tact. It must be done in a manner that will ensure the audience's cooperation and persuade them to accept tough decisions. Before composing a letter containing unpleasant news, the writer must put himself or herself in the audience's shoes to understand the feelings the letter will provoke.

Sequence of Ideas

Just as good news is supported with details, bad news must also be backed by details. A logical message is easier to understand and accept. A writer conveying unpleasant news needs to organize the message so that the reasons are clear. The sequence-of-ideas suggested for unpleasant messages is as follows:

Chapter 3: Writing to Persuade

(Sindhu Ravindranath and Deepti Nair)

Introduction

The previous Chapter explained the importance of tact in conveying unpleasant news in a business situation. It emphasized the need to have a positive note while presenting facts and reasons for refusal with fair and realistic explanations.

Persuasion would mean to change, motivate or move an audience, by presenting a set of arguments meant to do so. Persuasion can have either positive or negative effects as well as be either implicit or explicit.

The Oxford dictionary defines persuasion as "the action or process of persuading someone or of being persuaded to do or believe something". The purpose of persuasion is to bring others towards accepting the view or to undertake and action you want them to take by changing their views or beliefs. The persuasive communication mode is used in organisations for –

To bring bound an approval or to vote a disapproval of a policy or a certain process

To bring about a change – in work modes, practices, polices, etc.

Or to adopt the new policy

Debates of issues to be dealt with – where the author is making the option clear by defining it and giving arguments for all the claims and finally making the advisory clear

In short – think and act like the writer and take an action which the writer supports or needs or advocate

Clearly successful persuasion is about managing to change the minds. The acceptable modes to change minds are –

Given arguments should be based on evidence and facts

The given arguments in the written document should be based on the readers' interest and understanding and the need

While writing the document its important to have and express respect for the reader and the audience as well

Always support arguments with evidence than opinions

If possible, try to quote or bring in or even mention an important person or organisation who has supported, followed or used the particular process

Always give clear true facts information and numbers so that convincing is a possibility

Emotions can help fasten the process of decisions – invoking either happiness, anger, or sadness in the reader (or the audience) or any kind of emotion or passion could make the decision making easier and faster

It's usually easier for people who are trusted to get a more favorable reply

It's important to convince the reader that the topic discussed is important enough to warrant time and consideration as well as to make an immediate decision

Chapter 4: Communication for Employment – Résumé

(Mushtakhusen S M and Sheela Rosalyn)

Introduction

The previous Chapter focused on writing how to persuade in business, and how to construct persuasive sales messages. It showed how persuasive letters should use an inductive or indirect approach and that the message should not be forced on the reader. This Chapter is on resume writing.

A resume is a summary of one's academic profile and work history. However, it also reflects one's personality and is often responsible for creating the first impression about the person. A good resume is more likely to receive a call for a personal meeting than a poorly drafted one.

Usually, an employer spends about two to three minutes studying a single resume. Therefore, a resume needs to be visually appealing and must contain all relevant details in a reader-friendly format.

This Chapter teaches the fundamental techniques of writing a good resume. It shows how one should plan, structure and choose content for one's resume.

Formulating Career Plans

What is a resume?

To appreciate what a resume is, one has to understand that it is a tool to sell oneself seeking for an employment opportunity . As mentioned in the introductory part, it is a summary of one's academic profile and work history. Incidentally, it also reflects one's personality and is often responsible for creating the first impression in the perception of a recruiter about the person. It is quite possible that a good resume is more likely to receive a call for a personal meeting than a poorly drafted one.

Before you set out to look for a job, you will need to plan your career carefully. When you apply for a job, you will be competing with many applicants. To be successful, it is important that you are able to sell yourself well. First, you must analyze yourself to understand what kind of a job you want to take up and how you want to plan your career. Career Planning will require Self Analysis, Career Analysis, and Job Analysis. Exhibit 4.1 presents few questions for self-analysis and career analysis.

Exhibit 4.1: Questions for Self-Analysis

The kind of person I am

1. Do I have a high level of aspiration?
2. Do I communicate well?
3. Am I dependable?
4. Am I energetic?
5. Am I free of personal habits that would interfere with my work?
6. Am I financially independent?

Contd. …….

Chapter 5: Communication for Employment – Application Letter

(Mushtakhusen S M and K. Veena)

Introduction

The previous Chapter showed the fundamental techniques of writing a good resume. It showed how one should plan, structure and choose content for one's resume. This Chapter is on writing an application letter.

An application letter, like a resume, is also a tool to sell oneself. It must be written in such a manner that it arouses the prospective employer's interest and improves the chances of getting a personal interview with the employer. An application letter usually acts as a covering note for the resume. Therefore, it need not be very detailed, but it must highlight the important aspects of one's resume. The employer's perspective must be kept in mind while writing an application letter and should highlight the qualities that the employer would consider important for the job in question.

An application letter can also be called a solicited letter of the application when one is applying in response to an advertisement for a vacancy. It is an unsolicited application if one applies without being sure, if the company has a vacancy or not.

This Chapter lists the qualities of a well-written application letter and the way that one should plan an application letter.

Qualities of Well-Written Application Letters

The importance of an application letter has been discussed in the introduction paragraph. As it is a tool to sell oneself, particularly when one applies for a job, the applicant needs to understand its important features; these are discussed in detail below.

When writing an application letter, tailor the letter to the unique requirements of the position and the company to which you are applying for. While drafting the letter, keep the following in mind:

The 'You' Attitude

While writing, focus on the reader and his needs rather than on yourself. For e.g., instead of writing, "I wish to apply for the post of Sales Representative as I am enthusiastic and hard-working…", write, "A degree in Marketing and my interpersonal skills will enable me to be the enthusiastic, hard-working salesman, you advertised for."

Length of Letter

An application letter must be restricted to one page. It must contain enough relevant information to arouse the reader's interest in your resume, but should not divulge all the details of the resume itself. Limit the letter to four to five paragraphs, unless it is essential to write a longer one.

Chapter 6: Writing Effective Memos

(K. Veena)

Introduction

The previous Chapter listed the qualities of a well-written application letter and the way in which one should plan an application letter for maximum impact. It highlighted how an application letter is also a tool to sell oneself. This Chapter is on writing effective memos.

Memos are short notes that are supposed to convey information in a direct, efficient manner. Depending on the situation in which the memo is written and the target audience, it could be informal or businesslike, short or detailed. Some memos require that the writer uses a deductive approach. However, some delicate or unpleasant situations may require the writer to use the inductive approach.

A memo is a written message to provide personnel in an organization with a quick and effective way of communicating with each other. Day to day memos about reminders for an upcoming event or response to inquiries can be informal, special information memos such as new cost-cutting measures or bringing a disciplinary problem to the notice of the staff are usually formal. Good memos are well organized and have clarity.

This Chapter showcases the skills required for writing good memos. It explains the types of memos, the fundamentals of a good memo, persuasive memos and the ways to write memos for unpleasant news.

Fundamentals of Effective Memos

A memo is a written message designed to provide personnel in an organization with a quick and effective way of communicating with each other. They are generally short and do not require much time to read and write. Memos can be informal, if they are used for day-to-day activities like reminding the staff about a coming event or responding to an inquiry, or they are formal memos if they convey special information such as new cost-cutting measures in the company or bringing a disciplinary problem to the notice of the staff. Two fundamentals of good memos are:

Organization

Memos are generally written to provide quick information; therefore, they need to be very well organized so that they can be easily understood. For easy organization, the information in a memo can be written down point wise.

Clarity

A memo must be direct, concise and simple so that everyone can understand it. If it lacks clarity, it can lead to confusion.

Consider the example of a memo, given in Exhibit 6.1, sent by Mr. Ghosh to Mr. Kishore. The memo refers to a conversation that the two had at the annual meeting held a month earlier. However, it is very likely that Mr. Kishore will be unable to recall what they talked about, and so, will not be able to send the material Mr. Ghosh wants. Therefore, this memo has failed in its purpose.

Chapter 7: Structure and Layout of Letters

(Deepti Nair)

Introduction

The previous Chapter showcased the skills required for writing good memos. It explained the types of memos, the fundamentals of a good memo, persuasive memos and the ways to write memos for unpleasant news. This Chapter is on structure and layout of letters.

The appearance of a letter makes the first impression on the reader. Good appearance adds to the content of the letter in appealing to the reader. Therefore, it is imperative that a writer ensures that the letter not only reads well but also looks good.

Good quality bond paper that does not turn into yellow fast; personalization using a letterhead with the company's name address, phone and fax numbers and an email address; and proper placement and punctuation go a long way in making a letter look neat, professional and impressive.

This Chapter introduces the various punctuation styles and letter formats used in business communication, standard letter parts and special letter parts. It also showcases memorandum formats.

Punctuation Styles and Letter Formats

Two punctuation marks are customarily used in business letters: open and mixed. The mixed punctuation style uses a colon after the salutation and a comma after the complimentary close. Open punctuation uses no punctuation after either the salutation or the complimentary close.

Formats

The three letter formats that are usually used are the block, the modified block, and the simplified block.

Block

In this format, all the lines begin at the left margin. Pl refer Exhibit 7.1.

Chapter 8: The Framework of a Report

(P.V. L. Ramana)

Introduction

The previous Chapter introduced the various punctuation styles and letter formats used in business communication, standard letter parts and special letter parts. It also showed various memorandum formats. This Chapter is on writing reports.

Reports are essential management tools. This is mainly because a manager cannot personally look into every aspect of the business. He/she has to rely on others to collect and report information to other colleagues.

Seeing how a report is essential for management, the goal in making a report should be that the information in it is clear and convenient for the student to comprehend. The elements of a report should be carefully crafted and demarcated, for the report to be clear and readable. The body of the report must be developed in a logical and focused manner.

This Chapter introduces the elements of a report and details of how the text of a report should be crafted.

The Elements of a Report

A report has a number of components. However, it is not necessary that all the components are included in every report. In fact, each organization has its own, convenient style of reporting. Successful reports of an organization can be referred to understand the style of the report. While preparing reports, the reader's needs have to be given the most importance.

The following elements will be discussed here:

1. Letter of transmittal
2. Title page and title fly
3. Abstract
4. Table of contents
5. List of illustrations
6. Executive summary
7. Glossary and list of symbols
8. Appendix

The Letter of Transmittal

The letter of transmittal epitomizes the report and presents to the principal reader. It is attached to the report or simply placed on top of it.

Chapter 9: Writing Business Proposals and Business Plans

(ChetanaG. Krishna)

Introduction

In the previous Chapter, you learnt the framework of a report writing, contents of the body of report etc.

In this Chapter, you will study various aspects of writing a business proposal; it is a written document sent to a prospective client or the internal management for a specific job to be done. The proposals can be solicited or unsolicited/ internal or external. A solicited proposal is done formally using RFP – Request for proposal. RFPs are documents which specify the product or service to be provided, the qualifications sought, and the deadline for submissions. Here, the company has decided to make the purchase but looking out for a suitable vendor. For example, a textile industry may advertise an RFP in a leading newspaper about its requirement for good quality yarn – solicited external proposal. An unsolicited proposal is done when a proposal is sent to the prospective buyer, although it has not been asked for, because it is expected that the customer would buy from you. This Chapter covers various aspects of business proposals and business plans.

Business Proposals

A business proposal is a written document that presents information and sends precise request to the reader. In other words, it is a formal expression of interest in providing a service involving professional expertise in the form of products or services. A business proposal seeks to ask for commitment of resources like time, money and people. It is important to keep in mind that all business proposals have the major goal of selling.

The aim is that the buyer buys something from you, whether it is your time/expertise. Even special types of proposals like business plans are in essence marketing documents that seek to sell the company's offerings. Business proposals clearly state the goals, objectives of the company that is followed by a presentation.

Difference between Business Proposals and Business Reports

Business reports communicate the future plans of the company on the basis of which business proposals are made for building business opportunities. The differences between the two are presented in Table 9.1.

Table 9.1: Differences between Business Proposals and Business Reports

Business Proposals	Business Reports
Convincing tone, persuasive in approach to obtain a positive response	Factual in nature, may be informative and persuasive.
Emphasis is on providing the best service and establishing trustworthiness in the minds of the reader	Focus on real issues and the ways to overcome a negative impact, if any.

Contd.....

Chapter 10: Writing the Report

(P.V. L. Ramana)

Introduction

The previous Chapter introduced the elements of a report and detailed how the text of a report should be crafted to make it clear and convenient for the reader to comprehend. This Chapter explains various aspects of writing report.

Reports (as mentioned in the previous Chapter) are business tools that assist managerial decision-making and problem-solving. Reports can be classified on the basis of form, direction, functional use and content. There are four steps in writing a report. Informational reports are structured on the basis of importance, sequence, chronology, spatial orientation and category of sub-topics. Analytical reports are structured using hypothesis and relative merit.

Reports usually end with a conclusion or recommendation depending on the nature of the report.

This Chapter explains the various types of reports and the four steps involved in writing a report. It also shows how to structure a report, and how to generate conclusions and recommendations at the end of a report.

Different Types of Reports

Reports can be classified on the basis of form, direction, functional use, and content. The following brief review of classification helps explain the scope of reporting and establishes a departure point for studying reports and reporting.

Formal or Informal Reports

Formal reports are carefully structured. They stress on objectivity and organization, contain a lot of details, and tend to eliminate such elements as personal pronouns.

Informal reports have casual usage of words, mostly quite short ones.

Short or Long Reports

This classification is based on the size of the report.

Informational or Analytical Reports

Annual reports, monthly financial reports, reports on personnel absenteeism etc. are called informational reports meant for both internal and external purposes.

Analytical reports are prepared after some research relating to the problem to be addressed, indicating the outcome of the research/study.

Activity 10.1

You are the production manager of a company and want to share the performance of the department with other members of the organization. You have prepared text that runs to about eight pages. What kind of report will you use to share the information?

Contd. ……

Chapter 11: Presenting Data using Visual Aids

(R. Muthu Kumar)

Introduction

The previous Chapter explained the various types of reports and the four steps involved in writing a report. It also showed how to structure a report, and how to generate conclusions and recommendations at the end of a report

A report's success depends not only on how well the writer has accessed information through research, but also on how well he/she has presented it. What techniques writers can use to make the data comprehensible or how the writer can make important points stand out and complex data easy to understand are the questions one faces–while writing a report.

Visual aids in a presentation help to communicate the subject matter clearly. A graph or table is easier for the audience to understand as compared to a paragraph. Visual aids clarify and simplify data. It can also be used to emphasize important material and consequently, to persuade the reader to come around to the writer's point of view.

This Chapter explains the role and importance of visual aids in presenting data, and lists the various types of visual aids that can be used. It also shows how visual aids can be incorporated in text to make it easier to understand.

The Role and Importance of Visual Aids

The success of writing a report is achieved when the contents are easily read, comprehended, remembered and retrieved. This depends on how well the report is presented. Visual aids are used in a presentation to communicate the subject matter clearly. A graph or table or a picture is easier for the audience to understand as compared to running matter.

Visual aids clarify and simplify data. For instance, if a company's share of sales and its competitor's share of sales per region are tabulated or presented graphically, the audience would understand it more easily than presenting in the form of a running text. Visual aids thus clarify and simplify data. They can also be used to emphasize important material, and consequently to persuade the reader to come around to the writer's point of view.

Wherever there is a need to summarize, reinforce, attract, impress, and unify the content of the presentation, particularly when numerical data is presented, visual aids are extensively used. However, visual aids should not be overused as they could distract readers and break the continuity of the main argument of the report.

Types of Visual Aids

In reports, the most commonly used visual aids are:

- Tables
- Line charts
- Bar charts

Chapter 12: Review of Writing Skills

(Niraj Kishore Chimote and P.V. L. Ramana)

Introduction

The previous Chapter explained the role and importance of visual aids in presenting data, and the various types of visual aids that can be used were listed out. It also discussed how visual aids can be incorporated in text to make it easier to understand. This Chapter is on writing skills.

Writing skills are important for a manager, as he/she has to manage a large amount of communication within and outside of the organisation. A sentence is a basic Chapter of any written text.

A sentence is a group of words so arranged as to convey a meaning. The words in a sentence should therefore, have a recognizable relationship with each other to be able to convey some meaning. To make sense, the sentence should have a proper structure and should adhere to the rules of grammar.

This Chapter shows a few basics of structuring a sentence, the role of punctuation in conveying the meaning of a sentence, logical grouping of sentences to make a coherent paragraph and the various steps in writing an essay.

Sentence Structure

A sentence can broadly be divided into two parts: the subject and the predicate. The subject identifies things, while the predicate describes an action involving the subject. *Eg: The sun (subject) shines (predicate).*

Now, each word in these sentences has its own function in contributing to the overall meaning of the sentence. Depending on these functions, a sentence has different parts of speech or word classes. We will look at a few basic points that will help us to avoid making the errors that are commonly encountered in business writing.

1. State the subject of each sentence, unless it is an imperative sentence (e.g. *Drop that book*), where the subject (you) is understood and therefore left out.

2. Keep to the normal subject-verb-complement sequence to the extent possible.

We	*opposed the move*	*for three reasons.*
Subject	Verb	Complement

3. Do not put unrelated ideas in the same sentence.

   My dog needs a haircut and the old lady living next door wears false teeth. Here dog needing haircut and lady wearing false teeth are unrelated ideas.

Activity 12.1

Identify the misplaced modifier in the following statement and rephrase the sentence to make it meaningful. *I came to enjoy flying over the hills.*

Contd. ……

Managing the Self



Editor

Musarrat Shaheen

Managing the Self

Editor:
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Chapter 1: Tools for Professional Development

(*Mushtakhusen S M and Sudarshana Manoj)*

Introduction

Professional development can be understood as a process to improving and increasing the capabilities of persons in their occupational roles. This needs quite a good deal of self-awareness.

Self-awareness is not consciousness[1]. It is one's ability to know oneself as separate from the external environment and everyone else. It allows monitoring the path of emotions and thinking. This constant watch will help to control emotions, behaviour and indirectly the person himself.

Self-awareness is becoming aware of oneself and one's equations with others around self. A heightened awareness helps to become a better decision maker and choose the best alternative.

Goals are results that are desired, envisioned, committed to achieve; planned by both people and organizations. A goal can also be taken as aim, purpose or anticipated result.

A goal that is written down will provide with a framework to plan and work, represents an inner urge; it acts as a reminder of what needs to be accomplished in a specific span of time. But not having a goal is troublesome for any individual.

This unit also explains how best time can be managed best optimal output. Time is a very precious resource, and unlike any other resource, it cannot be stored for use at a later date. Time management does not urge one to work longer or harder, it only shows how efficiently organizing time, and prioritizing tasks helps one to make the most use of time. Time management ensures that time is not wasted on non-important or trivial issues; rather it is used for activities that are ranked in the order of importance. It helps an individual to perform effectively and efficiently.

This chapter will explore how to become aware of the self, manage time, set goals, and how to plan to achieve those goals. It also discusses the things that waste time, and how best they can be eliminated.

Importance of Self-Awareness

As mentioned earlier, self-awareness is becoming aware of oneself and one's equations with others around self. A heightened awareness helps to become a better decision maker and choose the best alternative. Self-awareness is a psychological state in which people become aware of their traits, feelings and behaviour.

Development of Self-Awareness

Anterior Cingulate, a region of the frontal lobe is instrumental in the development of self-awareness. While referring to the Brooks-Gun experiment, self-awareness begins to emerge around the age of 18 months in children, an age where there is rapid growth

[1]*Consciousness refers to being able to understand, notice, being awake… https://dictionary.cambridge.org/dictionary/english/consciousness*

Chapter 2: Business Etiquette

(*Niraj Kishore Chimote and Chetana G. Krishna)*

Introduction

In the previous chapter we learnt professional development, self-awareness, time management and goal setting. More and more businesses use an open-floor plan, transparent cubicles, with employees working close to each other which have led to the importance of work and office etiquette. Some experienced observers feel that it is often the minor things, not the major meltdowns that annoy the other party the most. Head honchos of top companies are of the opinion that several problems experienced by companies stem from lack of proper business etiquette which is directly related to one's competence. Hence office etiquette has become an intrinsic element of team and employee success. It helps to avoid workplace discord and aids teams to perform better. Workplace etiquette is easy to adopt as it requires one to be polite, helpful and display basic manners. In this unit, the importance and different types of business etiquette are discussed. It also explains the value of image building and framing.

Business Etiquette

Business etiquette is a set of manners that is accepted or required in a profession. It is important as it creates a professionally, mutually respectful atmosphere, improves communication and develops better professional relationships.

Importance of Etiquette

The following are some points which highlight the importance of etiquette:

Etiquette makes an individual more refined and helps that person generate visible positive impressions in the minds of the others. The manner in which one interacts with members of society speaks volumes about the personality and upbringing.

Etiquette educates an individual about the subtle behavior like walking and talking and the way in which one needs to behave in society.

Etiquette is a pre-requisite for visible first impressions in interactions with superiors, elders, colleagues and other people in social circles.

Etiquette allows individuals to receive admiration and approval in society. It also facilitates individuals in attaching a lot of value to relationships.

Professionalism

In order to be successful in any profession, one has to exhibit professionalism in their work environment. However, this term means different things to different people. For some, it may include being highly qualified and certified for the job, for others it may mean being well dressed to work. According to Merriam Webster dictionary, 'professionalism' is defined as "the conduct, aims, or qualities that characterize or mark a profession or a professional person".

Chapter 3: Managerial Effectiveness – A Conceptual Framework

(P.V.L.Ramana)

Introduction

Till now we have discussed business communication, its importance and the various issues in business communication. In the previous unit, we discussed the concept of business etiquette and its different types. This unit discusses the concept of managerial effectiveness.

Today's business environment is rapidly changing, and customer needs and market requirements have made effective management a prerequisite for the success of any organisation. Effective management means doing the right thing at the right time; about thinking and acting in the right manner. An effective manager is one who can deal with any given situation. Managers plan, organize and contribute to an organization in varied ways. Their role is to lead and motivate their employees, and be accountable for the work of their employees. An effective manager is required to know how to prioritize his tasks and responsibilities. He should possess effective communication skills and good interpersonal skills to make the right decisions,

This unit will introduce the concept of managerial effectiveness and its importance. It also discusses the characteristics, strengths and skills that an efficient manager should possess, and his/her contribution to an organization.

Managerial Effectiveness

A manager needs to first manage himself/herself, in order to manage others effectively. Therefore, it can be said that effectiveness starts at a personal level and then moves on to the personnel level. Effectiveness is not something a person is born with; it has to be acquired. The training for effectiveness involves teaching the managers about the important role that knowledge and people play in the success of an organization. Effective managers cannot be identified by any particular personality traits. They are effective each time, no matter what the task. Effectiveness can be mastered only with regular practice. Exhibit 3.1 illustrates managerial effectiveness at Continental Data Graphics.

Exhibit 3.1: Managerial Effectiveness

Managerial effectiveness can be acquired and mastered with practice. Continental Data Graphics (CDG) set up in 1969, was a company that provided printing, imaging, and other related services. It believes in training for effectiveness. In 2000, the then CEO of CDG, David Malmo, decided to transform the company from a printing services provider to an information management company. In order to lead the transformation, he decided to improve the productivity of the organization, the performance of the employees, and the effectiveness of the managers and the supervisors. He believed that effective managers and supervisors could increase the overall productivity of the organization. For this purpose, CDG hired Entelechy, a

Contd…..

Chapter 4: Stress Management

P.V.L.Ramana

Introduction

The previous chapter discussed the ways in which an effective manager is able to achieve goals and expectations. The chapter also discussed the various characteristics that an effective manager should possess. But what happens when a manager is not able to cope, and does not manage effectively? When goals are not achieved, or managers are over worked, they face stress.

Stress arises due to the demands placed on an individual and the individual's inability to meet those demands. Stress is an involuntary physical reaction and causes harmful effects on one's body and mind. In today's fast paced and highly competitive environment, stress has become a way of life for many; especially so for managers. Stress related illnesses include clinical depression, high blood pressure and heart problems. In view of this, it has become very important for an individual to identify stress triggers, and take steps to manage them. Managers have to deal with unforeseen situations, and this can often cause stress. Stress management includes handling stress effectively by planning work, setting realistic goals, taking regular breaks, exercising etc. It helps a person to stay in control and balance their work and personal life better.

This unit will identify the causes and sources of stress, and the effect stress has on individuals. It will also illustrate the strategies that should be adopted to cope with stress, and how it is best handled, through various measures such as spirituality, delegation, relaxation, laughter, meditation etc. as well as the importance of maintaining a healthy work/life balance.

Definition of Stress

Stress is defined as anything that disrupts the normal person's physical or mental well-being. Stress occurs when an individual performs activities beyond his/her capabilities or when met with extraordinary demands. According to the Taber's Cyclopedia (a medical dictionary), stress is 'the result produced when a structure, system, or organism is acted upon by forces that disrupt equilibrium or produce strain.'

Hans Selye (1936) has defined stress as "a dynamic activity wherein an individual is confronted with an opportunity, constraint or demand". According to Coleman (1976), modern age has been called the 'age of anxiety and stress'.

Organizational Stress Lack of person-environment fit leads to Organizational Stress. Now, there are two assumptions for stress, first, that a misfit between person and environment leads to stress, and second, that subjective perceptions of work environments primarily determine stress. Thus, it is prudent to have a congruence between characteristics of a person and his environment in order to have a congruence between individual and the organization resulting in positive results. The work environment should provide opportunities for meeting individual's needs and aspirations failing which stress may result affecting the health, morale, performance and well-being of the individual.

Individuals, both at home and at organization, often wish a life with no frustration, no conflict, no pressure and believe that such a life is more fun. But the fact is "Without

Chapter 5: Creativity in Management

(R. Muthu Kumar)

Introduction

The previous chapter explained the importance of time management, and how best to set goals and objectives for maximum output. It also outlined the importance of prioritizing tasks based on their urgency and importance.

The ability to take risks or to take a novel approach to a problem is what differentiates a creative organization from an ordinary one. Today, more and more companies are giving importance to creative solutions, and what may also be termed as "out of the box" thinking. A creative organization will have more solutions to any given problem, and therefore more chances of being able to overcome problems. Creativity helps managers to perform routine activities in new ways. Creativity is highly ranked in today's companies, and contrary to popular belief, it can be inculcated among individuals.

In this chapter, the relevance of creativity in an organization, and how it is important in today's scenario will be discussed. The unit also provides an overview of the different stages of creativity, its components and the various techniques that companies employ to develop and enhance creativity, such as the Delphi technique, brainstorming, six thinking hats, mind mapping and lateral thinking.

Defining Creativity

The ability to create something new or bring into existence something original is called creativity. Creativity helps managers to be sensitive and flexible to changes in the environment. Webster's dictionary defines creativity as 'the ability to create' or 'to cause to come into existence, to bring into being, to give rise to, or to portray for the first time.' Creative ability is the extent to which an individual or a manager uses novel or unconventional approaches to solve a problem. It is how an individual visualizes a problem or situation and deals with it. Creativity is the relationship between counter forces like learning and problem solving. Creativity involves forming unusual relationships between diverse situations to create a new solution that will meet specific requirements.

Innovation and Creativity

Many times innovation and creativity are used synonymously. However, there is a difference between the two. Creativity means bringing a new idea into existence while innovation means putting the new idea into practice. Innovation transforms an idea into something that will enable others to use it. Creativity stimulates innovation. Creativity can exist without innovation but innovation cannot exist without creativity. Creativity involves looking for ideas in a diverse environment and innovation involves looking at the internal environment i.e. analyzing the available resources for putting the idea into practice.

The process of innovation involves a series of activities. Innovation starts with creativity i.e. identifying new ideas and selecting the most suitable one. It then involves preparing



Managing People

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Chapter 1: Emotional Intelligence in Management

(*Asha Binu Raj and P.V. L. Ramana)*

Introduction

This chapter is on Emotional Intelligence.

Emotional Intelligence (EI) is the capacity for recognizing our own feelings and those of others, for motivating the self and for managing emotions in internal and external relationships. EI finds several applications at the work place, especially between peers and subordinates. A person with a high EI is better able to manage his/her relations with others at the work place. The two major components of EI are personal competence and social competence.

This chapter will discuss the nature and evolution of Emotional Intelligence, the components of EI and the impact that emotions have at the workplace. It explains the various applications of EI at the workplace, and the role of EI in Indian organisations. It also shows the methods of improving EI.

The Nature of Emotional Intelligence

Emotions can be defined as "a feeling and its distinctive thoughts, psychological and biological states, and range of propensities to act." The word 'emotions' come from the Latin word *motere* which means 'to move.' All emotions induce a desire to act. There are basically two types of emotions – primary and secondary. What a person feels at first is primary emotion and primary emotion leads to secondary emotion. For example, if anger is a secondary emotion then the primary emotion is what a person feels just before getting angry, which could be a feeling of being assaulted, insulted, or forced.

Evolution of Emotional Intelligence

In 1983, a Harvard psychologist, Howard Gardner, proposed a model named 'multiple intelligence.' This model explained seven kinds of intelligence in which two skills – social adeptness and knowing one's inner world – were related more to emotions than to intelligence. This model was a major step in the study of the differences between emotional and intellectual capabilities of human beings.

The phrase "emotional intelligence" was coined by Dr. Peter Salovey (Salovey) of Yale University and Dr. John Mayer (Mayer) of the University of New Hampshire in 1990. Salovey and Mayer identified four abilities and skills required for emotional intelligence and called them the four branches of emotional intelligence. They were:

- The ability to recognize emotions
- The ability to use emotion to assist the thought process
- The ability to be aware of emotions
- The ability to manage emotions

These four abilities formed the four branch model of emotional intelligence. The first branch involves the ability to understand emotions from the facial expressions and postures of a person. The second branch involves the ability to use emotions to assist the thought process. The third branch relates to the ability to be aware of emotions and

Chapter 2: Interpersonal Skills

(*V. Sudarshana Manoj)*

Introduction

The previous chapter discussed the importance of Emotional Intelligence in an organisation, and how managers need to be aware of his/her own emotions, and that of those around, to be able to become a better manager. It explained the nature and evolution of Emotional Intelligence, the components of EI and the impact that emotions have at the workplace. This chapter is on Interpersonal skills.

The ability of individuals to build and maintain relationships with other members of the organization constitutes their interpersonal skills. These skills are critical for managers in organizations as their primary job responsibilities include hiring, supervising, mentoring and retaining employees. Self-awareness, control, motivation and communication skills are some of the important interpersonal skills that managers should possess. Transactional analysis, which deals with the analysis of communication between individuals, is an effective tool that can help to enhance the interpersonal competencies of managers.

This chapter explains the interpersonal competencies that are essential for managers, such as self-awareness, control, motivation, acknowledging interests of subordinates and communication skills. It discusses how interpersonal skills can be developed. This unit also explains the concept of transactional analysis and the various types of transactions that take place between individuals.

This chapter also discusses how success of an individual largely depends upon his/her interpersonal skills, and how these skills determine the quality of their relationships with others. It emphasizes the need to be open and empathetic to build positive relations in an organization, and also discusses how to deal with criticism and manage conflict.

Introduction to Interpersonal Skills

Interpersonal skills are related to the ability to understand and manage one's own feelings, actions, and motivations and those of others in social contacts. In an organization, a person with good interpersonal skills will be able to interact effectively with his/her superiors, subordinates, and peers. In various job situations like giving directions, motivating, decision-making, etc. interpersonal skills play an important role. The use of modern communication tools like e-mail, voice mail, etc. makes the role of interpersonal skills even more important as such tools do provide for the use of facial expression, gestures, etc. to assist the communication process.

Employees with good interpersonal skills generally exhibit the following qualities:

- Ability to treat others in the organization with respect
- Readiness to share knowledge with others
- Willingness to train others in the organization
- Good negotiation skills
- Conflict-resolving skills

Chapter 3: Leadership and Change Management Skills

(*Asha Binu Raj and P.V. L. Ramana)*

Introduction

The previous chapter discussed the interpersonal skills that are essential for managers, such as self-awareness, control, motivation, acknowledging interests of subordinates and communication skills. It discussed how interpersonal skills can be developed. It also introduced the concept of transactional analysis and the various types of transactions that take place between individuals. This chapter is on Leadership and change management.

Leadership is the act of influencing the behaviour of others so that they perform the functions of the organisation. There are different leadership styles but there is no one generic style that can be used across all situations and organisations. Leadership skills like long term vision, persuasion, change management and crisis management skills are those that differentiate a successful organisation from others.

This chapter explains how leadership skills can be developed and the various types of skills required for becoming a successful leader. It also discusses in depth change and crisis management skills.

Leadership Skills

Developing leadership skills is a constant process and these skills have to be developed throughout one's career and with conscious effort.

Developing Leadership Skills

In developing leadership skills the assessment of already existing leadership skills and the preparation of a leadership plan to enhance those skills are important. In addition, all the functions that are performed in the organization should also be considered as opportunities to enhance leadership skills. It is important to understand here that leadership is different from management. Leadership is more concerned with emotional and strategic factors while management primarily deals with aspects like control, performance, problem solving, etc. Exhibit 3.1 deals with Jack Welch's perceptions on good leaders.

Exhibit 3.1: Jack Welch on Good Business Leaders

Replying to a question on good business managers, Jack Welch once said that he preferred the term good business leaders over business managers. Good business leaders develop a vision for their organization, clearly state their vision, fervently own their vision, and persistently drive it to completion. Good business leaders will be open, informal, and straight with people. They try to reach out to as many people in the organization as possible. They do not try to adhere to already established patterns. Good business leaders will be easily accessible.

Adapted from Tichy, Noel and Ram Charan "Speed, Simplicity and Self-Confidence, An Interview with Jack Welch." Harvard Business Review. Sept/Oct 1989.

Leadership skills can be developed with the help of a leadership development plan. A conscious and committed effort on the part of the people concerned to implement the plan

Chapter 4: Multi-Cultural Communication Skills

(*Sheela Rosalyn)*

Introduction

The previous chapter discussed the various leadership styles and how they can be acquired. It was discussed that there is no one generic leadership style that can be prescribed; it also clarified on the methods to handle change management and crisis management in organizations.

This chapter discusses multicultural communication skills. Culture is the collective programming of the mind which distinguishes the members of one group from another. The culture of an individual has an impact on the way he/she will behave in certain situations. Managers today have to manage a diverse work force that comes from various parts of the world. This makes it necessary for them to have multi-cultural skills that will enable them to perform their functions effectively.

The culture of a particular country influences the designing and marketing of products and services, and the ability of a business to adapt to the culture in which it operates is critical for its success in international business.

This chapter will give an overview of different cultures, and explain the need for multi-cultural communication. It also explains the need to be sensitive while dealing with other cultures and the common mistakes committed in cross cultural communication.

Understanding Different Cultures

Culture is the 'collective programming of the mind which distinguishes the members of one group from another.' Every business function is influenced by culture. The culture of a particular country influences the designing and marketing of products and services. Also, different cultures value time differently. The ability of a business to adapt to the culture in which it operates is critical for its success in international business. In many MNCs, the diversity in the workforce is increasing and this calls for serious attention being given to cultural adaptability by these companies. To manage global teams effectively, it is important for managers to have a fairly good understanding of cultural differences. Similarly, to be successful in foreign markets, managers should understand cultural differences in terms of attitudes, values, religions, customs, education, and language of those foreign markets.

Not having good cultural skills could lead to various problems like being culturally offensive, ending up with cultural mix-ups, tarnishing personal relationships, and failing in negotiations. It could also have a negative impact on the profits of the organization.

A Dutch research project conducted by Geert Hofstede during his tenure as a psychologist at IBM, revealed that culture can be classified along four dimensions[1], namely, power distance, masculinity vs. femininity, uncertainty avoidance, and individualism vs. collectivism.

[1] *https://www.cleverism.com/understanding-cultures-people-hofstede-dimensions/*

Recruitment - Gateway to Selection



Editor
Asha Binu Raj

Recruitment: Gateway to Selection

Editor:
Asha Binu Raj

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Recruitment: Gateway to Selection

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Chapter 1: Recruitment: An Overview

(*Asha Binu Raj and P.V.L.Ramana)*

Introduction

Organizations are realizing the increasing importance of human capital and its role in their development. Recruitment is the first step in the process of acquiring and retaining human resources for an organization. With the business environment becoming increasingly dynamic and competitive, organizations have to quickly assess their staffing requirements and recruit the right people. A well-defined recruitment policy helps an organization meet its staffing requirements.

The focus of this chapter is on the concept of recruitment, its objectives, factors affecting and sub systems of recruitment. It also deals with the strategies and policies that corporations apply for procuring right talent. Millions of people apply for jobs, making the recruitment process complex. All these aspects are covered in this unit.

Concept of Recruitment

Organizations' productivity and profitability to a great extent depends on the quality of its workforce. The quality of the workforce is essentially a function of its recruitment policies and procedures. Hence recruitment is an essential function of all organizations. Organizations use several methods to get right talent at minimum cost. Acquisition of talent is an important human resource function. It involves recruiting, selecting, placing and inducting suitable candidates, both in terms of number and suitability of the candidates to the organization. We will understand the process of recruitment first and study in later chapters selection, induction and placement.

Different scholars explained the processes of recruitment and selection in different ways. While some explained recruitment and selection synonymously, some others used them as separate processes. Let us understand these different perspectives:

Recruitment, according to Subba Rao[1] is 'the process of searching for prospective employees and stimulating them to apply for jobs in an organization'. It deals with:

- Identification of existing sources of applicants and developing them.
- Creation/identification of new sources of applicants
- Stimulating the candidates to apply for jobs in the organization.
- Striking a balance between internal and external sources

According to him, selection is 'the process of ascertaining the qualifications, experiences, skills, knowledge etc., of an applicant with a view to appraising his/her suitability to a job'. This function includes:

- Framing and developing application blanks.

---

1. *P Subba Rao, Essentials of Human Resource Management and Industrial Relations, Fifth edition, Himalaya Publishing House, 2015*

Chapter 2: Recruitment Process

(*Asha Binu Raj and PVLRaju)*

Introduction

In the previous chapter, we gave an overview of recruitment process its objectives and the factors affecting recruitment.

This chapter deals with recruitment process. With a huge competition for attracting the best employee, the recruitment process in organizations has gained special significance. Recruiting employees has huge cost implications. Organizations choose the right people for the job, train them well and treat them appropriately, since it is an investment for the future of the organization. The Organizations cannot afford to recruit wrong people or allow good people to leave the organization. A good and sound employee hiring system is critical for business success in the highly competitive environment. Employees are the very life of a business as they deliver the company's goods and services. People are assets who translate the objectives of the organization into reality through productivity. The skills and abilities of the employees contribute to the productivity and serve the customer effectively. A bad hire invariably costs heavily the company as it drives down the business and customer loyalty is lost. In today's business world, a good employee with right skills and attitude can be a contributory factor for the growth of an organization.

Objectives

After studying the chapter, the student should be able to:

- Explain the steps involved in recruitment process for carrying out the function of recruitment in a systematic and objective manner.
- Distinguish between internal and external recruitment in identifying the sources of recruitment
- Illustrate the role and importance of employer branding in creating employee friendly organizations
- Analyse the issues relating to costs incurred in recruitment by organizations to acquire potential candidates.

Steps in Recruitment Process

In the words of Dale Yoder, recruitment is the process to "discover the sources of manpower to meet the requirements of the staffing schedule and to employ effective measures for attracting that manpower in adequate numbers to facilitate effective selection of an efficient working force. Attracting a large number of people requires many activities, which need to be studied individually and also holistically.

The process of recruitment consists of various activities through which prospective employees are searched and motivated to apply for jobs in the organization. This process includes various steps such as recruitment planning, developing strategy, and searching job seekers, screening candidates and evaluation of the expenditure to be incurred for recruiting candidates. Knowing the steps involved in recruitment process helps in carrying out the recruitment function in a systematic and orderly manner.

Chapter 3: Sources and Techniques of Recruitment

(*Asha Binu Raj and Sheela Rosalyn)*

Introduction

In the previous chapter, we explained steps in recruitment process and the challenges in recruitment and HR challenges in hiring. It also explained employer branding.

Organizations have the choice of selecting their candidates for the process of recruitment through internal and external sources of recruitment. Having the right candidates is very important for an organization to function effectively. Thus, organizations should implement effective techniques of recruitment to hire the best candidates that fit the needs of the organization.

This chapter discusses sources and techniques of recruitment. It also deals with 'why a recruitment program needs to be assessed.

Sources of Recruitment

The major function of recruitment is to attract potential job applicants in large numbers. Organizations search for such candidates many a times. The crucial question for them is to search from where. For instance, if they want freshers for entry level jobs, it is good to go to colleges and universities to advertise for the vacant positions. .Knowing all the sources of recruitment is necessary for effective recruitment.

The sources of recruitment are divided into two types – internal sources and external sources. Internal sources are sources within the organization for filling up vacancies whereas external sources are those outside the organization from which vacancies can be filled.

Internal Sources

The internal sources of an organization include, present temporary employees, present permanent employees, retired or retrenched employees, and dependants of present, retired, disabled and deceased employees.

Present temporary employees

This source is usually used by organizations to fill vacancies at the lower level owing to the availability of the suitable candidates. The employed candidates also get motivated to perform their job.

Present permanent employees

This source is considered by organizations to fill up positions at the higher level due to (i) availability of suitable candidates for jobs that are equal or relative to the external source (ii) to meet the demands of trade unions and (iii) to motivate the present employees as per the organizational policy.

Retired or retrenched employees

Some organizations retrench employees due to lay-offs. The organization employs some of the retrenched employees due to pressure from the trade union or some obligation. In some cases, the organization re-employs the retrenched employees as a token of the

Chapter 4: Hiring Trends

(*Asha Binu Raj and Unnikrishnan)*

Introduction

In the previous chapter, we explained about the sources and techniques of recruitment. The present chapter deals with hiring trends. As business competition intensifies, one of the major strategic challenges for organizations, is to manage incompatible demands. There will be simultaneous pressure on people to risk-taking but without adding cost of failure. Focus will be (on one hand) on commitment to the organisational vision, and on the other hand, on ability to change direction. On strategic dimensions, organizations will be driven to pursue creativity and innovation in product development, new market penetration, diversification etc. There will be pressure for organizations to decentralize profit and planning responsibilities, and at the same time centralise to capture efficiency of all resources in innovative ways. Organizations of the future will exist with the strategic purpose of meeting the expectations of a vast network of stake-holders, both internal and external.

The hiring phase of human resource management is also called staffing. Staffing involves policies and procedures used by organizations to recruit and select employees.

Hiring process focus on ensuring that the company hires the right employees for right positions at right time with right skills. There are several different steps involved in the hiring process.

There are two categories of hiring:

- **General hiring** - This means inviting applications for posts which do not require specialised skills.
- **Specialised hiring -** When jobs of specific requirement have to be filled at middle and higher levels, there is need for specialised recruitment. It invites applicants who have qualification and skill to fill the specialized jobs.

Hiring is a positive aspect of staffing that invites a large number of applications for job vacancies. It is essential to select the most suitable candidate for the vacant post. When a person is hired for a specific job, it is selection, and placement is said to be the process of fitting the selected person at the right job or place In placement, the person possessing the desired skill and competence is appointed and placed at the job which best suits his/capability.

Equal Employment Opportunity (EEO)

A cardinal principle of hiring is to abide the Equal Employment Opportunity (EEO) laws. These laws ensure that individuals are hired without bias with respect to their race, religion, gender, color, nationality, age or disability. Employees are hired on the basis of their ability to perform a job. EEO laws also prescribe that all people are treated with dignity and contribute to a diverse and inclusive workforce which can strengthen, enrich, and contribute to the creativity of an organization. Employers have to follow these laws and failure of compliance of these laws can result in legal action. Employers are advised to have a copy of the laws, relevant to their business, along with state laws that may differ.

Selection, Placement & Induction



Editor
A Kranthi Kumar

Selection, Placement and Induction

Editor:
A Kranthi Kumar

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Selection, Placement and Induction

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Chapter 1: Selection Process: An Overview

(R. Muthu Kumar)

Introduction

Selection of candidates is the next step after recruitment in an organization's acquisition of human resources. There is minimal interference of external factors in this area. The selection process involves a series of steps which help in evaluating the candidates. It has to be in accordance with the organizational requirements. Human resource planning, job analysis and job specifications provide the basic requirements based on which the selection process should be designed. After an organization carefully selects its human resources, it places them on the job. The employees placed in the company are introduced to the organizational environment through induction.

In this unit we will discuss the concept of selection and the procedure of selection.

Concept of Selection

Once an organization identifies the sources of human resources, it searches for prospective employees and stimulates them to apply for jobs. The management has to carry out the function of selecting the right candidate for the right job at the right time. The objective of selection is to identify the most suitable candidate who can successfully perform the job, from the pool of qualified candidates. The procedure for selection is a system of devices and functions that is adopted by organizations to ascertain whether the specifications of the candidates match with the requirements and specifications of the job or not.

The selection procedure cannot be effective until the requirements of the job to be filled and employee specifications are clearly mentioned and candidates for screening have been attracted.

Significance of Selection Process

Organizations look for productivity and efficiency, which can be achieved by selecting suitable candidates. The employee selection process is a complex function. The organizational capability to attain goals effectively and to develop in a dynamic environment depends primarily on the effectiveness of a selection program. When an organization selects the right candidates, the remaining functions of human resource management are carried out effectively. In addition, the employees are committed to their jobs and thus make an effective contribution to the organization. Selecting the right candidate also helps in maintaining sound employee-employer relationships.

Factors Affecting Selection Decisions

Making selection decisions is crucial for hiring the right fit to the organization and the decision-making is affected by several factors. The goal of selection is to eliminate unqualified candidates so as to meet the requirements of the job and the organization.

The factors that affect the selection decision of candidates are as follows:

- **Matching of profile:** A tentative decision regarding the candidate's selection is taken in advance. The scores for selection are pre-determined as a standard for success or failure for candidates at every stage. The organization also takes care of matching the

Chapter 2: Modern Employee Selection Procedures

(Rajasekhar David and Jyothirmayeee Reddy)

Introduction

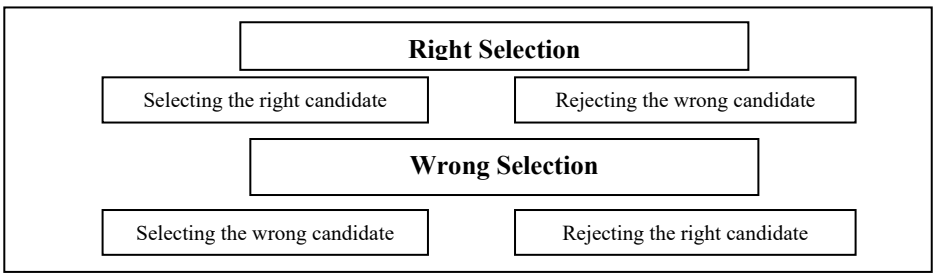
In the previous chapter, we discussed the procedures involved in selection process. It also explained how application forms are evaluated and different types of tests and interviews conducted. This chapter deals with modern employee selection procedures.

Selection is the process of interviewing and evaluating applicants for a particular job and selecting candidate for employment is based on specific criteria. In this process, potential applicants are segregated from the rest of the applicants with the objective to choose the right candidates who can fit into and make the most valuable contributions to the organization. The professional standard of Industrial-Organizational Psychologists (I-O Psychologists) suggests that any selection system should be based on job analysis to ensure that the selection criteria are job-related. The essentials for a selection system are to assess knowledge, skills, ability, experience and any other specific criteria if any.

Factors Influencing the Selection Process

Understanding the factors that influence selection process will result in selecting the right candidates. The basic idea in a selection process is choosing the right person for the right job. A selection process is said to be right or wrong when it undergoes situations as depicted in Figure 2.1.

Figure 2.1: Selection Decision



Source: ICFAI Research Center

Selecting the right candidate for the right job is not easy. There are many factors that influence the selection process of which important factors are discussed below:

- The steps involved in the selection process depend upon the job description. The series of tests depend upon the type of candidate to be selected i.e. candidates opting for managerial level positions require more scrutiny in terms of their technical, human and conceptual skills than for candidates opting for lower level positions.
- The quality of candidates called for interview depends upon the source of recruitment. The time and energy required in a campus recruitment program is much lesser than other recruitment methods like advertisements, walk-ins etc. Further, the advantage of campus recruitments, especially at entry level jobs, is that recruiters can select candidates possessing the required qualifications which help in enhancing the quality of selection.
- The more the number of candidates for selection processes, the more the number of tests that have to be conducted in order to filter the candidates.

Chapter 3: New Employee Induction Trends

(Rajasekhar David and Jyothirmayee Reddy)

Introduction

In the previous chapter, we dealt with various modern selection methods practised by various organizations and their advantages and disadvantages. It also identified some important causes for attrition and their impact on organizational performance. It described different retention strategies to cope up with attrition in organizations. This chapter discusses induction process, onboarding and organizational culture in detail.

Induction program introduces a new employee to the rules and regulations, do's and don'ts of the organization, the safety measures that should be taken at the workplace, general company information, benefits they deserve, the working environment in which they are going to work, their rights, terms and conditions of employment, legal and compliance requirements for working in the organization.

In simple words, an induction program is used to welcome new employees to the company and prepare them for their new roles. Good induction program increases the productivity and reduces short-term turnover of staff. Induction program plays a critical role in the socialization process with an impact on the individual's performance, attitude and commitment.

Induction Program

After hiring new employees, the important task to be undertaken by organizations is to see that their new employees integrate as quickly as possible in to the organizational work culture.to enhance organizational productivity. An induction program is the process used for welcoming new employees to the company and acquaint them to the company and its culture and also prepare them for their new roles.

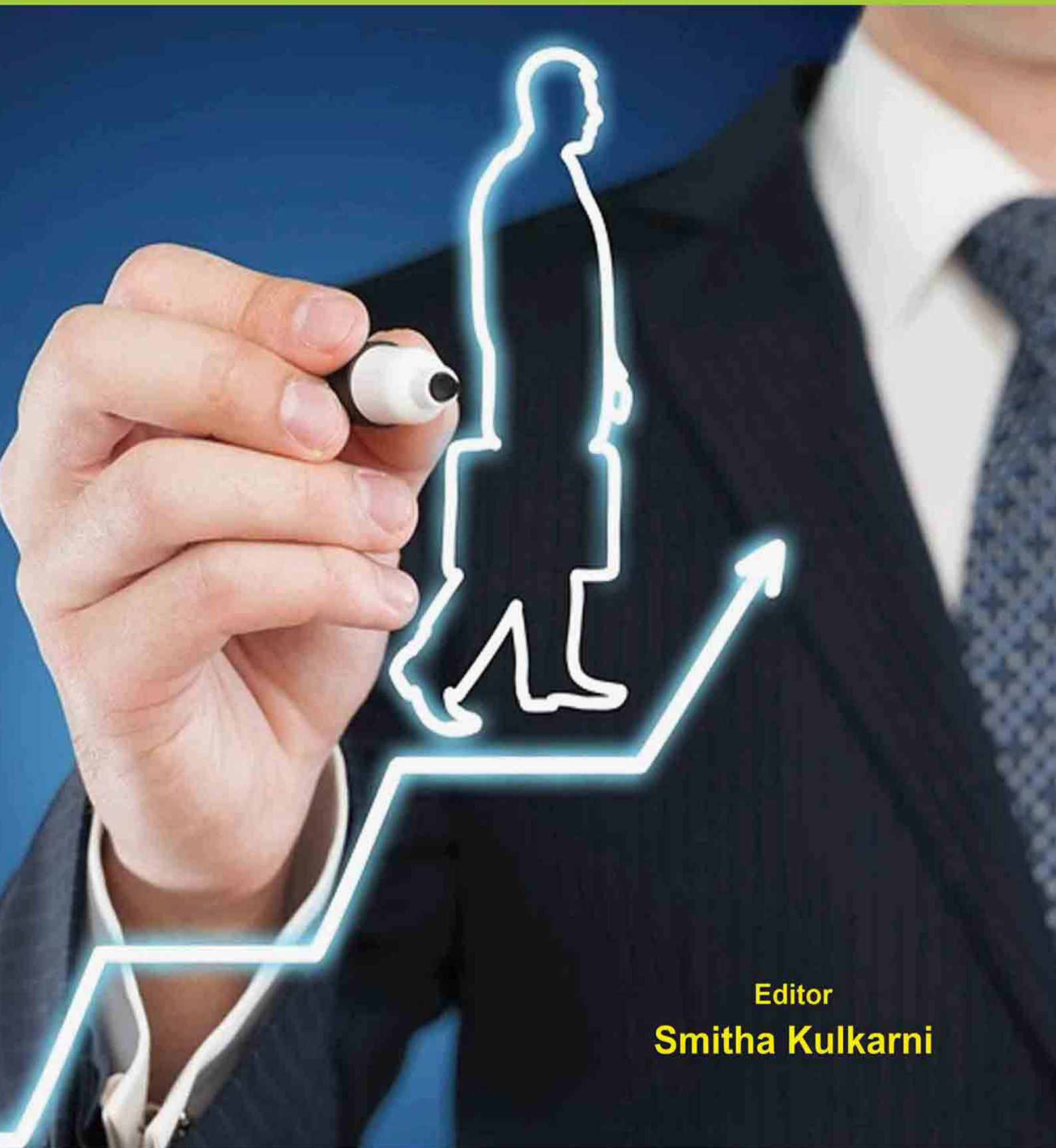
Definition

The process by which a new employee is welcomed into the organization is called as 'Induction'.

The final step of the employment process includes introducing the new employee to the job location, surroundings, organization, and employees currently working in the organization. Some organizations do not emphasize this function as they feel that it will be carried out automatically by the colleagues of the new employees. On the other hand, some organizations consider the function of induction vital as the turnover rate is high among new employees compared to already existing employees. This is because of the problems associated with adjusting to the new organizational environment. Further, lack of knowledge about the new environment, behavioral variations, cultural gap, variations in job requirements and organization may also disturb the new employee. Therefore, induction plays a key role in acquainting the new employee with the new environment and the rules and regulations of the organization.

In general, the new employees expect an opportunity for advancement, responsibility, status and prestige, challenges, lucrative salary, etc., but jobs with low challenges,

Training: Developing Human Resources



Editor

Smitha Kulkarni

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Training: Developing Human Resources

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Chapter 1: Introduction to Employee Training

(R. Muthu Kumar)

Introduction

Apart from selecting employees, organizations should also train them properly so that they have the ability to face the continuous challenges posed by a competitive business environment. Today, technological advancements and globalization of business have made it crucial for organizations to concentrate and invest substantially on training their employees to meet global challenges. In addition, the ongoing trends of greater workforce diversity, flatter organizations, and increased global competition have heightened the importance of training. Training also helps employees take up greater responsibilities. The underlying principle of training is to develop employees holistically so as to realize organizational goals.

Concept of Employee Training

Dale S Beach defined training as, "the organized procedure by which people learn knowledge and/or skill for a definite purpose."

According to Michael Armstrong, training is "the systematic development of the knowledge, skills, and attitudes required by an individual to perform adequately a given task or job."

In other words, training alters, molds, and improves the knowledge, skill, behavior, attitude, and aptitude of employees to suit the requirements of the job and the organization.

Importance of Training

The importance of human resource management depends largely on the development of human resources. Training is the most important function of human resource development. No organization gets a candidate who exactly matches the job requirements. Therefore, training is vital to develop the employee and make him/her suitable for the job.

Trained employees are a valuable asset to an organization. The progress, efficiency, productivity, and development of an organization depend to a great degree on training. The objectives of an organization such as growth, stability, and viability can also be attained through training.

The rapidly growing competition also increases the significance of training. Further, trained employees are ready to take up any assignment and the success of an organization to a large extent depends on the timely and qualitative training provided by it to its employees. Exhibit 1.1 explains the importance of training and education at Gilbane, one of the American family-owned companies.

Chapter 2: Training Needs Assessment

(K.Veena)

Introduction

In the previous chapter, we discussed the concept of employee training, its need, advantages, principles and importance of training.

Effective training practices involve the use of a training design process. The training design process starts with needs assessment. Through needs assessment, organizations can determine what type of training is required and whether the trainees are willing to learn. Using competency models, organizations ensure that training systems are contributing to the development of employee skills, knowledge, and personal characteristics.

This chapter discusses assessment of training needs, the participants in needs assessment, and the assessment methods. It also examines the process of needs assessment along with the importance of competency models in training.

Assessment of Training Needs

Needs assessment refers to "the process used to determine whether training is necessary." It involves three elements — organizational analysis, person analysis, and task analysis. Organizational analysis involves determining training appropriateness, given the business strategy of the company, resources available for training, and support by peers and managers in training activities. Person analysis involves (i) determining whether the deficiencies in performance are a result of lack of knowledge, skill, or ability or from a work-design or motivational problem, (ii) identifying employees for whom training is essential, and (iii) determining the readiness of employees to undergo training. Task analysis identifies knowledge, skills, behaviors, and important tasks.

Needs assessment of the organization, person, and task analysis shows that there are several reasons why training is essential. These include new technology, performance problems, internal or external customer requests for training, new legislation, job redesign, change in customer preferences, new products, or lack of basic skills in employees.

Needs assessment offers important inputs that form the basis for the remaining steps in the training design. It also helps determine whether a company will outsource its training function or develop it through internal sources.

Participants in Needs Assessment

The basic goal of needs assessment is to determine whether training is needed, who should be trained, and tasks for which training is necessary. Thus it is important to include trainers, managers, and employees in the process of needs assessment. Traditionally, the needs assessment process included only trainers'. But as training helps the organization achieve its strategic goals, both upper and lower level managers

Chapter 3: Learning and Program Design

(Prerna Chhetri and PVL Ramana)

Introduction

The previous chapter discussed the process of needs assessment and the importance of competency models in training.

For learning to occur, it is important to understand what is to be learned, i.e. identify the outcomes of learning. The learning outcomes are related to what is required to perform the job successfully. An understanding of learning outcomes is crucial because the outcomes influence the characteristics of the training environment that are essential for learning to take place. The design of the training program is also important for learning to occur.

After the assessment of training needs, organizations ensure that employees are ready for training and then create an appropriate learning environment. The next step is for the organization to ensure that what employees have learned in training is successfully applied on the job. This is done through transfer of training.

This chapter discusses the concept of learning, theories of learning, and the learning process. It also takes a look at what is involved in designing an effective training program. It then discusses how transfer of training ensures that employees apply on the job what they have learned in training.

Concept of Learning

Learning is defined as "a relatively permanent change in human capabilities that is not a result of growth processes." These capabilities such as verbal information, intellectual skills, motor skills, attitudes, and cognitive strategies, are associated with the learning outcomes.

- Verbal information includes names, facts, and knowledge. It consists of specialized knowledge that employees need in their jobs. For instance, a manager should know the names of various equipment and also have knowledge about Total Quality Management.
- Intellectual skills include concepts and rules, which are vital in problem-solving, serving customers, and creating products. For instance, a manager should be aware of the steps in the performance appraisal process in order to conduct an appraisal for an employee.
- Motor skills include coordination of physical movements. For instance, a telephone repair person should have the capability to climb poles.
- Attitudes refer to feelings and beliefs that influence a person to behave in a certain way. Attitudes have an affective component (feeling), a cognitive component (beliefs), and an intentional component (the way person is intended to behave regarding the subject of the attitude). Work-related attitudes include job

Chapter 4: Training Methods

(Prerna Chhetri and R. Muthu Kumar)

Introduction

In the previous chapter, we discussed the concept of learning, theories of learning, and the learning process.

After a training program is designed, a trainer prepares himself/herself to offer training to the trainee. A training procedure helps the trainer in implementing training. The trainer also has to decide on the method of training i.e. whether the training method is traditional or technology-based. For training to be effective it needs to be based on the training design model. With the advent of technology-based training, most organizations are adopting online learning. After deciding on the method, the trainer also has to decide on the content since it differs for each employee category.

This chapter discusses the training procedure. It also takes a look at traditional methods of training and online learning. It then discusses training content for different employee categories.

Training Procedure

Every training program has to follow certain prescribed procedures. Training programs will be effective only when these procedures are followed systematically. The procedures range from preparation of the instructor, preparation of the trainee, and certain operational procedures. These are discussed here:

Preparing the Instructor: The instructor offering training should know what is to be taught and how it is to be taught. He/she should divide the contents into logical parts so that each part can be taught at an appropriate time.

A committed instructor should:

- Know the subject that he/she is attempting to teach
- Have the attitude and aptitude to teach
- Willingly perform the job
- Have a capacity for leadership and a pleasing personality
- Have knowledge of teaching principles and methods
- Equip himself/herself with the latest technologies and concepts

Preparing the trainee: The first step in training is to put the trainee at ease. Though the instructor may have executed this task several times, he/she should never forget that the training procedure is new to the trainee. The quality of empathy is a mark of the good instructor.

Getting ready to teach:

This stage involves activities such as:

Chapter 5: Trainers' Aid: Bloom's Taxonomy

(Sharda Singh and P V L Raju)

Introduction

In the previous chapter, we discussed the traditional and online training methods. We also learnt that training programs are different for different categories of employees. This chapter deals with Adult Learning and Bloom's Taxonomy as Trainers' aid. It also covers Experiential Learning Theory and Learning evaluation models. All these theories and classifications help the trainer to be effective.

Learning is defined as *"the relatively permanent change in a person's knowledge or behavior due to experience" (Mayer).* In other words, learning is an enduring change in behavior that is brought about from practice or other forms of experience. Learning is an active process which requires that the learner acquire new knowledge and skill and is able to connect to his existing knowledge. William James eloquently describes "*Teaching without an accompanying experience is like filling a lamp with water. Something has been poured in, but the result is not illuminating."*

Principles of Adult Learning

Malcolm Knowles (1970) is known as the father of adult education theory. He identified the six principles of adult learning outlined below.

- Adults are internally motivated and self-directed- take responsibility for their learning.
- Adults bring life experiences and knowledge to learning experiences- their own experience teaches a lot of lessons in life.
- Adults are goal oriented- need clear learning goals.
- Adults are relevancy oriented- the new learning should be relevant to their situations.
- Adults are practical- they prefer hands-on problem solving method rather than theories.
- Adult learners like to be respected- since they have experience pool they expect to be respected.

Andragogy vs. Pedagogy

Pedagogy is a term derived from the Greek words *paid* (meaning "child") and *agogus* (meaning "leading"). So "pedagogy" means, literally, the art and science of teaching children (Knowles, 1973) Pedagogy was based on the premise that the purpose of education was the transmittal of knowledge and skills. It is concerned with the teacher and his teaching and not with learner and his learning. It is teacher centric and not learner centric. Exhibit 5.1 gives an example of pedagogy.

Career Development Programs and Management Development Programs



Editor
Radha Mohan Chebolu

Career Development Programs and Management Development Programs

Editor:
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Career Development Programs and Management Development Programs

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Chapter 1: Career Planning, Development and Management

(Musarrat Shaheen and PVL Ramana)

Introduction

This chapter discusses career planning, management and development.

Career planning and development is crucial for companies to create and maintain a sustaining learning environment. Organizations face the challenge of managing the careers of current employees, in addition to attracting and acquiring employees with new skills.

One of the major factors influencing the concept of careers is the increasing use of teams to produce products and provide services. Teams give companies the flexibility to bring in talented employees from both inside (full-time employees) and outside (temporary and contract employees) the company.

Because employees spend a major portion of their lives working, organizations provide a place where the employees can fulfil their needs for affiliation, achievement, growth, and power. These needs can be satisfied through career management. While doing career planning and succession planning, organizations encounter various problems and develop various strategies to cope with them. All these aspects are dealt in this chapter.

Concepts of Career and Career Planning

According to Edwin B Flippo, a career is "a sequence of separate but related work activities that provides continuity, order, and meaning to a person's life."

Douglas T Hall defined career as "an individually perceived sequence of attitudes and behaviours associated with work related experiences and activities over the span of the person's life."

Protean Career

Today's careers are referred to as protean careers. "A protean career is based on self-direction with the goal of psychological success in one's work." Protean employees take on the key responsibility for their career management.

Traditional versus Protean Career

The career concept is influenced by changes in psychological contract between the employees and the company. A psychological contract refers to "the expectations that employers and employees have about each other." Traditionally, the psychological contract emphasized that the company would offer continued opportunities for employment and advancement if the employees remained with the company and maintained a high job performance level. Increases in salary and status were linked directly to promotions in the company.

Chapter 2: Employee Development

(K. Veena)

Introduction

In the previous chapter, we have discussed the need for career planning, succession planning, importance of career management, and evaluation of career management systems.

Employee development is a key component of the organizational culture. It is a vital part of the mission of the company and is also crucial for business success. Traditionally, development focused only on employees belonging to the management level, while line employees were trained to develop skills needed to perform their jobs. However, with the increased involvement of employees in business and the greater use made of work teams, development is becoming vital for all employees. Organizations adopt several strategies to develop their employees.

Concept of Development

Development refers to "formal education, job experiences, relationships, and assessment of personality and abilities that help employees perform effectively in their current or future jobs and in the company."

Since development is future-oriented, it involves learning. While training and development are similar, there are some important differences between them (Refer Table 2.1 for differences between training and development).

Table 2.1: Differences between Training and Development

	Training	Development
Focus	Current	Future
Use of work experiences	Low	High
Goal	Preparation for current job	Preparation for changes
Participation	Required	Voluntary

Source: "Employee Training and Development," Raymond A Noe, Tata McGraw-Hill, 2012.

Employee development is a vital component of a company's activities since it helps in improving quality, meeting social change and challenges related to global competition, and incorporating technological changes and advancements in work design. Development is also significant for talent management especially for senior managers and employees with leadership potential. Companies often report that they face

Chapter 3: Management Development

(Sheela Rosalyn)

Introduction

In the previous chapter we have discussed the concept of employee development and the strategies followed by companies for employee development.

Organizations focus on management development not just to enhance the performance of their managers but also to offer them opportunities for growth and development. Management development programs aim to impart and develop competencies and skills required to managers for fulfilling managerial responsibilities in an effective manner. Organizations conduct management development programs in a systematic manner by thoroughly evaluating their need and utility. The present chapter emphasizes the importance of management programs for organizational growth and development.

Concept of Management Development

Management development is defined as "a systematic process of growth and development by which the managers develop their abilities to manage." The company's role in management development is to establish the program and the opportunities for development of current and potential managers.

Objectives of Management Development

Organizations conduct management development programs to its managers for imparting managerial responsibilities and for improving their competencies and performance. Management development programs are organized to achieve specific objectives. They are:

- To overhaul the management machinery
- To improve the performance of managers
- To give specialists a view of the functions of an organization and enable them to effectively coordinate with each other
- To identify people with the required potential and prepare them for occupying senior positions
- To boost the morale of the management group
- To enhance the versatility of the management group
- To keep executives up to date with the changes and developments in their fields of operation
- To create management succession which can take over during contingencies
- To enhance the thought process and analytical ability of employees
- To broaden an executive's outlook with regard to his/her role position and responsibilities



Future Outlook of Training & Development

Editor
Mohd Abdul Nayeem

Future Outlook of Training and Development

Editor:
Mohd Abdul Nayeem

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Chapter 1: Training Evaluation

(Manish and K. Veena)

Introduction

Training evaluation is the systematic assessment of training programs to know whether the desired outcomes have reached or not. It also tries to know whether the investment made on training programs are worth the spending and trainees are able to apply what is learnt during the programs. Hence training evaluation is an important component of training programs.

Reasons for Evaluating Training

Training evaluation refers to "the process of collecting outcomes needed to determine whether training is effective."

Organizations make investments in training programs in order to gain a competitive advantage. They invest in training because learning results in knowledge creation, which helps in differentiating organizations and employees who are successful from those who are not successful. Organizations expect the training benefits or outcomes to be measurable since they invest millions of dollars in training and education and also view training as a success strategy.

Training evaluation provides a way to understand investments made in training and offers information that helps improve training process/programs. If the company does not receive adequate return on investment (ROI) in training, it may reduce its investment in training or hire outside consultants who can offer training that would result in improving performance, productivity, customer satisfaction, etc. Training evaluation provides data that demonstrates the training offers benefits to an organization.

Formative Evaluation

The evaluation of training involves formative and summative evaluation. Formative evaluation refers to "the evaluation of training that takes place during the program design and development." Formative evaluation ensures that the (i) training program is organized and will function smoothly, and (ii) trainees will learn and be satisfied with the program. Formative evaluation provides information that makes the training program better; it involves collecting qualitative data such as beliefs, opinions, and feelings, about the training program. It asks for opinions from subject-matter experts, managers, employees, and customers on the program design and description of the training content and objectives. The formative evaluation can be conducted individually or in groups. Trainers may also be involved for measuring the program time requirements. After conducting formative evaluation, the training content may be modified to make it

Chapter 2: The Role of a Trainer

(Manish and Geeta Gupta)

Introduction

In the previous chapter, an overview of the evaluation process and the outcomes used in training evaluation program were discussed.

The trainer plays a pivotal role in developing competency skills to trainees in a professional way so that trained employees will be able to perform their roles effectively and efficiently in their workplaces. Organizations take special care to train the trainers so as to have effective training programs. To have good trainers, organizations also from time to time evaluate their performance for measuring the success of training programs. The goal of successful training programs is to have mutually beneficial outcomes for employees and organizations. The role of a trainer varies, depending upon the nature of learning and the type of learners. Different training programs are being conducted to develop required skills to trainees. Whatever may be the type of training, the essential feature for the success of training programs is to maintain cordial relations between the trainers and trainees. All these are discussed in this chapter.

Competencies of a Trainer

The right kind of competencies possessed by trainers lead to successful training programs. Trainer must possess technical competencies- meaning functional knowledge and skills. The following are important competencies for a trainer:

- He needs to possess **knowledge of adult learning principles** as to how adults acquire and use knowledge.
- **Competency Identification skill**: He should meet the knowledge and skills requirements of jobs, tasks and roles.
- **Coaching skill**: He should be able to guide and help individuals recognize the needs and motivate them to learn. He should guide and mentor weak learners.
- **Feedback skill**: Should be able to analyse and provide appropriate feedback to enable the learner to improve.
- **Presentation and questioning skills**: Trainer needs to be an effective communicator through a variety of training aids like PPTs/ Case studies etc. He must have good questioning skills so as to ensure that learners are encouraged to participate and ask their doubts to understand the subject better. This helps in gathering information from stimulating insight in individuals and groups through use of questionnaires and other probing methods.

Chapter 3: The Future of Training and Development

(Akbar Jan and Unnikrishnan)

Introduction

In the previous chapter, the role of a trainer in designing and implementing effective training programs and the need for training the trainers for making training programs effective are discussed.

The earlier training methods have become obsolete, with the emergence of new technologies, data analytics and social networks. Adding to that diversity of workforce and rapid demographic changes necessitated new methods of training. Innovative methods of training are to be introduced for meeting the needs of employers and employees. To make training programs effective and enhance business growth, training programs need to change from time to time and hence it is essential to visualize the changing trends and the future of training and development programs.

Training Goals

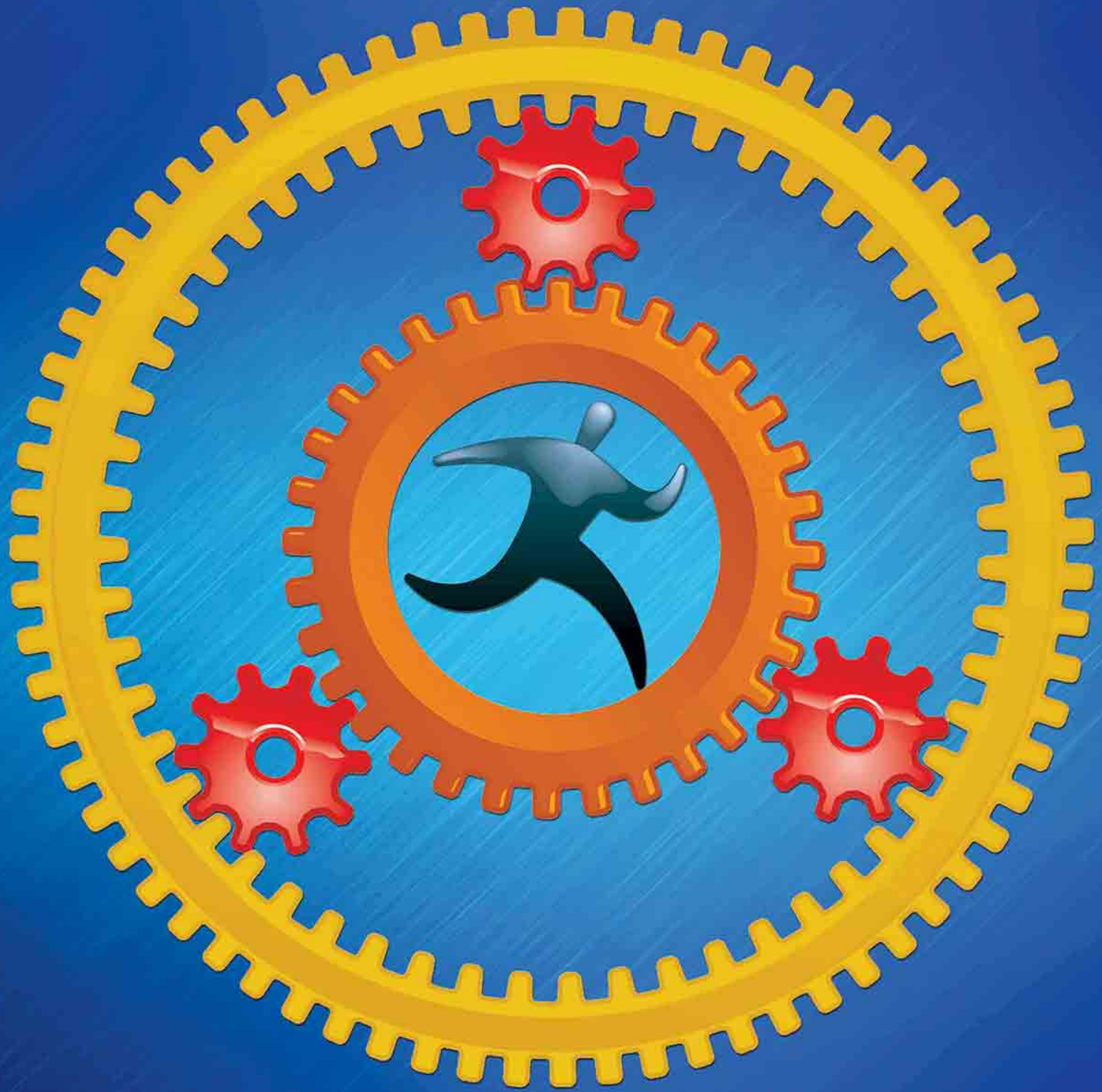
Primarily, training is to ensure that all employees have the basic skills to perform their job efficiently. There are some specialized training areas such as leadership development which are normally undertaken by specialists. The Training and Development function normally focuses on the larger workforce - equipping them to handle their roles effectively. Business strategy defines the needs of the organization to be successful in the present and future as well. Training and development thus aligns with the business strategy. There is a clear link between strategy and training. It is the responsibility of the training department to ensure that the workforce is equipped with the skills and knowledge to implement the strategy successfully. The broader goals of training may be defined as follows:-

- **New employees Induction/On boarding**: Help new employees gain the required skills and knowledge to undertake their jobs effectively through various orientation and induction programs
- **Growth Goals:** Enhance the knowledge and skills of employees and thus enable them to accept higher responsibilities.
- **Performance Goals:** Training helps in bridging the gap between employees' current performance and the required level.
- **Skill Up-gradation Goals:** Induction of new equipment or technologies necessitates training of the workforce for up-gradation of their skills and knowledge.

Training for Sustainability

As new training requirements emerge, more attention is paid to these new programs. In the meantime, existing training deliverables may tend to be neglected as they become out dated or inaccurate or irrelevant. Sustainability of training or

Foundations of Performance Management



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Foundations of Performance Management

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Foundations of Performance Management

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Chapter 1: Introduction to Performance Management

(PVL Ramana **)**

Introduction

In an organization, one may hear various statements that reflect a lack of satisfaction with the level of performance in the organization: 'How can they say we are performing poorly, when our department is doing so well!' or 'I cannot be held accountable for things that are beyond my control' or 'I am already busy with this task. I cannot do this extra work'. These statements reflect a lack of performance in communication, co-ordination, and clear setting of objectives in the organization.

However, for an organization to survive and prosper, it is necessary for there to be a tab on the level of performance of employees. It has to be ensured that the employees contribute their best to the organization and continuously improve themselves. It is only then the organization as a whole would be able to grow and meet the challenges of the increasingly globalizing world. In order to achieve this, it must be ensured that employees are treated as a valuable resource. It is here that the concept of performance management comes into play: it can channelize the current skills and capabilities of the employees, along with their latent potential to achieve the desired goals.

This chapter looks at the basic concept of performance management. It then examines the principles and the process of performance management in order to increase the understanding on performance management. The chapter closes with a brief discussion on the advantages and disadvantages of performance management.

Concept and Definition of Performance Management

Performance is an important area of organizational functioning. It is based on the aspects of efficiency and effectiveness. While efficiency looks at the ratio of outputs to inputs, effectiveness refers to the capacity to achieve a particular goal. In order to understand the difference between efficiency and effectiveness, let us take the example of two truck drivers A and B who have been asked to transport some material from a place X to another place Y in a given period of time. It is observed that both drivers reach their destination within the stipulated time – which implies that A and B are effective drivers. However, driver A has better driving skills and would use less fuel in reaching the destination than driver B. On this basis, it can be said that A is more efficient than B.

Performance management is a concept that ensures that goals are achieved consistently, and in an effective and efficient manner. It monitors the employees on a regular basis, ensuring that the required traits are being developed, and rewarding them for their achievements. An important component of performance management has been the performance appraisal that looks into measuring the extent to which an employee has been able to reach the desired level of performance in the desired areas.

The concept of 'Performance management' emerged in the latter part of the 1980s when the traditional appraisal systems were found wanting. The traditional appraisal process

Chapter 2: Performance Appraisals

(Asha Binu Raj and PVLRamana)

Introduction

Chapter 1 gave us an introductory view to the concept of performance management. We saw how performance management can be conceived as an integrated approach for setting goals, developing a common system for doing performance appraisals and giving feedback to employees on their level of performance.

A principal component of the performance management system is the appraisal itself. The appraisal has traditionally been a top-down approach that which lays stress on giving ratings to employees. The appraisal is a part of performance management system. During the early part of the 20th century, performance appraisals were used by large organizations for administrative purposes such as determining salaries, bonuses and determination of the worth of an individual for promotion. However, since the 1960s, there has been an increasing trend in favour of using appraisals for motivational and organizational planning purposes, which places it under the umbrella of performance management.

This chapter deals with the concept of performance appraisal and its objectives. It goes into the process of doing a performance appraisal. The chapter also discusses the various limitations that exist in the concept of the appraisal. The chapter also discusses on the concept of potential appraisal. There are various approaches to performance appraisal which are placed into two categories. The first is called the traditional or the organizational approach. It looks at the past performance of the entire organization. The second approach is the modern one which focuses on developing the employees through a process of goal setting. These two approaches are discussed in detail.

Concept of Performance Appraisal

Performance appraisal can be conceived as the formal assessment and rating of individuals by their managers after a specified period of time. It judges an employee's performance on various parameters: productivity, time taken to do the job, the number of units produced, the quality of the units made as well as the costs incurred in the process. It enables employers to secure desired information for making objective decisions about employees.

The aim of the appraisal is determined by what the management wants to achieve through the appraisal. For instance, an organization may want to send its best employees for further training. Accordingly, the appraisal would aim at identifying the most productive employees. Similarly, organizations base their personnel decision policies, pay raises, disciplinary action, training and development on the appraisal.

In order to assess an employee, the managers use a rating system. The manager would rate the employee on various attributes. The appraisal tries to be as objective as possible by avoiding subjective parameters like personality traits.

Chapter 3: 360° Feedback

(Chetna Priyadarshini and Geeta Gupta)

Introduction

In the previous chapter, we discussed the concept of performance appraisal and its measurement methods. In this chapter, we will elaborately discuss 360^{0} feedback, its stake-holders and its limitations. Understanding performance appraisal is essential as it affects compensation, goal setting, training and development, succession, administrative action and appraisal.

In the past, supervisors used to assess employee performance with some employee input. Number of instruments and techniques have been developed to provide inputs into these assessments of performance. Out of these, 360 degree feedback is the most common source of information for the employee's development and appraisal purposes. Multi-rater assessments have been considered as a business necessity as organizations, team and individuals are dependent on one another for their day-to-day work. In the flat organizational structures, the multi-rater feedback approach is useful as it provides comprehensive feedback on different areas (e.g. skills) from peers as they possess everyday knowledge and context that the direct supervisor may not have access to. Specifically, in a 360 degree feedback system, information on the performance dimensions that can be improved is collected from supervisors, peers, customers, and subordinates. Hence, 360 degree feedback is useful for employees in understanding how effective they are in the organization, not only as an employee, but also as a coworker, supervisor, and staff member and how they are being viewed by customers and other stakeholders. In this regard, 360 degree feedback can be most effective for the jobs that are based on behaviors that other employees and customers can see. Multi-rater assessment interventions have now become essential for organizational settings to replace the traditional supervisor-subordinate evaluation.

History of 360^{0} Feedback

360 degree feedback was first introduced by the German Military which gathered feedback to evaluate its performance from different sources during World War II (Fleenor & Prince, 1997).During this time period, others explored and developed the usage of multi-rater feedback via T Group or sensitivity training.

In the 1950s, Esso Research and Engineering Company (Bracken, Dalton, Jako, McCauley & Pollman, 1997), used this survey, and thereafter, the usage of 360-degree feedback got popularized and by 1990s most of the human resources and organization development professionals became aware of the concept and its utility. The major problem faced was manual collection and collation of the feedback, including complex lengthy calculations. This was burdensome and led to dissatisfaction amongst the practitioners and also gradual decline in the commitment of recipients.

Multi-rater feedback gained popularity due to the use of the internet in conducting web-based surveys (Atkins & Wood, 2002) and researches. Today, more than one-third of

Performance Management Framework



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Performance Management Framework

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Performance Management Framework

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Chapter 1: Developing the Performance Management Framework

(PVL Ramana)

Introduction

In this chapter, we take a close look at the performance development framework and the contextual factors that affect performance management, along with environmental factors.

Understanding the development of the performance management framework is necessary as organizations differ greatly from each other with regard to their organizational culture and the operating environment. In many cases, organizations lack a formal performance appraisal system altogether. This means that the entire performance management system has to be devised from scratch; in other cases, the organization may want to make changes in its present system in order to achieve the desired results. There cannot be a ready 'standard' model that suits all the organizations and which can be readily applied. Thus, it is vital to have an understanding of how the performance management framework can be devised. Along with this, it is necessary to have an understanding about the various measures of performance management.

This chapter opens with a discussion about the environmental factors that affect performance management. This is followed by an in-depth analysis on how to develop the performance management framework. The chapter then describes three important performance measurement techniques – Budgeting, Economic Value Added, and Balanced Scorecard. This is followed by an examination of the important characteristics of a good measure of performance. The chapter closes with an in-depth analysis on the desirable features in a performance management system.

Environmental Factors

The framework of performance management is greatly influenced by the internal environment of the firm. The internal factors that principally affect the environment are organizational culture and organizational structure.

Organizational culture is a collection of values and norms that are shared by the members of the organization. It defines the way in which the members of the organization interact with each other and with external stake-holders. The performance management system must be devised in such a manner that it fits in with the existing culture and value system of the organization. (Refer Exhibit 1.1 to find how TCS devised its performance management to suit its value system). Otherwise, it will result in an undesirable friction between the management and employees which might even lead to the dismantling of the performance management framework.

Chapter 2: Designing and Launching the Performance Management System

(Radha Mohan Chebolu and K. Veena)

Introduction

The previous chapter elucidated the broad framework which is required for performance management. It also discussed the various measurement techniques that are involved in the performance management system. This chapter moves forward to describe the stages in designing a performance measurement system. This is followed by a section that brings out the possible barriers that may arise during the designing and implementation of the performance management system. The chapter closes with a discussion on how to overcome the barriers that may arise in the implementation of the performance management system.

Given the fact that organizations have their own unique experiences and dynamics as they mature, one cannot have a universal performance management system that fits all organizations. Thus, there is a need for every organization to have its own performance management system that is in tune with its own culture, requirements, and experience.

This chapter begins with a discussion on the various stages in the designing of the performance management system. It closes with an examination of the possible barriers that can arise in the launching of the performance management process and the methods of overcoming these barriers.

Steps in Designing the Performance Management System

These steps serve as a guiding light in designing a performance management system. They work towards ensuring two important objectives. First, by working along these steps, the performance management system gives a sense of direction to the activities of the entire organization. Second, while doing so, it creates and nurtures a sense of ownership about the performance management system throughout the organization. Both these objectives are essential in ensuring that the performance management system is able to achieve the desired result.

STEP I: The most crucial aspect is that a sense of ownership and commitment to the performance management system should be created in the management. It is only with this kind of commitment that the performance management system has a chance of being well planned and executed constructively throughout the organization over a long period of time. Thus, the most important step at this stage would be to describe the program to the various corporate or divisional managers of the organization on an individual basis. The divisional managers in turn should be aware that any attempt to force a system down the throats of line managers would generate resentment towards the performance management system and would doom it to eventual failure. The same rule would apply to line managers when they try to force the system on employees. It

Chapter 3: Evaluation and Maintenance of Performance Management

(Akbar Jan and PVL Ramana)

Introduction

In the previous chapters, we looked at the framework and designing of performance management systems. We also looked at various performance measures as the different ways to ensure motivation. We shall now address a very different issue – how a manager can maintain and evaluate the performance management system itself.

One of the common experiences of organizations is that the visualization of performance management systems is much easier than their actual implementation. Thus to ensure that the performance management system delivers what was conceptualized, the performance management system itself should be periodically reviewed. Some of the tasks in this evaluation process would be examining the various linked areas, conceptualizing and using diagnostic check-lists, carrying out evaluations, and reviewing the main methods of evaluation.

This chapter begins with examining the various desired areas of evaluation. It then goes on to discuss the various evaluation methods and their consequences. This is followed by an in-depth discussion on performance monitoring along with its objectives. The chapter closes with a discussion on the various methods of monitoring performance.

Areas for Evaluation

The following issues should be considered while evaluating a performance management system:

- Integration of the organization‘s objectives with its performance system. Linkage to the organization‘s critical success factors.
- Relationship with individual objectives.
- Bonding of job responsibilities and performance expectations. Effective encouragement to personal development.
- Objective or subjective, clear or ambiguous evaluation criteria. Addressing of company policies and procedures.
- Effective usage of supervisors and employees in the system. The extent of association of performance with pay and rewards.
- The fit of the performance management with the culture of the organization. Commitment and constant support from top management.
- Collective ownership of line managers and employees. Alignment to the real work of the organization.
- Coordination of organizational, team, and individual objectives.
- Addition of value in terms of both short-term and longer-term development.
- Integration of the performance management system with the business planning processes.



Performance Measurement

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Performance Measurement

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Chapter 1: Measuring Individual Performance

(Musarrat Shaheen and Jyothirmayee Reddy)

Introduction

Knowledge, Skill and Ability are the key factors for measuring performance of an employee. But these factors by themselves cannot guarantee performance. The linkage between performance, efficiency, effectiveness and productivity are always misunderstood in management. Effectiveness is the achievement of objectives whereas efficiency can be measured in terms of output input ratio. Productivity is again the quantity of outputs produced. But there are jobs where all these factors are not explicit or measurable. By systematic performance appraisal, the performance of an employee can be evaluated. This will also improve job satisfaction and inter-personal relationship within the organization.

Aims of individual Performance Appraisal

Training and development needs of employees vary depending on their skill level, knowledge level and experience. Individual performance appraisal helps to evaluate their actual competence. The performance of an employee has to be observed and evaluated since his effort is the contribution made by him in achieving the organizational objectives. The objectives of individual performance appraisal are the following:

- For giving awards and incentives, accurate objective evaluation is needed.
- Personnel appraisal data is helpful in man power planning and determination of career path and possible future vacancies.
- Appraisal provides basis for promotion
- Effective performance appraisal removes work alienation.
- Appraisal helps to create uniform work culture in organization
- Appraisal helps to improve communication.

Performance Appraisal Process

The appraisal process consists of five steps:

1. Fixing performance standard
2. Communicate the standard to all concerned
3. Setting up targets
4. Measuring techniques of performance
5. Self-appraisal

Chapter 2: Measuring Team Performance

(Musarrat Shaheen and K. Veena)

Introduction

Measurement is an important component of performance management. The famous saying in Performance Management is: 'What gets measured gets done'. In the previous chapter, we learnt about measuring individual performance. Greater emphasis is given to collaborative work in organizations which implies team work. Performance management for teams is concerned with how teams set their objectives; develop work plans and how their performance is reviewed and how teams are rewarded. In this chapter, we will discuss in detail about teams and their performance measurement.

Meaning and Definition of Teams

A team is two or more people who must integrate their activities to accomplish a common goal. Teams are a way of organizing people to support inter-dependence and cooperation that requires close coordination among the team members. Team performance includes both the outputs produced by the group or team as a whole, as well as the contribution of individual team members to the success of the team.

"A team is a small number of people with complementary skills who are committed to a common purpose, performance goals and approach for which they hold themselves mutually accountable," Harvard Business School Press, 1993.

This widely used definition, defines an effective team as a small entity, usually having not more than 15 members and often between 5 and 10. It benefits from the diversity of its membership by drawing on the variety of skills, knowledge, experience and perspectives that all members bring to the team. The reason that the team exists (its mission or purpose) is clearly described, understood and accepted by all members and becomes the touchstone against which priorities are established, conflicts are resolved, problems are identified and solved and decisions are made. The performance goals of the team are understood to apply to every member of the team, and accountability for accomplishing those goals is shared.

Armstrong illustrates that the special contribution that a team makes to an organization is the pooling of the collective creativity, skills, knowledge and experience of its members. This benefit is only realized in a climate of open communication based on trust, mutual respect, and commitment to a common purpose. Team members commit to an approach to working together which includes specific guidelines or norms developed by team members, to help them to communicate ideas and concerns, give one another feedback, conduct meetings, solve problems and make decisions.

Much of the work that teams do is conducted in meetings at which work processes, group effectiveness, and outputs are discussed, problems are analyzed and identified, and decisions related to future actions, changes, etc., are made. The meeting provides a forum and structure within which a team may work.

Natural Work Group: "A group of employees and their manager who produce a

Chapter 3: Measuring Organizational Performance

(Musarrat Shaheen and PVL Ramana)

Introduction

Organizations are established with a definite purpose to meet the needs of the people. It is necessary to measure the performance of organizations and this is an important way to further improve its performance. From time to time organizations should set their goals and objectives, and assess how much was accomplished and how much could not be accomplished. The next step would be to find the reasons for not accomplishing the goals and should find ways and means to achieve them. The important thing here is if goals and objectives are not set properly, either by setting too high objectives or too low objectives, the whole gamut of performance management fails. Hence setting right kind of objectives and measuring and evaluating the performance of the organizations is an important exercise. In this chapter all these points along with organizational performance measures and models are discussed.

It is necessary to know the reasons for measuring organizational performance. Peter Drucker in his book 'Management of Challenges for the 21st Century' outlines the following challenges to organizations

1. To stay ahead of competitors
2. Producing customer defined quality
3. Continuous improvement
4. Aligning all activities with company goals

To meet these challenges it is necessary to measure the performance of organizations to continuously improve their performance.

Setting Organizational Goals and Objectives

The essence of performance management can be put in the following points

1. Setting organizational goals and objectives
2. Making employees understand and agree on the goals
3. Making plans to meet the goals
4. Implementing plans to meet the goals
5. Monitoring and reviewing outcomes
6. Adopting measures to improve performance
    - Setting organizational goals and objectives- Goals or objectives are the accomplishments which the organizations want to achieve over a period of time.
    - The setting of objectives is the function of management and the management ensures that every individual employee knows what is expected of them and what results they need to accomplish and how to accomplish them.
    - By setting objectives, organizations make it clear to the employees that their performance will be evaluated from time to time and feedback will be given

Compensation and Reward Management



Editor
Radha Mohan Chebolu

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Editor:
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Compensation and Reward Management

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Chapter 1: Rewards and Recognition

(Asha Binu Raj and PVL Ramana)

Introduction

In this chapter, we will discuss rewards which have a bearing on performance management and also a substantial effect on the extent to which a person feels motivated.

In the organizational context, the extent of motivation of an individual is linked to the rewards and the recognition given by the organization to him/her. At the outset, we state the obvious: each and every individual differs from the other in their needs and expectations. The rewards have to match up with the particular needs and expectations of the person concerned. This means that the performance management system has to deliver the rewards that match the expectations of individuals: organizations must ensure that the rewards are timely, creative, and authentic. The rewards have to be devised in such a way as to match the interests and goals of the employee, to the maximum possible extent. Organizations are increasingly acknowledging the need to establish an equitable balance between employee contribution to the organization and the organization's contribution to the employee, which is set by reward and recognition to employees.

Thus, the chapter shall attempt an in-depth discussion on the various facets of rewards and incentives. It shall examine the bases for determining incentives as well as the factors that affect pay.

Meaning and Definition of Rewards

Rewards are benefits given to employees for doing well at tasks that contribute to the organizational goals. According to Bob Nelson, a reward is 'benefit resulting from some event or action, appreciation for a service rendered.' Reward management is concerned with the formulation and implementation of strategies to reward on the basis of their contribution to the organization without any bias. Reward management has increasingly adopted a 'Total reward' approach aims to maximize the impact of initiatives on employee motivation. Total rewards would combine the traditional quantifiable elements like salary, variable pay, and benefits, with intangible non-cash elements such as scope to achieve and exercise responsibility, career opportunity, and learning.

Employee recognition

Employee recognition is the acknowledgment of an employee for exemplary performance. The objective of employee recognition in the workplace is to reinforce expected behaviors, practices, or activities that result in better performance better results. It has many benefits:

Make employees happier and satisfied

It is observed that happy and satisfied employees are more productive. Being recognized for the work one does gives employees the feeling of being valued and

Chapter 2: Reward Management

(Radha Mohan Chebolu and PVL Ramana)

Introduction

In the previous chapter, there was an in-depth discussion on the various facets of rewards and incentives. It looked at the bases for determining incentives and pay. However, in order to ensure optimal results, rewards and incentives have to be used under a comprehensive system of rewards management.

This will ensure that the reward management system is effective enough to ensure that good employees join and continue with the organization. This can only happen when a desirable menu of rewards is available in the organization, and is administered in a manner which ensures that employees are motivated. This will ensure that these employees consciously decide to perform at their very best.

This chapter begins with a look at the meaning of the concept of rewards management and its relation to HRM. This is followed by a thorough analysis of the rewards management process. The chapter then goes on to take a look at the various rewards strategies and how they should be devised. The chapter closes with a discussion on how to evaluate the rewards system in an organization.

Meaning of Reward Management

Reward management implies employees must receive rewards in proportion to their contribution. The philosophy of rewards management holds that employees are to be rewarded fairly and equitably, on a continuous basis. Their value or contribution to the organization should be taken in to account. To achieve this outcome, reward management formulates and implements desirable policies in every organization.

Reward management deals with the formulation, implementation, and evaluation of a reward process in an organization. Reward management policies are to be communicated to all its stakeholders.

Reward management takes a 'total reward' perspective. It recognizes that there are numerous ways of rewarding people. The preferences of individuals have to be taken into account and integrated in order to maximize the effectiveness of reward policies and practices.

The aims of Reward management are:

- Creating a performance orientation by rewarding employees according to the value created by them.
- Promoting right behaviour by rewarding the right things.
- Attracting, retaining, and developing talented workforce.
- Ensuring consistently high levels of motivation among employees.

The aims of Reward management are achieved through alignment between various rewards practices: There should be an alignment of reward practices – both with employee values and the business goals.

Chapter 3: Performance Management and Compensation

(PVL Ramana)

Introduction

Compensation refers to the returns employees receive for their contributions to the company. These returns are of different types and may be both financial and non-financial. Compensation Management is also known as wage and salary administration, reward management and remuneration management. The basic aim of compensation management is to establish and implement sound policies with regard to employee compensation. In this chapter we learn about the objectives and components of compensation; work analysis; market comparisons and pension plans and executive compensation. The objectives of performance management are closely related to reward systems. The important objectives of performance management are to provide valid information regarding employees, to take managerial decisions with respect to employees' salary adjustments, promotions, retention or termination, recognition of excellent performance, identification of poor performers, layoffs and giving merit incentives. As such, compensation management is an important component of performance management.

Components and Objectives of Compensation Management

Different people view pay in different ways. For some pay is a measure of justice, for some employers it is an expense and for employees it is a return for the services rendered. Some consider it as a reward for the job done. In large state owned companies, it is considered as an entitlement and just due for employees regardless of their performance. Compensation is what employees receive for their contribution to the organization. The generally accepted meaning of compensation is all forms of financial returns, tangible services and benefits employees receive as a part of an employment relationship. These returns are two types- total compensation, which includes cash compensation and benefits; the second one is relational returns that include recognition, security, challenging work and learning opportunity (Refer Figure 3.1).

The objectives of Compensation Management

The objectives of compensation management are:

- Compensation should be equitable- Each person should be paid fairly and fair treatment is to be given for all employees, taking in to consideration their efforts, abilities and training.
- Compensation should be such that it attracts and retains talented employees.
- Balanced-pay benefits and other rewards should provide a justifiable reward package. It should strike a balance between the needs of the employees and the capabilities of the organization.
- Cost effective- Pay should be such that it is within the affordability range of the company. It should be optimum with a linkage to performance and affordability.
- Secure- Compensation should be able to meet the basic needs of the employee and

Chapter 4: Job Evaluation and Pay Structure

(Niraj Kishore Chimote and R. Muthu Kumar)

Introduction

In the previous chapter, we examined compensation management as an important component of performance management. Another important component is deciding on the worth of each job for the organization.

Deciding on the worth of a job is important for the organization as it will help it to attempt job evaluation and set the pay structure. Though this decision is sometimes made informally, the formal process of deciding on the worth of a job is called job evaluation. Subsequently, the pay structure gives the framework for implementing the pay policies through the organization.

In this chapter, we discuss in depth the concept of job evaluation. The chapter begins with bringing out the needs and objectives of job evaluation. This is followed by a discussion on the various methods of job evaluation. The chapter closes with a comprehensive look at the concept of pay and its related components, such as pay structure and broad branding.

Concept and Definition of Job Evaluation

Job analysis describes the duties of a job, authority relationships, skills required, conditions of work, and additional relevant information. Job evaluation, on the other hand, uses the information derived through job analysis to evaluate each job – each component is valued and the relative job worth ascertained (Refer Exhibit 4.1). Thus, a job evaluation involves, in other words a formal and systematic comparison of jobs in order to determine the worth of one job relative to another, so that a wage or salary hierarchy results. Hence, job evaluation can be seen as a process by which jobs in an organization are evaluated.

According to Wendell French[3] 'job evaluation is a process of determining the relative worth of the various jobs within the organization, so that differential wages may be paid to jobs of different worth'.

Thus, job evaluation rates jobs in order to determine their position in the job hierarchy. This evaluation may be achieved through a formal assignment of points to different jobs or through evaluating skills, experience, and responsibility of the person concerned. During the process of job evaluation, various positions are analyzed and described. These are then grouped in order to determine their relative value through a comparison of the duties of different positions in terms of their different responsibilities and other requirements. In other words, it can be said that job evaluation involves the quantitative measurement of the relative job worth for the purpose of establishing consistent wage rate differentials through objective means.

It should be emphasized that job evaluation does not consider the performance of an individual on the job. It does not look at how well the individual performs the job. This

[3] https://books.google.co.in/books?isbn=9380578822

Chapter 5: Performance Competence and Skill Based Pay

(Niraj Kishore Chimote and R. Muthu Kumar)

Introduction

The earlier chapter dealt with the concept of job evaluation that looked at the need for such evaluation, its objectives, and methods. This was followed by a comprehensive discussion on the concept of pay with its related components. However, there are other aspects of pay such as performance, competence, and skill-based pay, which are becoming increasingly more important.

The reward systems of organizations have an impact on the organizations, which in turn, use these systems in a way that best serves their objectives. It should be noted that in this age of global competition, organizations use their compensation systems to attract, motivate, and retain good talent. The traditional concepts of the pay system such as status, seniority, and responsibility level have given way to a performance-based culture. Organizations are witnessing a rise of performance and skill-based pay systems.

This chapter deals with an examination of the concepts of pay, performance, competence, and skill. It looks at the various incentive schemes that are being increasingly used in organizations. The chapter closes with a discussion on team-based pay.

Performance-based Pay

A salary is deemed to be adequate and fair only to the extent that it matches the individual's ability and performance to achieve an adequate level of rewards. Moreover, the employees would also equate this salary with their own preconceived notion of the 'correct' salary.

Financial reward processes use base pay and variable pay, plus the provision of the employee's benefits and pensions. The basic pay is the rate for the job as affected by the internal and external employment markets; it is a fixed compensation paid to employees for performing a specific job. This is typically pensionable. The contingent or differential pay is the pay which is influenced by the level of performance, competence, and skills of individuals or teams. It may be consolidated into base pay and is typically not pensionable. It is often referred to as 'variable pay' since it is related to potentially variable factors and has to be re-earned at every review of performance.

There are other factors that also influence pay. These are factors like profitability of the company, job evaluation, seniority of an employee, cost of living, the manpower availability and the strength of the parties in negotiating.

However, in response to the newly emerging global challenge of increased competition, organizations are beginning to increasingly emphasize performance-based pay. Further, if employees realize that their pay is not based on merit, it would lead to a decrease in their commitment to the organization. This may lead to a decrease in the level of effort. Some employees may even go for jobs elsewhere. Hence, in order to

Employee Development and Performance Improvement



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Chapter 1: Performance Management and Employee Development

(Radha Mohan Chebolu and Jyothirmayeee Reddy)

Introduction

One of the important aims of performance management is developing employee competencies for continual improvement of their performance. To ensure employee and organizational development, performance management aligns the activities of teams and individuals with that of the organization.A principal component of the performance management system is the appraisal itself. Employees develop through appraisals because they get to know their strengths and weaknesses which is the only way for development.

Through appraisals, good performers receive rewards contributing to their development and underperformers are given training for their development. As such, there is a close connection between performance management and employee development. In this chapter, we will learn about performance development framework, aims of performance development plans, performance development reviews and corrective decisions, managing underperformers and training effectiveness.

Further every employee wants to progress in their careers.

Performance Development Framework

Performance Development is a process of encouraging, rewarding, supporting and developing employees. Performance development aims at maintaining and improving employees' skills, job related knowledge and job performance to achieve career goals of an individual along with team and organizational goals in the basic idea of performance development is to create positive workplaces where employees are motivated, supported and goal oriented. The performance development framework highlights what is required to build a comprehensive and effective approach to high performance and development. It outlines development plans and the process of performance development. It describes the essential features of performance development cycle, including performance development planning, on-going discussions, performance development review and rewards and recognitions. The framework provides a structure for appraising, developing and improving employee performance as well as giving meaningful feedback and support for their development.

Development Plans

A performance development plan has mainly two components: improvement of employee performance and revitalizing organizational performance. While preparing development plans, Michael Armstrong suggests the following aspects to be considered:

- The people who will be involved and their responsibilities
- Time schedules for development and implementation
- Plans for communicating details
- Plans for monitoring and evaluation

Chapter 2: Motivation and Performance Improvement

(Radha Mohan Chebolu and PVL Ramana)

Introduction

In the previous chapter, we discussed the relationship between performance management and employee development. In this chapter, we go on to discuss how the performance management system tries to ensure that the set targets are achieved. The performance of employees depends upon two factors – their ability and their level of motivation. Of these two factors, it is motivation that determines if employees are doing their best to achieve the desired goals.

The performance management system functions through the process of motivation. By engaging employees through the process of motivation, it ensures that they work towards achieving their desired goals. These achievements of the employees ensure that the organization in turn benefits as it continues to achieve its set goals. Thus the entire process revolves around motivation. Motivation is an important area of psychology that has received a significant amount of attention during the recent years.

In this chapter, we will discuss various theories of motivation. Some of the theories operate at a basic biological level while the others are quite abstract. The chapter begins by touching on the importance of motivation in the context of performance management. It then goes on to discuss the various theories that determine motivation as given by Maslow, Vroom, McGregor, McClelland, Porter and Lawler.

The Concept of Motivation

The concept of motivation is becoming increasingly pervasive in performance management and reward literature. Motivation is an important factor in understanding what drives employees.

Motivation has been defined by various scholars. According to Stephen Robbins, motivation is 'the willingness to exert high levels of effort towards organizational goals, conditioned by the effort's ability to satisfy some individual need.' According to Robert Dubin, 'Motivation is the complex of forces starting and keeping a person at work in an organization'.

Motivation is linked with both the strength and direction of the goal-directed behavior. Hence, motivation is said to take place when people begin to expect that a course of action will lead to the achievement of a goal. The achievement of this goal should lead to a valued reward which satisfies their particular needs. Thus, we can say that 'highly-motivated' people are those who have clearly defined goals, which induce them to take action to achieve the goals. This leads to effective contribution at work both for the organization and themselves. Hence, in simple terms, we can say that motivation is the psychological force that drives an individual to achieve various desired goals. It accounts for an individual's intensity, direction, and persistence of effort towards attaining various goals.

It is emphasized that motivating employees is an important function of the manager. It is essential to motivate employees in order to ensure that they are performing to their optimum potential. It is only through a highly motivated workforce that the organization can progress and excel.

Motivation at work can operate through the intrinsic or extrinsic channel. *Intrinsic*

Chapter 3: Emerging Trends in Performance Management

(Radha Mohan chebolu and Geeta Gupta)

Introduction

In the previous chapter, motivation and the role it plays in performance management was discussed. We will now discuss in this chapter the emerging trends in performance management. A well designed, quantitative, and automated employee review process is essential for employee progress and maximization of productivity in the workplace. Continuous evaluation helps in recognizing high performing workers, and keeping mid-level performers oriented towards the achievement of goals. Evaluation also helps managers in dealing with low performers by providing regular feedback to help them improve their performance.

Purposes served by a performance management system include:

- *Strategic*: To help in achieving strategic business objectives
- *Administrative*: To provide valid and useful information for administrative decision making
- *Information*: To provide feedback to the employees about their performance and also expectations of organization and the supervisor
- *Developmental*: To design and develop training and development programs for the employees
- *Organizational maintenance*: To use information in workplace planning and allocation of human resources
- *Documentation*: To compile and maintain data to be used for various administrative and other decisions

Best Practices in Performance Management

An organization should have a visible performance review process from start to finish avoiding stress, engaging employees and enhancing productivity. To have performance appraisal at proper place following efforts will ensure best practices:

- Set the organization's objectives and strategic plans for the coming year. Align employee expectations with organizational objectives. Create an environment where together the manager and employee can question, challenge and discuss goals and objectives to gain clarity.
- Consider performance management as an entire system, starting from interviews of potential employees to their orientation, training, coaching and counselling, and recognizing peak performance and setting rewards. Do not consider it as an annual event for salary planning or filling forms. It should be considered as an on-going workplace conversation.
- Avail information about the accomplishment of employee's performance last year. If required second-level review of performance appraisals, either by HR or second-tier management should be collected.

Introduction to Strategic Human Resource Management



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Introduction to Strategic Human Resource Management

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Chapter 1: Strategic Human Resource Management - An Overview

(*Neha Gahlawat and R. Muthu Kumar)*

Introduction

Over the past decade, HR researchers and practitioners have focused their attention on some important questions related to HRM. First, what determines whether an organization should adopt a strategic approach to HRM? Then how is HR strategy framed? Another one is, for instance, does a positive association exist between a given set of external and internal environmental characteristics and the adoption of strategic HRM? All these questions reflect upon the policies and practices summing up different HR strategies in organizations. Most of the HR research in recent years has been devoted to find answers to these questions. The outcome is one and that is, for organizational decision makers and HR practitioners who are looking for means to gain a competitive advantage, the implication of HR strategic choices for organizational effectiveness is certainly the crucial element.

Before, however, we start debate on some of the issues associated with the strategic HRM, it is important to understand first the concept of strategic HRM. This chapter provides detailed conceptualization of strategic HRM along with its significance to the organizations. Given the importance of HR and organizational strategy integration, the unit warrants an extended discussion on strategic management process. It also delves upon the value chain analysis and finally, some consideration is put upon the challenges faced by HRM professionals in dynamic business environment.

Introduction to Strategic HRM

In today's organizations, HR managers have to contribute to the development and accomplishment of the organization's business plan and objectives. The objectives for HR policies are framed keeping in view the overall plan and objectives of the organization.

Strategy and Human Resource Management

For this, the HR manager should be conversant with the work systems in which people thrive and contribute. This linking of HR with other disciplines of the organization has an impact on HR functions such as the design of work positions, hiring, reward, recognition, performance development and appraisal systems, career and succession planning, and employee development. In his book, 'Strategic Human Resources Management,' Jeffrey. A. Mello, defines Strategic Human Resource Management as "the development of a consistent, aligned collection of practices, programs and policies to facilitate the achievement of the organization's strategic objectives". Similarly, in another book 'Strategic Human Resource Management: Gaining a Competitive Advantage', Raymond A. Noe and his fellow colleagues have referred SHRM as 'the pattern of planned HR deployments proposed to facilitate an organization to achieve its strategic goals'. In both the definitions, the authors stress upon the relevance of a set of synchronized HR practices

Chapter 2: Importance of Aligning Human Resources to Strategy

(P. V. L. Ramana)

Introduction

In the previous chapter, strategic human resource management, its process, concept of value chain analysis and challenges facing HRM were discussed. In this chapter, the significance of aligning human resources to strategy is discussed.

Organizations are realizing the importance of aligning human resources with organizational strategies for effective performance. Nowadays, organizations are aligning all resource activities such as planning, and training and development with organizational strategies for gaining competitive advantage.

This chapter focuses on the relationship between human resources and strategy and explains the importance of HR's role in the formulation and implementation of the strategy. The unit then covers the models that link HR with strategy and discusses the economic importance of HR. More importantly, it examines the investment perspective of HR.

HR's Emerging Role in Formulation and Implementation of Strategy

The field of Human Resource Management (HRM) has changed dramatically over the last few years. The HRM concepts and practices of today are significantly different from those of the past. Planners and practitioners who understand these changes in HRM policies and practices will provide their organizations with a strategic competitive advantage. The creation of this competitive advantage will provide the basis for the survival of future. For strategic HRM to be successful, its goals should be aligned with the strategic goals of the organization. For example, when designing the reward structure, the HR manager should examine whether the reward structure is aligned with the strategic goals of the organization. The above points emphasize the importance for HR department to involve itself in the process of corporate or business level strategic planning.

The HR department can involve itself in the process of strategic planning, by coordinating with other functional departments. For example, in recruiting candidates, the organization has to analyze whether the candidate's goals are in alignment with the organizational goals. This will ensure that employees put in their maximum concentration toward their work. Thus, HR department has come a long way in involving itself in the process of strategic planning.

Transition from HRM to Strategic HRM

The changing business environment triggered by the development of new technology and globalization requires organizations to involve HRM in the strategic decision-making process. To improve quality, productivity and achieve customer service and cost reductions, HR and business policy must be integrated at the strategic level. Human resource strategy can be defined as the set of ideas, policies and practices that management adopts to achieve the objectives of people management. Information technology, Total Quality Management movement, new production methods have all changed the work environment. Because of these changes, there is a need for more

Chapter 3: Strategic Aspects in International Human Resource Management

(P V L Raju)

Introduction

To understand the importance of International Human Resources Management (IHRM), we need to first understand what globalization is all about. In the business context, the term globalization refers to the integration of a business firm's operations, processes and strategies into diverse cultures, geographies, products and services. The focus and emphasis is on diversity of operations. Hence, globalization has a profound impact on the way businesses manage their employees. The rapid rate of globalization demands a more strategic role of HRM. It has to intertwine itself with the business strategy of the organization. The complexity of HRM in international context requires a strategic outlook because IHRM policies and practices critically influence the international objectives of the Multinational Companies (MNCs). IHRM is a set of activities aimed at managing human resources at international level to achieve organizational objectives. It typically includes normal HRM functions like recruitment, training and development, performance appraisal and importantly, global skills management and expatriate management etc.

Corporate Culture as a Strategic Business Linkage

It is essential to know the linkage between corporate culture and business strategy. Any corporate strategy is an overall plan of a company to create competitive advantage over its rivals. The focus is how to ensure that the organization stays ahead and dominates the market share in one or many businesses that the company operates. The only difference in the international context is that the business strategy needs to deal with multiple nations and multiple geographies. Corporate strategy is primarily focused on overall direction of the company and it specifically addresses key questions like:

- How can our company be more focused?
- Can we create additional value chains?
- Can we utilize employees more efficiently?
- What set of businesses should the company pursue profitably based on the above key points?

The main focus is how a multi business corporation can create high business value through coordination of its multiple business activities spread across national boundaries and geographies.

To attain the above global objectives, the company needs to have a sound international HRM in place. Globalization has forced HRM to have an international orientation and effectively manage cultural diversities. MNCs grow and define their business on a worldwide basis and they need to think "global" while acting "local". Figure 3.1 represents the factors affecting international market.

Chapter 4: Evidence Based Human Resources and Human Resource Information Systems

(P V L Raju)

Introduction

'If you cannot measure, you cannot manage' - is a profound management principle. Measurement of results is the essence of management of people and other resources. HR is no exception to this universal management wisdom. This chapter will discuss how HR measurement adds value and contributes to the vital decisions about measuring people's performance and managing people's talent in an organization. Evidence-based HR will help us in understanding how to analyze, measure, and ascertain that return on investment (ROI) in people is justified. It is equally important to note that although data and analysis are important for investment in people, they are really just a means to an end and not an end in itself. Balanced Scorecard (BSC) is one of the frequently used HR metrics to measure employee/organizational performance. The objective of all HR tools is to aid the management in ensuring that investments lead to profits for the business enterprise. The world's most admired companies like Wal-Mart and Microsoft know that their most valuable asset is their employees and they invest in and nurture human talent through good times as well as bad times. The decision-making process has to focus on how human performance can be measured in an objective and scientific manner as it is at the heart of the strategic success of an organization.

Balanced Scorecard as a Strategic Tool

To monitor organizational performance, Balanced Scorecard needs to be understood. The balanced scorecard is a strategic planning and management system that is used extensively by organizations to align business activities with the vision and strategy of the organization. It can be considered as a navigational tool to monitor organization performance against its set mission and strategic goals. Dr. Robert Kaplan and David Norton were the pioneers of BSC as a HR metric. They added strategic non-financial performance measures to traditional financial metrics to give managers a more 'balanced' view of organizational performance. The Figure 4.1 depicts the essential elements of BSC.

Strategic Human Resource Management - Implications for Organizations



Editor
Radha Mohan Chebolu

Strategic Human Resource Management - Implications for Organizations

Editor:
Radha Mohan Chebolu

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Strategic Human Resource Management - Implications for Organizations

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Chapter 1: Redesigning Work Systems

(PVL Ramana)

Introduction

Organizations strive for excellence at work and from time to time change their processes and redesign their work systems, creating new opportunities for workers and greater value for businesses and their stakeholders. Jobs are designed in such a way to suit to the needs of employees and organizations in the process, a right fit to the job is achieved.

To keep pace with ongoing rapid technological changes, organizations redesign their work systems. The changing situational factors are also to be taken into consideration. The goal is to develop a work system that makes organizations effective and efficient. In this chapter, the concept of redesigning work systems and its implications are discussed.

Designing Work Systems

Designing work systems are vital for organizations and from time to time they need to be raised for efficient functioning. The human resource department, with the help of other functional specialists, designs an organization's work system. The focus during the whole process is to create a work system which can support frequent technological changes. Secondly, the job design, which is an integral part of the work system should motivate employees and keep them busy. Work done by employees as part of their job results in organizational productivity and constitutes a career for them. The need is mutual and so are the benefits. However, an improper job design can demoralize the employee. A well-designed work system can extract the best out of an employee.

Approaches to Work System Design

Organizations adopt different approaches for designing their work systems to make a right fit between the job and the job performer. Some of the approaches are:

- Specialist approach
- Generalist approach
- Strategic approach

Specialist approach

Initially, the focus of work systems was on the employees' specific jobs. A limited number of tasks constituted a job. Employees were made to specialize in only those tasks. This was done to increase efficiency and productivity. Work specialization helps in making complex tasks easier by breaking them into smaller and specific tasks. Each employee is trained to best perform that small and specific task to become proficient and expert at performing that task. Exhibit 1.1 deals with specialist approach at Ford Motor Company.

Chapter 2: Human Resource Forecasting

(*Niraj Kishore Chimote and K. Veena)*

Introduction

In the previous chapter, the concept of redesigning work systems was discussed. In this chapter, human resource forecasting will be discussed.

Organizations need people, just as they need other resources, to function successfully. Modern organizations claim that people are their biggest assets. To meet the future needs for efficient people, organizations need human resource planning using which they can forecast the human resource requirements. Organizations enhance their productivity by understanding the strategic issues and selecting appropriate forecasting techniques.

Human Resource Forecasts

To meet the future needs of companies, we should understand Human Resource Forecasts. They help in increasing organizational efficiency and profitability of the company as it involves HR planning. Human resource forecasting is the process of predicting the needs of the company to determine the future needs of the company. Forecasting tries to understand the competencies of the current staff and identify existing gaps. This will help HR department to determine future needs.

Human resource forecasts enable managers to estimate their human resource needs for the future and identify sources from where these resources can be obtained. Forecasting human resource supply is of two types:

- Forecasting the external human resource supply
- Forecasting the internal human resources supply

Forecasting the External Human Resource Supply

Sometimes, organizations may have to recruit some employees from outside the organization on a contract basis. It is difficult to find and hire employees who can perform well as soon as they join the organization. While some organizations find colleges and universities as the best sources of potential employees, others target competitors or even unsolicited applications.

Organizations can also collect information about the employment history of potential employees to develop statistics and select the best one. The information is collected either by interviewing the employee or through questionnaires. Organizations keep the data bank of potential employees and use when need arises in future.

Forecasting enables managers to identify where potential employees may be found. They can also predict the type of individuals likely to succeed in the organization by listing the qualities needed to succeed. Government agencies and human resource associations estimate the external human resource supply by first making regular projections of labor market conditions. Later, they determine the number of personnel required within a field or profession. However, estimation of human resource supply by government agencies is

Chapter 3: Strategic Acquisition of Human Resources

(*Niraj Kishore Chimote and P. V. L. Ramana)*

Introduction

In the previous chapter, human resource forecasting was discussed. In this chapter, the strategic issues in staffing and the impact of technology on staffing will be discussed.

The real challenge for the modern-day organizations is not just recruiting people, but hiring people who can effectively contribute to the organization's goals. The changing business environment calls for different staffing decisions. For example, the staffing decisions in technology and service companies are different from those in other companies. Also in staffing, organizations need to make sure that employees fit into the organization's culture.

This chapter discusses core concepts in staffing and strategic issues in staffing.

Strategic Recruitment

Finding and attracting qualified candidates to organizations are of strategic importance to any organization because performance of an organization to a great extent depends on its human resources. Recruitment can be defined as the process of searching and acquiring potential job prospects in adequate numbers to enable the organization to select the right candidate for the job. Strategic recruitment is a process of creating a long-term strategic plan for the organization. It also involves having specific requirements for each job and aligning them with the organization's strategic plan.

Strategic Aspects of Recruitment

Recruitment involves identifying and attracting the right pool of candidates for filling the vacancies. An organization should address the following aspects before creating a successful recruitment strategy.

Recruitment goals: A good recruitment program should attract a high proportion of well qualified candidates interested in the job. It should attract good performers who are likely to stay in the organization for a reasonable period.

Recruitment philosophy: The key aspects in recruitment philosophy are:

- To decide whether to recruit candidates from the existing employees or through external sources.
- To decide whether the recruitment is for a short period or a longer duration.
- The diversity of the candidates being hired.
- To see whether the recruitment process is fair and honest.

Recruiting Scope and Intensity: The availability of qualified candidates for a particular job determines the scope and intensity of the recruiting effort. The complexity of the job, the availability of qualified applicants, and the willingness of individuals to relocate or commute also plays an important role in recruitment. For example, if a company has branches in different countries it has to adopt a global recruitment strategy.

Chapter 4: Strategic Implications of Training and Development

(Akbar Jan and Sheela Rosalyn)

Introduction

In the previous chapter, strategic issues in staffing were discussed. In this chapter, the strategic implications of training and development and the impact of technological advances on training and development activities will be discussed.

Training and development activities involve developing strategies aimed at enhancing the performance of employees motivating them and allocation of resources to the activities etc. Globalization of businesses has also contributed to the increased importance to training and development. Organizations have realized that training is essential to retain talented professionals. Organizations need training and development to maintain a viable and knowledgeable workforce to contribute to the competitive advantage of their firms.

The strategic issues in training and development are discussed in this chapter.

Overview of Training and Development

Training and development programs have a significant bearing on the productivity of organizations. Hence it is important to study them in detail. Training and development refers to a planned effort to help employees learn job-related behaviors to improve their performance. The terms “training” and “development” are often regarded as synonymous; however, the two terms are distinctive. While training refers to efforts that enable employers to enhance the skills of its employees to carry out various tasks, development is concerned with preparing employees to handle other types of tasks or higher jobs.

Training Goals and Roles

Organization's strategic objectives form the basis for defining employee performance goals. The latter is measured against the criteria tied to the strategic objectives. Hence, training forms an integrated part of such a system as it helps employees in understanding the way they can support the organization in achieving the corporate objectives.

As such, it is important to have effective systems in place to address the performance issues faced by the organization. Hence it has to be ensured that the organization has an effective training system in place (Refer Exhibit 4.1).

Exhibit 4.1: Domtar's Way of Learning

Domtar is a North American company that produces uncoated free sheet paper. As a part of expansion process, it purchased the Ashdown Mill of Arkansas. In order to integrate the new company into the "Domtar way", its management team designed a 2 - day training program to help the Ashdown mill employees to –

Understand Domtar's culture.
Ways of servicing the customers.
The plan was to ensure that within 14 - months all the employees of Ashdown mill undergo this training.

Contd. ...

Chapter 5: Performance Management and Evaluation

(K.Veeena)

Introduction

In the previous chapter, we have discussed the strategic implications of training and development and the impact of technological advances on training and development activities. In this chapter, we will discuss the strategic aspects of performance appraisal and different organizational appraisal systems.

The assessment of employee contribution to an organization can be defined as the process of performance appraisal. Assessment of employee performance helps organizations determine whether the performance of employees is aligned with the goals of the organization. Performance appraisal can be defined as the process implemented by managers to help employees perform better.

Strategic Dimension of Performance Appraisal

Effective and meaningful performance management is achieved by designing appropriate performance appraisal dimensions.

According to Dale S. Beach, "Performance appraisal is systematic evaluation of the individual with respect to his or her performance on the job and his or her potential for development". The strategic dimension of performance appraisal involves developing performance standards for achieving the organizational goals, user involvement, feedback, self-appraisal, coaching and counseling. Let us see the performance appraisal and review process at Wipro (Refer Exhibit 5.1).

Exhibit 5.1: Performance Appraisal and Review – Wipro

Wipro Ltd is a $ 5 billion Indian conglomerate. Based on the 2008-2009 revenue, it is the second largest IT Company in India. It has a wide variety of interests like information technology, consumer care, lighting, engineering and healthcare. Performance appraisal is a continuous process and employees' performance is observed for one year. Performance appraisal cycle of Wipro is a three step process which is based on duration like annual, interim and confirmatory.

- Annual – It is a yearly appraisal cycle carried out during April-May. Performance of an employee during the last year is measured in this appraisal.
- Interim – It is also known as indicative appraisal, which is conducted in the month of October and November. The intention is to appraise employee's half yearly performance.
- Confirmatory – This type of appraisal is carried out to appraise new employees after 12 months of their joining. The main reason for carrying out this appraisal is to overcome bias to new joiners who missed out on the appraisal system due to different dates of joining.

Source: https://www.ukessays.com/essays/management/wipro-technologies.php - 2015

Chapter 6: Compensation and Strategic Human Resource Management

(*K.Veeena)*

Introduction

In the previous chapter, we discussed the strategic aspects of performance appraisal and different organizational appraisal systems. In this chapter, we will discuss the importance of different compensation strategies for deriving at a cost-effective and fair and equitable compensation system.

The system an organization uses for rewarding their employees is called the compensation system.

Compensation is the sum total of all monetary and non-monetary rewards received by an employee in exchange of his/her contribution to the organization. Organizations take meticulous care in designing compensation of employees. They have to take into consideration several factors to attract and retain the talented pool without incurring losses to the organization. In fact, one of the important goals of any organization is to make profits through its employees and goods and services it provides. All are linked to compensation and it acts as an instrument that enables an organization to achieve its objectives. The strategies and implications adapted by organizations in managing their compensation systems are discussed in this chapter.

Objectives of Compensation

It is essential to understand the objectives of compensation system to design and implement a just, equitable and attractive compensation system which motivates employees for higher performance and also retains them for a longer time. Compensation is what employees receive as returns for their contribution to the organization. It is a tool by which employees get attracted and motivated to work in the organizations. Compensation can attract and retain talent if it (compensation) is fair, equitable and cost effective.

Following are some of the objectives of a compensation system.

- To motivate employees (Compensation is the driving force behind employee performance).
- To attract outside talent to join the organization.
- To retain employees.
- To communicate to the employees what the organization expects in terms of quality and output.
- To help employees recognize and understand the organizational goals and the role they have to play in achieving these goals.

To create a competitive and equitable compensation system, organizations employ various job evaluation techniques to establish equity between jobs.

Chapter 7: Strategic Challenges for Leadership

(P. V. L. Ramana)

Introduction

In the previous chapter, compensation systems and strategies were discussed. In this chapter, the strategic challenges faced by a leader will be discussed.

[16]Center for Creative Leadership says a strategic leader should be able to make an impact on significant number of people and able to focus on long-term goals of the organization side-by-side, dealing with short-term goals and has ability to facilitate change for organizational development. This is what differentiates a strategic leader from an ordinary leader. Further strategic leader should be able to deal and overcome effectively the challenges facing his /her organization. With changing times, and dwindling economies, the role of HR manager is increasingly under pressure and the strategic leadership demands swift actions from HR managers. The emerging challenges and the coping mechanisms adapted by strategic leaders are discussed in this chapter.

Strategic Challenges for the HR Manager

Business organizations have to effectively deal with ever increasing challenges that are confronting them and should update themselves with the growing challenges. HR managers face critical challenges like supporting new organizational structures and dealing with growing variations in employee relations. These strategic challenges can be encountered across HR policy clusters, HR roles and in HR outsourcing.

In a Survey of Global HR Challenges: Yesterday, Today and Tomorrow, conducted by PricewaterhouseCoopers on behalf of the World Federation of Personnel Management Associations (WFPMA), 10 top challenges were identified for human resource management. Table 7.1 presents these challenges.

Table 7.1: Top 10 HR Challenges for HR Managers

Challenges	% Of Companies Facing The Challenges
Change Management	48
Leadership Development	35
HR Effectiveness Measurement	27
Organizational Effectiveness	25
Compensation	24
Staffing	24

[16] *https://www.ccl.org/blog/strategic-leadership-overcome-challenges/*

Strategic Maintenance of Human Resources



Editor
M. Bhaskar Rao

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Chapter 1: Strategic Issues in Employee Safety, Health and Labor Relations

(*M. Bhaskar Rao and P. V. L. Ramana)*

Introduction

We will discuss the strategic issues in employee safety, health and labor relations.

Occupational health and safety conditions are of paramount importance to all organizations. We have seen in Maslow's Hierarchy of Needs that employees give high importance to safety needs after physiological needs, implying that no employee would like to work in an organization that does not guarantee safety to them. The next important factor is health of the employees, implying that by working in an organization, employees should not encounter any health problems. The basic proposition in occupational health and safety conditions is that no employee should have to choose between his/her life and job. Then another important factor is to have cordial and cooperative relations between employers and employees for successful running of the organizations. All these factors and their implications are discussed in this unit.

Strategic Issues in Employee Safety and Health

Safety and well-being of an employee must be the top most agenda of an organization since organizations become effective once these issues are taken care by management. Employers who are providing a safe and healthy workplace are not only doing good for their business, but also doing the right thing for their employees. An organization's human resource (HR) department is responsible for planning, designing and implementing employee safety and health programs. Strategic issues in safety and health of employees are to be reviewed by the top-level management regularly for organizational effectiveness. Promoting safety and health programs require both employers and employees to have some responsibilities, while enjoying certain rights. The following are some strategic issues that an organization must have in place to ensure worker safety and health:

- Creation of a culture of safety and health consciousness
- Creating a safe and healthy workplace by making required investments
- Proactively introducing training programs and measuring metrics related to safety and health of employees
- Monitoring and measuring effectiveness of training programs and their impact on organizational effectiveness
- Institutionalization of safety and health controls
- Enforcing guidelines related to employee safety and health

Building organizational effectiveness related to safety and health

An effective labor relations strategy must include a company-wide commitment to doing everything possible to keep workplace safe and healthy. Safety strategies[1] may include crisis management teams, recording, investigating and correcting safety hazards, periodic audits and safety related communication, hazard management

Chapter 2: Career Management

(*Niraj Kishore Chimote and .Sheela Rosalyn)*

Introduction

In the earlier chapter, we discussed the strategic issues in employee safety, health and labor relations. In this chapter, we will discuss the significance of career management.

Career management is important to individuals and organizations. Career management starts with understanding of oneself and encompasses occupational awareness. It is a conscious planning of one's activities and engagements in the jobs one undertakes during his/her life for better fulfillment, growth and financial stability. It involves setting personal career goals and developing strategies to achieve them. Individuals must frequently revise their career goals based on work experiences. Modern organizations help individuals manage their careers. Hence, career management is of utmost importance to employees as well as employers.

Importance of Career Management

Career

"Career is defined as a sequence of positions, roles or jobs held by one person over a relatively long time span."

A career path is the sequential pattern of jobs that form a career

- Career goals are the future positions that an individual strives to reach as part of a career
- Career planning refers to the process by which an individual selects career goals and the path to these goals
- Individual career planning is the process whereby each employee personally plans career goals
- Organizational career planning is the process whereby organization plans career goals for its employees
- Career management is defined as the process of designing and implementing goals, plans and strategies that enable HR professionals and managers to satisfy workforce needs and allow individuals to achieve their career objectives
- Career development programs help in achievement of career objectives

Career management helps individuals to reach their goals or ambitions in their careers. It also helps one to analyze the hurdles that stand as a block for career advancement. Managing one's career is essential to for advancing in careers overcoming the hurdles in career path. Career management has been given more importance in recent times as increased competition, structural changes, and job insecurity have forced organizations and individuals to rethink their careers (Refer Figure 2.1). Many organizations consider career management as important to contemporary HRM practice that assist employees to manage careers. Career management is an important part of total rewards in organizations. The purpose of career management is to:

- Enhance employees' on-the-job performance.

Chapter 3: Employee Separation and Downsizing

(*M. Bhaskar Rao and P. V. L. Ramana)*

Introduction

In the previous chapter, the significance of career management was discussed. In this chapter, employee separation, downsizing and turnover will be discussed.

Organizations change and adapt in a volatile, uncertain, complex and ambiguous (VUCA) business environment. Economic progress, technological innovations and changing lifestyles drive these changes as they create new opportunities and pose threats to the existing businesses. Organizations, to remain competitive, need flexibility and therefore respond to the emerging situations. The pressure to remain competitive along with the changing employee attitude to hop jobs makes employee separation a strategic issue. Hence effective HR strategy shall include managing the employee separation process and maintaining the human resources as an important deliverable.

Organizations put enormous efforts and incur huge costs to hire the best human resource talent available in the market. Similarly, many times, organization or the employee severs the relationship with the other. Employee separations and downsizing are some of the techniques used by organizations for parting with the employees. Organizations incur costs as well as some benefits both during the employee separation and downsizing processes. Further, separation and downsizing of employees are also not without adverse consequences. All the implications of employee separation and downsizing are discussed in this unit.

Employee separation takes place through two different types' viz., separation initiated by the employee and separation initiated by the employer. Employees separate from the organization through resignation and voluntary retirement. Employers separate employees from the organization through downsizing (layoffs), involuntary turnover (retrenchment), as a punitive action (dismissal) and compulsory retirement. Due to sensitivity of the issue separation of employee(s) from an organization requires empathy, discretion, and planning. HR managers should have strategies for managing each of these separations.

Concept of Employee Separation

Effective management of employee separation is essential for organizational stability, competitive advantage and growth. Any event that separates the employer and the employee can be described as employee separation. Employee separation could be defined as the process by which an organization or an individual ends his or her employment with that organization. According to Yoder (2007) 'Employee separation is a negative recruitment. For any organization, employee separation is a sensitive issue and if not dealt properly, the consequences for the organization are too many. Some employees are separated from the organizations for personal reasons such as physical and mental inability, superannuation or demographic factors or any other specific

Emerging Trends and Challenges for Human Resources



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Sharda Singh

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Chapter 1: Mergers and Acquisitions (M&A)

(K. Veena)

Introduction

In this chapter, various types of mergers and acquisitions and their effects on the human resources of the company concerned will be discussed.

Many companies regard mergers and acquisitions as a strategic tool for increasing profitability, gaining market share, and developing synergies. From banking to software, insurance to technology, companies have started entering into mergers and acquisitions to become market leaders in their respective industries.

Introduction to Mergers and Acquisitions (M&A)

In the rapidly changing economic scenario throughout the globe mergers and / or acquisitions are important avenues for the business entities for expansion vertically or horizontally. Both potential companies and not so strong companies are involved in the process, the stronger ones for expansion and the not so stronger for sustenance. Such being the involvement of almost all the companies, studying the implications of M&A becomes crucial. In a merger, two companies come together to form a new entity; but in an acquisition, one company buys or acquires another company. The acquiring company usually implements its own policies and procedures for managing the acquired company.

Types of Mergers and Acquisitions

In today's business environment, huge funding is required for the companies that are aiming at expansion of operation in the domestic market or in the overseas market. There are many avenues available to the companies to mop up funds for expansion activities. The important avenues available for the corporate sector for expanding or diversifying activities are mergers and acquisitions. Taking another company into the fold or acquiring another company has become common in the corporate world. Hence it is important to know the different types of mergers and acquisitions that are in prevalence.

Types of Mergers

Mergers can be broadly classified into two types: merger of equals and merger of unequals. For example, the merger between Reliance Petrochemicals Limited and Reliance Industries limited is a merger of equals, whereas the merger between JPMorgan and Chase Manhattan is a merger of unequals. The criterion to decide whether a merger is between equals or unequals is based on the post-merger implications for both the parties. If the financial, operational and staffing implications are the same for both parties then it is called a merger of equals. Otherwise, it is a merger of unequals. Mergers may be further classified into the following types:

Horizontal Mergers

A merger of two or more companies that produce the same products or services and are competing in the same market is called a horizontal merger. These mergers take place to achieve economies of scale, increased market share and to monopolize the market. Firms that enter into such mergers often use anti-competitive practices.

Chapter 2: Outsourcing and Legal Implications

(Chetna Priyadarshini and P V L Ramana)

Introduction

In the previous chapter, mergers and acquisitions were discussed. In this chapter, outsourcing and its relevance to HR will be discussed.

Traditionally, companies were viewed as highly integrated firms that owned and managed all the resources in their domain. Over the years, the scale of operations and the complexity of businesses enhanced making companies think of more flexible business models. The concept of outsourcing grew out of this need for better and flexible organizations. Instead of doing everything themselves, organizations looked out for specialists who were experts in their respective fields and offered services required by the organizations at lower cost. Thus, organizations could save precious time and money and also focus on what they did best.

Concept and Definition of Outsourcing

Many companies resort to outsourcing to reduce their costs and increase profits by getting the work done by external people rather than by the regular employed staff. Another important reason for outsourcing is when companies lack the required expertise with them; they get the work done by specialists to enhance productivity and effectiveness of the organizations. Hence the need arises to understand the concept of outsourcing in detail.

Michael Corbett[4] defines outsourcing as "The use of outside business relationships to perform necessary business activities and processes in lieu of internal capabilities."

It is clear from the definition that outsourcing involves developing and managing relationships. The relationship between the outsourcer and the service provider is usually long-term, multidimensional, and depends on the nature of work to be outsourced. One of the prominent examples of outsourcing is the outsourcing service offered by ICICI Bank. It handles the payroll processing for a number of companies with its payroll service package, called "Power Pay".

The function of outsourcing refers to procurement of services inputs and materials by a company from an external source that is outside the company. In this regard, outsourcing can be of two types (1) internal, and (2) international. As the name suggests, an internal outsourcing is when a company purchases services inputs or from a source located in another company within the same country. Similarly, international outsourcing is when the company makes purchase of services inputs or material from a source located in foreign country. This term includes both intra-company international outsourcing where foreign supplier of inputs are held by the company and also distance international outsourcing where foreign supplier of inputs are independent of the company that is purchasing the products and services inputs. International outsourcing is also a part of imports of goods and services made by a country. International outsourcing is also popularly referred as "off shoring". International outsourcing is mostly used by companies in developed economies, which outsources part of their work to companies

[4] *Michael F. Corbett is an outsourcing consultant and CEO of the company Corbett and Associates.*

Chapter 3: Ethical Issues in SHRM

(Chetna Priyadarshini and P. V. L. Ramana)

Introduction

In the previous chapter, we have discussed outsourcing and its relevance to HR. In this chapter, ethical issues in strategic human resource management will be discussed.

This chapter discusses the core concepts of ethics and gender differences. The chapter also discusses the importance of ethics at the workplace and ethical issues in labor-management relations. The significance of manager-shareholder relationship for the growth and survival of the organization is also discussed in the chapter.

Core Concepts in Ethics

The word ethics is derived from the Greek word Ethikos and Latin word Ethicus which mean custom or character. The concept of ethics deals with human beings. So, it is a social science. Ethics is a normative science and tells human beings what is right and what is wrong. Knowing these concepts will help in relating to business ethics.

Ethics is not recent phenomenon. Ethical codes have been prepared along with the development of human civilization. In olden days, people might have found some of their actions was wrong and others right. What is right and what is wrong is the base for determining ethical codes.

In the words of Peter.F.Drucker, "Ethics deals with right actions of individuals."

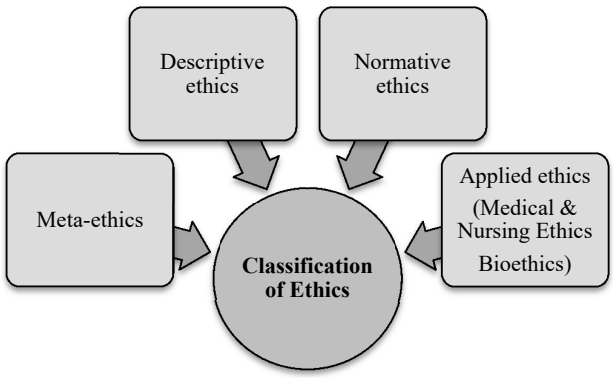
Ethics includes the following:

Well-based standards: Ethics refers to well-based standards of right and wrong that prescribe what humans ought to do.

Study and development of one's ethical standards: Ethics refers to the study and development of one's ethical standards.

Ethics is sometimes referred to as moral philosophy and can be broadly divided into four subject areas as depicted in Figure 3.1.

Figure 3.1: Classification of Ethics



Source: ICFAI Research Center

Meta-ethics aims to understand the nature of ethical evaluations, the origin of ethical principles and the meanings of terms used but are value-free.

Chapter 4: Strategic HR Challenges

(Chetna Priyadarshini and P V L Raju)

Introduction

To ensure a sustainable competitive advantage is the ultimate challenge of HR Strategy in an organization. The most unerring strategy is, of course, to align HR goals and objectives to the organizational vision and build a competitive and an agile business organization. The role of the people or the human resources in this process cannot be overemphasized. Many organizations have not yet recognized the important role of HR in business. HR has to proactively play a role in the strategic workforce planning processes and develop analytics to assess, manage and measure employee performance and monitor the inflow and outflow of top talents in the organization. A new business driven HR strategy is what HR has to aim to achieve and ensure its due place in the organization.

Strategic HR Planning

Human resources planning should serve as a link between human resources management and the overall strategic plan of an organization. It is important that all HR processes and initiatives are developed as part of an overall people strategy which are aligned with, and designed to translate the organization's vision into a reality. More specifically the HR plays a critical role in acquisition of people and training them to harness their talent for organizational growth (Refer Figure 4.1).

Figure 4.1: Two phases of Strategic Human Resource Management.



Source: ICFAI Research Center

Strategic HR Acquisition

As noted earlier, HR plays an important role in acquisition of people to ensure that business strategy and HR strategy are linked in a robust manner. What are the priorities of the organization and what kind of skillsets is required to achieve the goals are the issues that HR has to address. In strategic HR, the concept of human capital has a great importance. Human capital is a business resource or asset that has economic value and utility. It enhances human knowledge and skill and adds value to our society. Human capital is a collection of resources – all the knowledge, talents, skills, abilities,

Introduction to Organization Development



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Rajasekhar David

Introduction to Organization Development

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Chapter 1: Nature and Definition of Organization Development

(Smita Kulkarni and P.V.L. Ramana)

Introduction

According to the Greek philosopher Heraclitus, "There is nothing permanent but change." this holds true now more than ever.

The business world is constantly changing at a pace that was never seen before. Hence, Organizational Development becomes more and more relevant today than ever.

Organization Development (OD) is an applied behavioral science and the aim of this subject is to improve organizations and develop individuals in the organizations. OD came into lime light in 1950-60s. It was popularized by many theorists and extensive research was carried out by them which help us to understand OD. Organizational Development is a set of planned change techniques or interventions designed to improve organizational effectiveness and employee wellbeing (Balzac, 2011). The essence of OD is to bring overall change in the organizational set up in total. It does not focus on individuals alone. The field of OD can help an organization foresee, adapt, and respond to transformation and change at all the three levels: individual, team, department, organization.

But what distinguishes OD from change management or organizational change? OD is not only concerned with the present situation but also how to manage change in the future. Emphasis of OD is on human potential, values, participation and development at individual group and organizational levels

However according to Burke (1982) says it is analogous to change because --OD implies change; and, if we accept that shifts in the way an organization functions suggest that change has occurred, then, broadly defined, OD is analogous to organizational change"

OD emerged as panacea for solving organizational problems in scientific way. In that sense, OD is professional. OD is a planned, systematic, organized and collaborative effort. In this Chapter, various definitions of OD, its nature, importance, characteristics, benefits and limitations are discussed. Exhibit 1.1 explains the importance of organizational change to organizational development.

Exhibit 1.1: The Heart of Change

Kotter and Cohen (2008) explain how important organizational change for organizational development in today's turbulent economic environment, companies of all kinds must either change or die. But very often people resist changing, however much managers instigate them to change with appeals to reason- with reports, spreadsheets, budgets, plans, or mission statements. The heart of change

Contd. ....

Chapter 2: Historical Overview of Organizational Development

(Smita Kulkarni and P.V.L. Ramana)

Introduction

A brief history on OD would enable readers to know about the important practices and practitioners of OD. The history of OD consists of rich contributions of several behavioral scientists and OD practitioners. The first among them was Douglas Mc-Gregor. Other significant contributors were Herbert Shepard, Robert Blake and Jane Mouton. In this Chapter prominent contributions made by several behavioral scientists from the origin of OD are discussed. Systematic OD activities stem from four important trunk stems. The first trunk stem consists of innovations in applying laboratory- training insights to complex organizations. A second stem is survey research and feedback methodology. Both stems are interlinked and emerged as action research, represented as the third stem. The fourth stem is the socio-technical and socio-clinical approach. All these four stems, the first generation approaches to OD, highlight the importance of OD and tell us how these approaches paved the way to the current trends in OD. These are called as second generation (See French and Bell; Cummings and Worli) or even third generation approaches (Ramnarayan and T.V.Rao) that include Learning organizations, Total Quality Management, Likert's Participative Management, Quality of Work Life and Appreciative Inquiry. In this Chapter a detailed discussion on the history and evolution of OD is carried out.

Four Major Stems of OD:

The four major stems of OD are: Laboratory Training, Survey Feedback, Action Research and Socio-technical and socio-clinical stem.(Refer Exhibit 2.1).

Exhibit 2.1: Four major stems of OD

1. Laboratory Training Stem
2. Survey Feedback Stem
3. Action Research Stem
4. Socio-technical and socio-clinical Stem.

Laboratory Training Stem

Otherwise called as T-Group or Sensitivity Training -Learning from one's own actions and that of group dynamics.

Laboratory Training is otherwise called as Sensitivity Training or the T-Group and the T groups were also called as 'development groups'. This approach was developed by Kurt Lewin and his staff in the year 1946 at the Research Centre for Group Dynamics[1] at the Massachusetts Institute of Technology (MIT) The T-Group was an unstructured small group consisting of 10-12 members. Refer Exhibit 2.2 for essential features of T-Groups.

Chapter 3: Values, Assumptions and Beliefs of Organizational Development

(M. Showry and P.V.L. Ramana)

Introduction

> That business purpose and business mission are so rarely given adequate thought is perhaps the most important cause of business frustration and failure-Peter F. Drucker, in 'Management: Tasks, Responsibilities, Practices' (1973)

Values, assumptions and beliefs play an important role in organization development. Most of these were formulated early in the development of the field by OD professionals. Values keep changing and new values are emerging from time to time. The values and beliefs that have been developed from research and theory by behavioral scientists and OD practitioners form the basis for this Chapter. The values of organizational development play a vital role in retaining and motivating employees so that they contribute their best efforts for the growth and success of the enterprise. In this Chapter, earlier assumptions on OD and their implications in dealing with individuals, groups and organizations are being explained. Before that, various definitions of the concepts along with sources and types of values are taken up for discussion. The importance of this Chapter is to make students understand that business values include financial as well as human and societal values.

Values, Assumptions and Beliefs:

Values contain a judgmental element that tells the individual what is right or what is wrong; what is good or what is bad: and what is desirable or what is undesirable. They are prescriptions to human beings for knowing the dos and don'ts. Values what we hold, are essentially established from our early years from the behavioral patterns of our parents, teachers peer groups and society. Values differ from individual to individual, organization to organization and society to society. But there are certain core values on which there is near unanimity. For example, honesty, integrity, equality and the like are never disputed, though there are problems in implementation of these values either by individuals or organizations or societies.

Coming to peripheral values, there is no unanimity. For example, democracy is accepted by some countries and not by some. Similarly, some groups hold 'swadeshi' as their value and some others value globalization. Some individuals' value merit as the criteria for promotion and some others value seniority as the criteria. Different individuals and groups in the organization have different peripheral values. For some it is equality, justice, scientific temperament, collective responsibility and for some others it is spirituality, renunciation, charity and filial duties. We have several groups of people with distinctive culture within the same society. Each group has set its own, beliefs, values, customs and practices. However, our OD practitioners' aim is to change our values from particularism to universalism, from ascription to achievement and from self-orientation to collective orientation. The real problem is most of us know what our values are but how many of us are internalizing those values and how many of us are

Organizational Development: Foundations and Processes



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Chapter 1: Foundations of Organization Development

(M. Showry and P.V.L. Ramana)

Introduction

This chapter presents an overview of the foundations of organization development theory and practice. It describes the models and theories of planned change, concentrating on the change models of Kurt Lewin and Burke and Litwin. Change is inevitable for all phenomena and for organizations it is a must. Organizational change refers to planned change intended to improve organizational performance. One of the important and earliest theories of planned change was provided by Kurt Lewin. A second foundation of OD is system theory which views organizations as open system and this is followed by socio technical systems. While teams and team work are the building blocks of organizations, participation and empowerment are the pillars of OD. Another important foundation of OD is parallel learning structures. Norms are the standards of behavior which keep changing through education and new norms take the place of old norms through education. This is what we learn under Normative Re-educative Strategy of Changing. OD is the application of Behavioral science knowledge, practices and skills. Action Research is problem solving method and is very useful and widely used in planned change programs.

Models and Theories of Planned Change

What is Planned Change?

When new state of things replaces old ones, we call the phenomenon as change. Change is of two types- Planned Change and Unplanned Change. Unplanned change is accidental and Planned change is deliberate and a conscious effort. Here we are concerned with planned change. Change is modification in the structure or processes of a system. In the context of organizations, it is alteration in the work environment. In simple terms, planned change is alteration of status quo or making things different through the efforts of a change agent. Exhibit 1.1 illustrates planned change at Motorola.

Exhibit 1.1: Planned Change at Motorola

Motorola, started in 1928 in Chicago, unveiled the first commercial cell phone in 1973. By 2004, it looked as if Motorola could again lead the cell phone industry when it introduced the popular Razr. But Apple and Samsung won consumers' hearts with the more exciting **iPhone** and Galaxy phones. Google acquired the ailing Motorola for $ 12.5 billion in May 2012 to reinvent Motorola and make better smart phones and tablets. It lost $233 million in its first six weeks under Google. The phone business had been unprofitable for 14 of the last 16 quarters. To regain in the market, it decided to lay off 20% of its workforce and close a third of its 94 offices worldwide. The new company also planned to leave unprofitable markets, stop making low-end devices and focus on a few cell phones. Motorola now begins rolling out Android 4.4 KitKat for the Moto X on Verizon, less than three weeks after debut.

The desired planned change in this case is to make Motorola profitable again.

Source: http://www.nytimes.com/2012/08/13/technology/motorola

Chapter 2: Managing Organization Development Process

(M. Showry and P.V. L. Ramana)

Introduction

Management aims at getting things done effectively and efficiently while the organization development focuses on doing things better by enhancing the health of the organization. In this chapter, we examine the process of OD Diagnosis. First, we try to understand the steps involved in OD process and later define diagnosis. This makes us understand how organizations function and implement required changes. Complex adaptive systems are based on diagnostic models and the six box model helps us to understand where to look and what to look for in diagnosing organizational problems.Refer Exhibit 2.1 for understanding OD process

Understanding OD process

Exhibit 2.1: General Motors' Changed Business Strategy

General Motors Company (GM) builds and sells cars and trucks. GM owns 18 brands, including Chevrolet, GMC, Cadillac, Buick, Opel and many others. The company operates in about 160 countries and is one of the largest vehicle manufacturers.

GM required dramatic shift in its strategies. After 2008 bailout, GM experienced major changes and reorganized the way it does business. New members were appointed to the firm's management team with Daniel Akerson as the CEO. He shook GM's bureaucratic organizational culture and introduced new strategy and visions to the business. GM became smaller but leaner and is becoming more cost competitive. A comparative look at the old and new strategies makes us understand the change processes.

General Motors' Changed Business Strategy

	GM's Old Business Model	**GM's New Business Model**
Vision	Design, build and sell the world's best vehicles	Design, build and sell the world's best vehicles
Design	Focusing on core brands; leveraging global resources to create the most compelling vehicles and technologies	**Focusing on fewer brands**, leveraging global resources to create the most compelling vehicles and technologies
Build	Optimizing our global footprint to cost-effectively develop best-in-segment vehicles.	Optimizing our global footprint to cost-effectively develop best-in-segment vehicles.
Reinvest	Consistently reinvesting cash and profits into vehicle and technology development at strategic points in the business cycle.	Consistently reinvesting cash and profits into vehicle and technology development at strategic points **regardless of business cycle.**

GM has diagnosed its problems by doing SWOT analysis and brought in change interventions to regain its focus.

Source: www.gm.com/company/investors/corporate-strategy.html
iveybusinessjournal.com/.../strategy/how-general-motors-lost-its-focus-a

Chapter 3: Action Research and Organization Development

(P.V. L. Ramana)

Introduction:

We have learnt in earlier Chapter that Action Research is 'learning by doing' and it is collaborative and client-consultant enquiry. It involves collection of data for identified problems and taking action after analyzing the alternative courses of action. Pioneering research is done by Kurt Lewin (Exhibit 3.1), Lester Coch, Whyte and Collier (Exhibit 3.2) with respect to action research. Let us look at these studies to understand action research more vividly. This unit discusses in detail action research as a process and as a problem solving approach with suitable examples and case studies.

Action Research Model:

Exhibit 3.1: Action Research by Kurt Lewin and his Associates

Kurt Lewin, eminent social psychologist, developed action research in 1940 through his experiments shifting from laboratory to real world. His focus was on 'how to create a better working life through processes of change to which research makes significant contribution'. He and his associates conducted collaborative research on group behavioral problems related to industrial management and productivity within the Harwood Manufacturing Corporation of Virginia, which manufactures menswear. The company was making a number of changes in equipment and methods. The changes required that a number of workers be transferred to new tasks and different departments. This resulted in resistance, resentment, resignations, low output and aggression towards management. The management introduced participatory management and team approach and exposed workers to sensitivity training. Communications moved upward, downward and laterally. Workers appreciated the new climate and felt that they were part of the company and production went up. Turnover and absenteeism of employees reduced. All indicate improvement in human relations.

Source: books.google.co.in/books/ISBN/ 09716040204

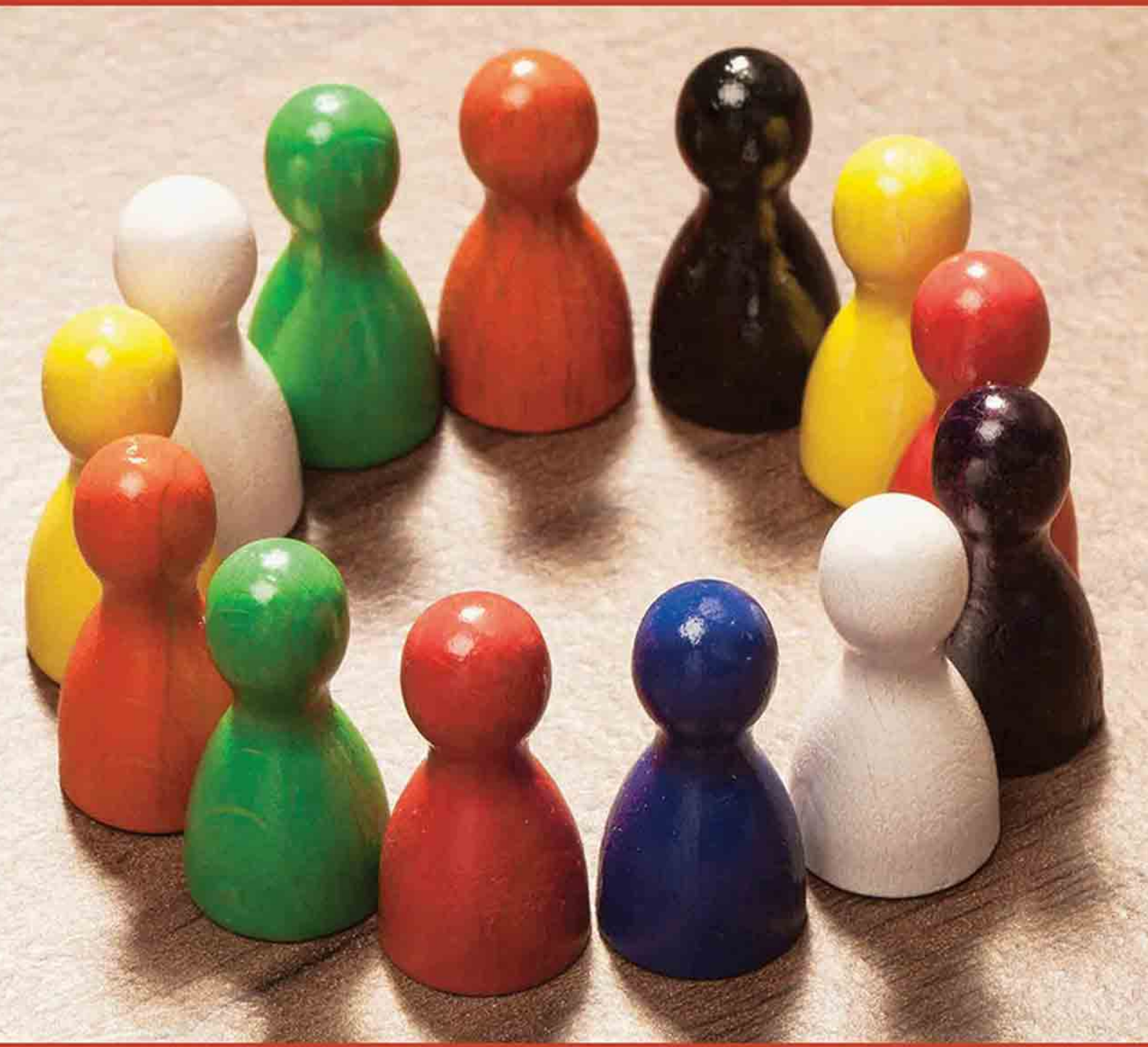
Exhibit 3.2: Action Research by Lester Coch and John French on 'Overcoming Resistance to Change'

Lester Coch and John R. P. French Jr. were both employees of Hardwood and the Company was facing one of the most serious production problems - the resistance of production workers to the necessary changes in methods and jobs. The resistance by workers resulted in

- High turnover
- Very low efficiency
- Restriction of output
- Marked aggression against management.

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Human Processes and Comprehensive Organization Development Interventions



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Human Processes and Comprehensive Organization Development Interventions

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Chapter 1: An Overview of Organization Development Interventions

(M. Showry and P.V. L. Ramana)

Introduction

"Is change management and organization development the same or different" is a question which has been most frequently bothering several managers. Though many provide simplified impression that both refers to organization's response to change, they ought to be distinguished from one another in terms of the approach, theories, process, content and application. The change management obviously refers to the strategy of implementing any planned or unplanned changes in the organization like introducing new technology, or a process. Organization development is a unique discipline what aims at designing interventions utilizing advance theories and practices behavioral science knowledge to bring changes in the culture and systems of the organization to enhance the health of the organization.

In the first place, it is important to note that an understanding of change and its impact on organizations is important prerequisite for designing interventions where the target of change is the entire organization than just the individuals, and groups. In simple terms, interventions are actions taken to produce desired changes. When initiating change", one has to know about the objectives of change, to what extent the goals are desirable and what and how the change is to be implemented. We also need to know the alternate methods available in bringing change. This chapter provides an overview of OD Interventions and describes various classifications of OD as given by eminent scholars. Finally, for our operational purpose, we derive a particular type of classification that will be followed in the coming units.

Definition, Nature and types of OD Interventions

The OD interventions are a set of structured activities in which groups or individuals engage in order to bring about the desired changes in select organizational units to improve the overall health of the organization in terms of bad to good, 'dysfunctional to functional', and 'immature to mature' . Strikingly, the effectiveness of the actions is based on the information and knowledge gathered during the diagnosis.

According to Cummings and Worli, an organization development intervention is 'a sequence of activities, actions and events intended to help an organization improve its performance and effectiveness'. Interventions are derived from careful diagnosis to resolve specific organizational problems and to improve organizational performance.

Intervention is a deliberate process by which change is introduced into people's thoughts, feelings and behavior. Managers influence the productivity of their team by understanding how managerial style impacts organizational climate and create an atmosphere of high performance. The thrust of OD interventions is to improve the entire organization through planned change.

Change is defined as process by which an organization moves from the current position to desired position.The examples of interventions include changes in the technology, or financial system, Processes, Job roles and O structure to address the pressing business

Chapter 2: Human Process Interventions

(M. Showry and P.V. L. Ramana)

Introduction

Often many think that any change primarily involves change in technical processes, systems, organization structures and/or job roles however, human side of change is the most important aspect of change that determines the effectiveness of change. The personality characteristics, habits, and fear of the unknown, anxiety of losing economic and professional benefits, low intolerance for change etc have been some of the significant reasons for the failure of change. The coercion of the employees to extend support and gain commitment to changes would be futile and less efficacious. Instead, several interventions may be designed to find out the ways to educate and enhance employee capabilities so that they respond to change. The organizational development essentially involves applying the principles, theories and techniques to implement large scale planned changes more effectively than others as it focuses on the human processes involved in the organization. Human process Interventions are the most popular and earliest interventions focusing on the interpersonal relations and group dynamics occurring in work groups. The Human process interventions pertaining to the mindset comprising of basic assumptions, beliefs, value about self as well as organization, social interactions, Ex- Planning, Decision, Policies, Task, people, leadership, competition etc., which directly or indirectly influence the changes. These interventions attempt to improve people's working relationships with one another. William Bridges in his book *Transitions* (1980) presents that individuals go through 4 stages before they can then move into the transition state during the change.

- ***Disengagement***. The individual must break with the past and do away with the old definition of self
- ***Disidentification***. The processes of recognizing that they aren't who they were before.
- ***Disenchantment***. A stage in which individuals further change their past assumptions to create a deeper sense of reality for themselves.
- ***Disorientation***. It is an uncomfortable stage where individuals feel confused and lost and confused.

Hence, understanding the stages individuals go through helps the consultants to design interventions aimed at helping individuals to become proactive to change. The other causes of changes include structural rigidities, power imbalance, blind adherence to past procedures and blind conformity to old norms and hard culture. Hence, human process interventions may be designed to address significant issues dealing with individuals and groups while dealing with these problems. This chapter provides a brief description of each of the four types of human process interventions mentioned below.

1. Individual Interventions
2. Interpersonal Interventions
3. Group/Intergroup Interventions

Chapter 3: Comprehensive Interventions

(M. Showry and P.V. L. Ramana)

Introduction

In this Chapter, we discuss comprehensive OD interventions which involve the total organization and also address in-depth cultural changes. Comprehensive interventions involve a collaborative effort between the client organizations and the consultants. All these interventions help in identifying organizational problems and bringing solutions. They aim to promote organization development. Like all OD interventions, comprehensive interventions involve a collaborative effort between the client organization and the consultant in both diagnosis and intervention.

Comprehensive Interventions

The important comprehensive interventions discussed in this chapter are:

- Beckhard's Confrontation Meeting
- Strategic Management Activities
- Appreciative Inquiry
- Blake and Mouton's Grid Organizational Development
- Schein's Cultural Analysis

Beckhard's Confrontation Meeting

The confrontation meeting is an intervention designed to mobilize the resources of the organization to identify problems, set priorities and action targets and begin working on identified problems. This intervention is particularly useful when an organization is under stress and when there is a difference between the top executive and other employees. The confrontation meeting, developed by Richard Beckhard, is a one-day meeting of the entire management to analyze its problems. This intervention is an important one in organization development. It is a quick, simple and reliable way in which management group generates information about its major problems, analyze its causes and develops action plans to correct them. The confrontation meeting is a quick, simple and reliable way in which to generate data about an organization and to set action plans for organizational improvement. Confrontation meeting is an activity which allows entire management group, composed of individual from all levels of the organization to take a quick reading on its own health and within matter of hours to set action plan for improving it.

The steps involved in confrontation meeting are as follows:

- **Step 1: Climate Setting** (45-60 minutes) **-** The top management introduces the session by explaining the goals and issues concerned to the participants. It facilitates for open and free discussions. The consultant also initiates the topic for solving the organizational problems.
- **Step 2:Information Collecting** (1 hour) – Small groups of seven to eight members from different functional areas and working sessions are formed to think about the

Structural and Strategic Organization Development Interventions



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Chapter 1: Techno-Structural Interventions

(M. Showry and P.V. L. Ramana)

Introduction

Techno-structural interventions aim at improving organizational effectiveness through changes in the task, structural, technological and goal processes in the organization. These interventions include changes in how the overall work in organization is divided into Chapters, who reports to whom, methods of control, the spatial arrangements of equipment and people, work flow arrangements and changes in communications and authority. The important Techno-structural interventions that are discussed in this Chapter are: Socio Technical System (STS), Self-Managed Team, Work Redesign, M.B.O, Quality Circles, Parallel Learning Structures, High Performance Work Structures, Downsizing and Re-engineering.

Socio-Technical Systems (STS)

The term socio-technical was introduced by the Tavistock Institute in the 1950s. According to Cummings and Worley, STS has two basic premises:

1. 'Effectiveness of work systems must jointly optimize the relationship between their social and technical parts' and
2. 'Such systems must effectively manage the boundary separating and relating them to the environment'.

They also say that the boundary between the organization and its environment should be managed not only in a way as to allow effective exchanges but also provide protection from external disruptions. The implementation of STS should be highly participative, involving all of the relevant stakeholders, including employees, engineers, staff experts and managers. STS projects tend to feature the formation of autonomous work-groups which are now termed as self-managed or self-managing teams. These will be discussed in detail in 10.4.

We have also studied that one of the earliest studies of STS was at British Coal mining where the consultant-researcher found that by re-introducing team approach to mining coal, several benefits occurred. Socio-technical systems (STS) in organizational development is an approach to complex organizational work design that recognizes the interaction between people and technology in workplaces (Refer Exhibits 1.1 and 1.2)

Exhibit 1.1: Importance of Interaction between People and Technology

The disappearance of the Malaysian plane MH 370 on 8 March 2014 still is an unsolved or may not be solved mystery. We do not yet know whether it was a human failure or a technical failure. In theory, a pilot plus a plane are two side-by-side systems with different needs, one mechanical (plane) and one human (pilot). Human Computer Interaction (HCI) suggests these systems should interact positively to succeed. If the interaction fails, tragedies of this sort occur.

Source: ICFAI Research Center

Chapter 2: Strategic Interventions

(M. Showry and P.V. L. Ramana)

Introduction

The organizations witnessed momentous changes in their design, functioning and human process in the past few years. Despite such changes, the number of organizations still faces threats particularly due to obsolete strategy. Hence, many organizations strive to overcome threats by exploring several strategic management interventions. This chapter on strategic interventions presents interventions to transform the entire organizations or change the basic character of the organization than bring incremental changes in order to align it to the changing environment. In today's changing and highly competitive environment, organizations need to ensure alignments between the organization strategy, organizational design, culture and the competitive environment. The strategic planning activities, quality of work life, and process consultation are some of the important strategic interventions issues that were taken up for discussion. Firstly, the strategic planning interventions help organizations in improvement in performance and effectiveness. The quality of work life aims at enhancing the professional as well personal lives of employees,

Strategic Planning – Vision, Mission & Goal

Change is an essential component of strategic planning. This involves moving the organization or program forward to create or change something. Some plans are created out of the need for the organization to move in a certain direction, and other plans develop organically. Mission and vision statements will be important to help communicate the goals of the plan to employees and the public.

Mission Statement

Mission statement clarifies the purpose and measurable objectives of the organization. A mission statement is meant for employees and leaders of the organization. Strategic plans may involve changing the mission statement to reflect a new direction of the organization. Highlighting the benefits of the change and minimizing the deficits will help employees and the public buy into the change.

Vision Statement

Like mission statements, vision statements help to describe the organization's purpose. Vision statements also include the organization values. Vision statements give direction for employee behavior and helps provide inspiration. Strategic plans may require a marketing strategy, which could include the vision statement to also help inspire consumers to work with the organization. Refer Exhibit 2.1 for 3 M's vision statement.

Chapter 3: Strategic Change Interventions

(M. Showry and P.V. L. Ramana)

Introduction

This Chapter discusses strategic change interventions which are of three types- Transformational Change Interventions, Continuous Change Interventions and Trans-organizational Change Interventions. Transformational change interventions transform the organizations in such a way that they change the basic structure of the organizations, focusing on organization's strategy, design elements and culture. The change process is characterized by innovation and executives take up active leadership roles. Continuous change interventions enable organizations to change themselves in a continuous way and generate new forms of competitive advantage. Trans-organizational change interventions move beyond single organizations and help organizations create and sustain multi-organization linkages. Different types of these interventions, the differences between them with their characteristics and examples are discussed in this Chapter. Table 3.1 is classification of strategic change interventions.

Table 3.1 Types and characteristics of Strategic Change Interventions

Strategic Change Interventions	**Transformational Change Interventions**	**Continuous Change Interventions**	**Trans-organizational Change Interventions**
Types	1. Integrated Strategic Change 2. Organization Design 3. Culture Change	1. Self-Designing Organizations 2. Organization learning 3. Built-to-Change Organization	1. Mergers and Acquisitions 2. Strategic Alliances 3. Networks
Characteristics	1. Triggered by environmental and internal disruptions 2. Aimed at competitive advantage 3. Systemic and revolutionary	1. Alter features of the organization to fit with organization strategy 2. Change process needs to be dynamic and iterative	1. Move beyond the single organization, involving two or more organizations. 2. It includes mergers and acquisitions, alliances and networks.

New Dimensions and Future Outlook of Organization Development



Editor
Radha Mohan Chebolu

New Dimensions and Future Outlook of Organization Development

Editor:
Radha Mohan Chebolu

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Chapter 1: Role and Competence of O.D Practitioner

(P.V. L. Ramana)

Introduction

OD practitioners require sufficient planning and expertise to undertake OD interventions. He is the change leader in the organization and plays an important role in bringing change. He requires special skills to demonstrate his capabilities as change agent. He adopts different styles in the process. He has to maintain smooth relationships with the client system. But there are several implications and issues he encounters from entry to closure. He has to tactfully manage these issues and strive for organizational development. This chapter discusses the role, skills and styles of OD practitioners and analyzes the issues involved in consultant- client relationships.

Nature and Skills of OD Practitioners

The OD Practitioners are specialists, whether from within or outside of the organization, often referred to as Consultants. They provide professional services- diagnosing the problems, developing situations and helping to implement them. The OD practitioner first diagnoses the problem by collaborating with the top executives of the organization. For diagnosis of the problem the essential conditions are:

- The clients should be convinced that there is a problem
- The client should feel the urgency to resolve the problem
- The client should have ample resources to entrust the work to the practitioner
- The practitioner should have the zeal and capabilities to undertake the work
- The necessary motivation and readiness for change should be present in both the client and the practitioner.

There are three types of OD practitioners:

- Practitioners specialize in OD as a profession- They offer professional service to organization clients and are experienced in areas such as group dynamics, communication, and decision-making. More recently, they have even specialized in organizational effectiveness, competitiveness and bottom-line results. Organizations now-a-days are faced up with several pressures and challenges and these practitioners are trained to cope up with such pressures.
- Practitioners specialize in specific topics related to OD- They are specialized in areas such as Reward Systems, Organization design, TQM, IT, Business Strategy etc. and become OD practitioners in these specialized areas. They apply their special competence with formal training and experience and practice OD in their respective. specialties.
- The term OD practitioners also apply to managers and line managers of companies who have gained competence in OD and apply it to their own work areas. Kanter studied number of firms such as GE, Hewlett and Packard, 3M where managers

Chapter 2: Power, Politics and Organization Development

(P.V. L. Ramana)

Introduction

In this chapter power and politics is examined in relation to organization development. The term power is generally considered as the capacity of a person to exert influence over others. The traditional belief of power is that 'Absolute power corrupts absolutely'. But this connotation of power changed to a great extent. Power makes considerable impact on the behavior of individuals, more so in organizations. Power and Politics are closely related. In simple terms, politics is 'the way people gain and use power in organizations'. Organizational politics refers to how people move forward in organizations. In this chapter the definitions, sources, and theories of power are explained. The chapter also describes the relationship between power and politics with an emphasis on organizational politics.

Definition of Power

Power is the capacity of a person to exert influence over others. The definitions of power given by scholars illustrate the importance of power.

- Warner Burke (1982) opines that organization development signifies change, and for change to occur in an organization, power must be exercised.
- Gerald Salancik and Jeffrey Pfeffer define power 'as the ability of those who possess power to bring about the outcomes they desire'.
- In the words of Jeffrey Pfeffer, power is 'the potential ability to influence behavior, or change the course of events to overcome resistance, and to get people to do things that they would not otherwise do'.
- Max Weber says power is 'the probability that an actor within a social relationship will be in a position to carry out his own will despite resistance'.
- According to Stephen P. Robins, power is, "the ability to influence and control anything that is of value to others."It is not always easy to attain or regain power. Therefore, people tend to develop individual power while trying to regain their lost power or attempting to attain power. If they are unsuccessful in assimilating individual power, they try to form a coalition.

From these definitions we can infer four aspects of power:

- Power is required for organizational change and development
- People with power can exert influence over others and can get things done
- Power enables to overcome resistance from people
- The holders of power can bring about the outcomes they desire
- If power holders fail to retain power, they form into coalitions

Chapter 3: New Dimensions of O.D

(P.V. L. Ramana)

Introduction

This chapter describes the new dimensions of OD that include the process of OD in Global settings and OD in non-industrial settings. It presents the views of Thomas Friedman in his book 'World Is Flat', which illustrates that OD is significant in global settings. OD is playing a significant role in bringing social change world-wide. In recent years, OD is being applied in service industries like Health care, Public and Private Organizations and Family-Business. This chapter discusses in a broad way how OD is being applied in global settings and non-industrial settings, taking the views of experts in the field.

Organization Development in Global Settings

Thomas L. Friedman (2005) in his book 'The World is Flat' says that communications and urge for collaboration flattened the world. - the fall of Berlin Wall in 1989, the emergence of world wide web-and Netscape going public in 1995, developed communication systems leading to collaborations 'to build coalitions, projects and products together-more than ever'. New forms of collaborations were made possible through open-sourcing, outsourcing, off-shoring, supply-chaining, in-sourcing, and in-forming.

The ten flatteners:

- The first world flattening event was the fall of Berlin Wall- Noble prize-winning economist Prof. Amartya Sen says after the fall of Berlin Wall, the world became a better place to live and enhanced the free movement of best practices
- Creation of web browsing company for public by Netscape brought connectivity with which people were thrilled- people could communicate and interact with many other people anywhere on the plane than ever before.
- The Virtual Private Network (VPN) could connect one software to other software whereby people started working together. People were able to collaborate to build coalitions, projects, and products together.
- Open-sourcing- It is a form of collaboration where scientists come together through networks and share their brain power around a problem or issue and others can add their insights which will be available to all. It led to post-capitalist mode of production. Dictionary is the best example which gave free access of knowledge to people-just download with a click for any information.
- Outsourcing, a new form of collaboration where companies found that they were investing in a most efficient, high-quality and low-price way to innovate.- Outsourcing is the contracting out of a business process to a third-party and then reintegrating the work back into the overall operation of the company. Y2K is the best example for outsourcing in India.

Chapter 4: Future of O.D

(P.V. L. Ramana)

Introduction

In this concluding chapter, an attempt is made to understand briefly how the foundations and processes of OD have contributed to the future growth of OD. The field of Organization Development is rapidly growing and new methods and new interventions are evolving contributing to change process. With rapidly taking place changes, it is difficult to predict the future of OD. However, taking clues from the views of scholars in the field, the trends affecting OD and the future of OD is explained, with a re-look at the nature and foundations of OD.

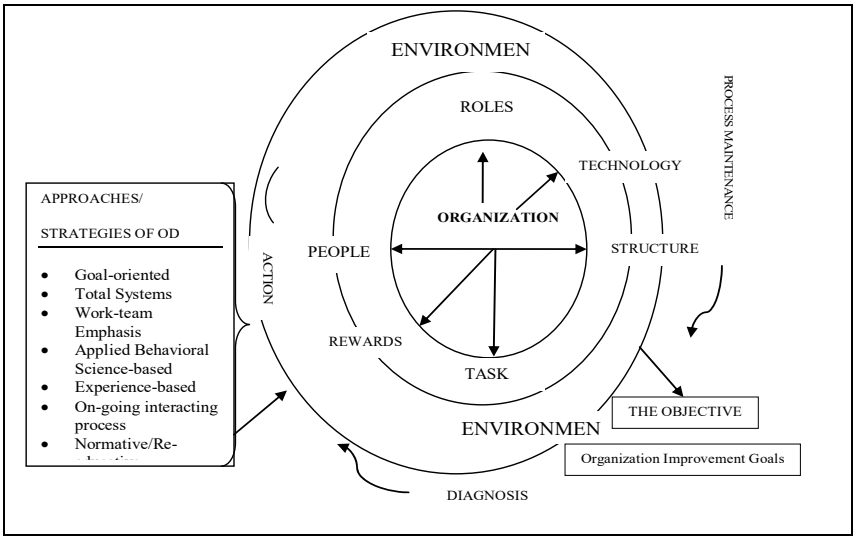
Nature and Foundations of OD

OD has a long history, starting in 1940s in U.S.A and in 1950s in India. From then onwards several changes are being taking place in OD. The speed of change is dramatically increasing. It is a long time journey. It is ever relevant. Organizational Development is a dynamic process which addresses the problems that arise in an organization. Over time, many changes are made to the OD process.

Nature of Organizational Development

The nature of OD is based on the foundations of OD and can be understood by analyzing its components. It is depicted in the figure 4.1.

Figure 4.1: Nature of OD



Source: Kesho Prasad, Orsanisational Development for Excellence (New Delhi: Ma emit Ian India Limited, 1996) p 5

Foundations of Social Entrepreneurship



Editor
KBS Kumar

Foundations of Social Entrepreneurship

Editor:
KBS Kumar

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Foundations of Social Entrepreneurship

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Chapter 1: Meaning and Concept of Entrepreneurship

(Namrata Chatterjee and PVL Ramana)

Introduction

The word 'entrepreneur' has its wide concept and meaning which differ from one to other country. The word 'entrepreneur' was first used by Richard Castillo, Irishman for economic activities. An entrepreneur who is business oriented in nature, has to focus on various stages of the business for monetary benefit, and growth of the organization besides creating a new venture. The term social entrepreneurship has become popular in the 21st century with an objective to find solutions to problems faced by a large sections of people such as poverty, ill health, illiteracy, hunger, malnutrition, safe drinking water, sanitation, etc. The process of social entrepreneurship can be achieved by organizing people who are homogenous in nature to resolve their social issues though economic platforms and through cooperative or business groups who are keen to address the above problems. Thousands of micro-finance organizations across the world are close to half a billion of people, and work to remove poverty; which, in other words, is a goal of millennium development programs. Wanri Maathai (founder of Green Belt Movement) and Md. Yunus founder of Grameen Bank received Noble Prize for promoting social entrepreneurship. Similarly, Bill Drayton, the founder of Ashoka has established more than 2000 units of social enterprises in 70 countries. Social entrepreneurship has also been introduced in many universities and business schools such as Oxford, IESE Business School at the University of Navarra (Spain), Fundacao Getulia Vargas (Brazil), Gordon Institute of Business at the University of Pretoria (South Africa), Tata Institute of Social Sciences Mumbai, etc. In the United States of America (USA) and Canada more than two hundred universities run this program. Social entrepreneurship has become a priority in many of the business schools across the world. The present unit discusses the meaning and concept of social entrepreneurship covering the above mentioned sub-themes.

The Concept of Entrepreneurship

The word entrepreneur has its broad notion which cannot be defined in a stipulated frame work because many countries use the term 'entrepreneur' according to their requirement in accordance with time. The word 'entrepreneur' first appeared in the French language (entrepreneur: means to undertake or go between) in sixteenth century and similarly, used for military expeditions.

Economics has always been closely associated with the phenomenon of entrepreneurship. Historically many classical authors have attempted to define entrepreneurship based on various perspectives. The foundation lies in the theories proposed by Richard Cantillon and Adam Smith in the late 17th and 18th century. Richard Cantillon, an Irishman (then living in France) used this term for the economic activities. According to him, entrepreneur is a person who buys services at certain price with a view to sell products at uncertain price. Jean-Baptiste Say in 1803 and Joseph

Chapter 2: Social Entrepreneurship: Concept, Theory and Scope

(Namrata Chatterjee and Sandeep Kulshreshta)

Introduction

Social Entrepreneurship is one of the most talked-about spheres of work in the contemporary times. There are quite a few people who are willing to start an organization which has an objective to do social welfare and create lasting change for the society as a whole. In this unit, the concept, theories and scope of Social Entrepreneurship is discussed in a nutshell.

Social Entrepreneurship: Definition, Nature and Scope

Social Entrepreneurship is not very simple to explain and yet it is not at all a complex phenomenon. It is all about people who have brilliant ideas for solving social problems and how they develop organizations which are innovative in executing those ideas. Since time immemorial there had been people who have done great work for the transformation of society and now in the changing and globalized world, such type of people are all the more important as they are able to use resources such as technology etc. and professional management practices. The concept of social entrepreneurship was brought in focus by William (Bill) Drayton, the founder and CEO of the international association Ashoka. Ashoka is an association for innovators for the Public; existing since 1980 works to identify, select, and empower social entrepreneurs among seventy countries. According to Ashoka, a network of worldwide social entrepreneurs, “Social entrepreneurs are individuals with innovative solutions to society's most pressing social problems. They are ambitious and persistent, tackling major social issues and offering new ideas for wide-scale change”. Considering this definition, Social Entrepreneurs are such people who are passionate about bringing in solutions for existing social problems. The people working in this field use management skills, technology and available resources to initiate such interventions which are meant for a larger social good. For example, there is a social enterprise called CRY (Child Rights and You), based in India. CRY educates the children of slums and impoverished backgrounds and the money for such initiative is raised through individual donors. They also have a website through which donors can donate, using internet banking/credit cards etc.

One of the classical definitions of social entrepreneurship has been given by Dees in 1998. According to that definition by Dees, a social entrepreneur contributes as a change agent in the society by:

- creating a mission that can sustain social value (not just personal value)
- identifying new opportunities in the social sector and continuously pursuing them to fulfil that mission
- continuously engaging into innovation, adaptation, learning and evolving

Chapter 3: Social Entrepreneurship Terminology

(Namrata Chatterjee and Sandeep Kulshreshta)

Introduction

Social Entrepreneurship has been in existence since a long time in history. In recent times, the field of entrepreneurship has gained a lot of exposure and there are people who have built world class organizations, with unique ideas and execution. Social Entrepreneurship is gaining momentum and there are many people who intend to do good work for social good. The main difference between commercial and social entrepreneur is the intention behind the venture. A commercial entrepreneur looks for profitability, innovative approach and excellence; and so does a social entrepreneur. The only major difference is that a social entrepreneur looks for a larger social good, along with making profits. This unit focuses on various terminologies which are used in Social Entrepreneurship.

Terminology related to Social Enterprises

Social Mission: Social Mission is a long term belief or vision of either a social enterprise or a commercial enterprise. For a social enterprise, it can be a long term solution for a social problem and hence, their core reason for existence. For example, "We will help the government in eradicating child labour by 2020" is an example of Social Mission. For a commercial enterprise, it may be an intention to work towards a social objective, which may include starting schools for the underprivileged or any other social objective. For a commercial enterprise, such mission is not a core value, but a small aspect of their work.

Social Capital: Social Capital implies economic benefits which the people may get when they collectively join together and start working towards a common goal. This concept has its roots in Psychology. An example of Social Capital would be a Farmers' co-operative where Farmers join together and develop collective farming techniques and as a result, derive economic benefit out of it. Many social entrepreneurs work towards creating social capital for the beneficiaries.

Social Benefit: Social benefit is an aggregate benefit for the society which emerges out of either production or consumption of goods and services. Social entrepreneurs generate benefits in the society through job creation, social up-liftment, and welfare to others.

Social Objectives: A social objective is usually a statement that details a specific desired outcome of a social intervention, which is related to the interaction and collaboration of the individuals, groups, and institutions within a society. All social entrepreneurs have social objectives that form a basis of achieving their mission.

Social Obligation: Social Obligation is the responsibility of an organization or any government institution towards the society. Government has social obligation to provide essential services to people that may include healthcare, education and basic infrastructure. For a social entrepreneur, a social obligation means focusing all efforts in achieving the mission of his/her enterprise.

Chapter 4: Sociological Aspects Impacting Social Enterprises

(Namrata Chatterjee and Sandeep Kulshreshta)

Introduction

The subject matter of sociology and social entrepreneurship overlaps with each other in many aspects.

- Both try to understand and bring significant changes in society and people.
- Their concern is to address social issues like poverty, illiteracy, social exclusion and social divide.
- Both emphasize to bring social change and social development.

It is therefore essential for every social enterprise student to know the fundamentals of sociology. Present unit will enable students to understand the different dimensions of sociology which are relevant for the social entrepreneurship.

Sociology: Definition, Nature and Scope

According to verbal sense, we find that sociology is made of two words in which first word 'socious' from 'Latin' language and second one 'Logas' from 'Greek' language has been taken. the meaning of 'socious' is—'society' and 'science' from Logas. Thus the verbal meaning of 'sociology' is the science of society. Sociology is the scientific study of society and individuals in groups. The primary focus of sociology is to bring insights in understanding social life. August Comte, the father of Sociology in 1838 coined the term 'sociology' and his emphasis was on improvement of the society and evolved a positive philosophy. He has divided the subject matter of sociology into two parts, namely, Social Statics (social order) and Social Dynamics (social change).

After that several sociologists, to name a few, Spencer, Durkheim, Pareto, Max Weber, Karl Marx, Parsons and many others contributed to the field. What is common among all of them is the urge for development of society. They considered that every individual is part of the society and that society is composed of interacting and inter-influencing individuals. For them, whole (the society) is greater than its parts (individuals). Professor Ogburn defines Sociology "as the scientific study of social life. It is a body of learning about society. It is a description of ways to make society better. It is social ethics, a social philosophy. Generally it is defined as a science of society".

Thus, concept of sociology revolves around the following:

- The structure and function of a society as a system;
- The nature, dynamics of human social behavior;
- The fundamentals of individual's social life;
- Interaction between human and their external environment;
- The importance of social interactions for human growth;
- The impact of social world.

Chapter 5: Economics for Social Entrepreneurs

(Namrata Chatterjee and Sandeep Kulshreshta)

Introduction

Economics is the very core of the existence Economics is a social science concerned with the production, distribution, and consumption of goods and services. It studies how individuals, businesses, governments, and nations make choices on allocating resources to satisfy their wants and needs, trying to determine how these groups should organize and coordinate efforts to achieve maximum output.

of any Social Entrepreneur because the issues of demand, supply, consumption, paying capacity and market acceptability play an important role in developing and sustaining a social venture. In the ever changing global environment, it is important to understand the principles of economics and how they are applicable for social enterprises.

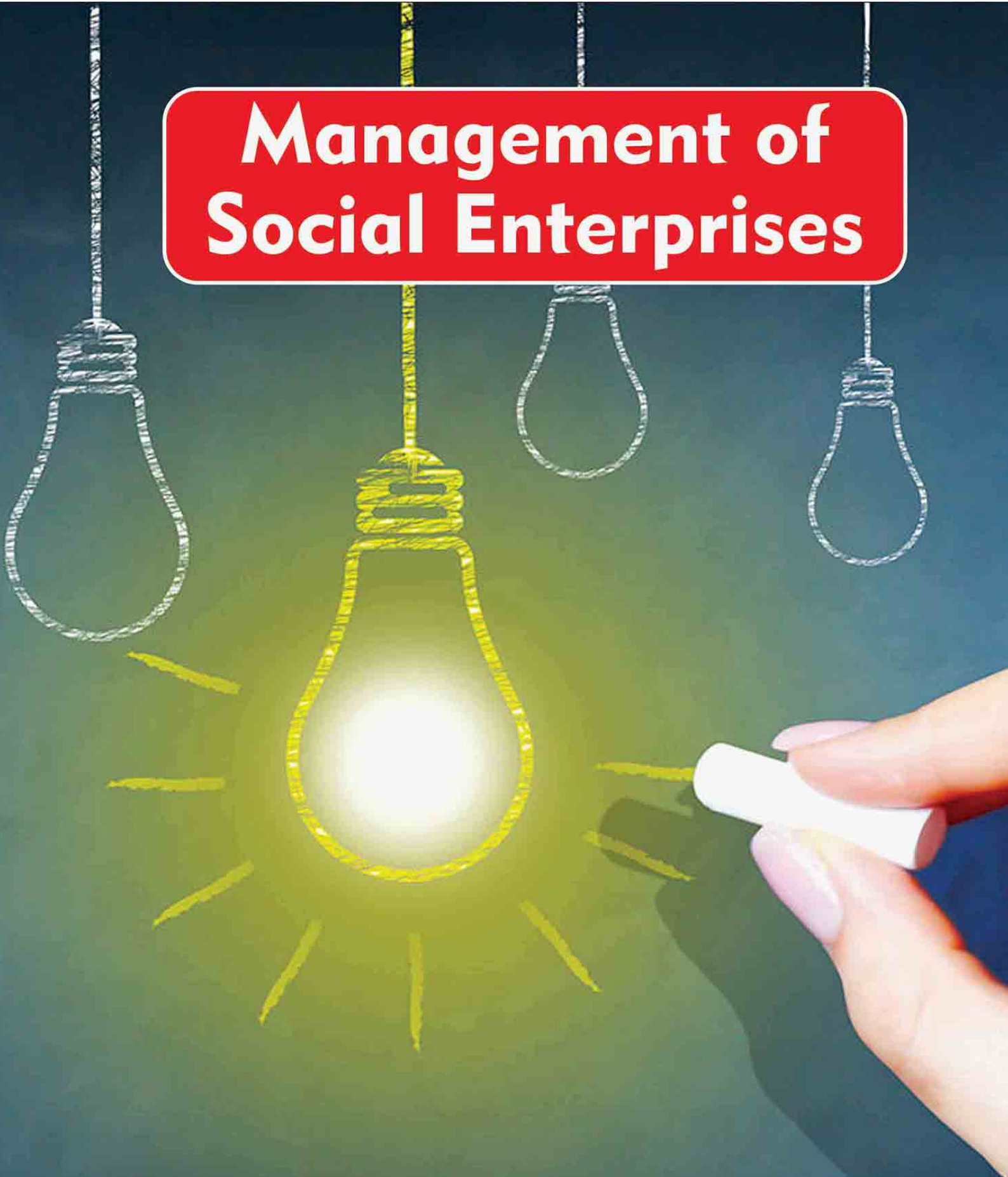
Introducing Economics for Social Enterprises

All Social entrepreneurs, irrespective of their objectives have one common goal, of creating, developing, and penetrating a market. Hence, economics plays a big role. Economics can be referred to as the science of production and consumption, eventually leading to transfer of wealth. A simple example can be buying groceries at a neighbourhood grocery store where a person can buy daily groceries and pay money, while the shopkeeper gains money. The goods had been produced or manufactured by someone else. Hence, at various levels transfer of wealth has happened, which would include the manufacturer to the raw material supplier and from retailer to wholesaler and from consumer to shopkeeper. In a nutshell, we are all governed by economics.

Definition and Meaning of Economics: Economics can be defined as a social science that studies how individuals, companies, governments and nations make decisions on allocating scarce resources to satisfy their wants. The resources in the parlance of economics refer to man, machine, money and material or the four factors of production. In other words economics is the study of human economic behaviour: the production and distribution of the goods and services, we need and want. Hence every professional activity is in actual sense an economic activity. Economics is further classified into Macro-economics, which is related to economy of nations and Micro-economics, which is related to the individual consumer. Both are equally important for a social entrepreneur.

Nature and Scope of Economics: The nature of economics is related to its applicability and as a concept, science or a discipline, it is universally applicable. For example a social entrepreneur wants to build toilets in rural areas of India. He/She will need resources like Men, Material and Money to build those toilets. For maintenance of such toilets, perhaps money can be collected from the villagers; hence their capacity to pay also is related to their economic status. Hence nature of economics is that it is all pervasive and present in each and every part of life. The scope, on the other hand is very vast because economics is related to each and every moment of a social entrepreneur's existence from getting customers to retaining them.

Management of Social Enterprises



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Chapter 1: Accounting and Financial Management for Social Enterprises

(Bhamidipati Soma Sastry)

Introduction

All organizations, whether business or non-business, for profit or not-for-profit require money and other economic resources for carrying on their activities. Wherever the use of such resources is involved, accounting is required to record their movement and to keep track of them. Accounting is therefore, often called the language of business.

The inspiring words of Peter F. Drucker very effectively highlight the importance of social sector organizations, "The 21st century will be the century of the social enterprises. The more the economy, money, and information become global, the more grassroots stakeholders will matter. The social enterprises perform in the community to exploit its opportunities thereby mobilizing its local resources to solve the problems. The leadership, competence and management of the social enterprises will largely determine the values, the vision, the cohesion and the performance of the 21st century society."

Some voluntary organizations call themselves Non-Government Organizations (NGOs). This is, once again, to emphasize that the organization is not controlled by the government or any other outside agency. Other synonyms used to describe these organizations include Private Voluntary Organizations (PVOs), Non-Profit Organizations (NPOs) and Civil Service Organizations (CSOs). The terminology used for the purpose of this course material is Social Enterprise.

Fundamentals of Accounting

Meaning and Definition

Accounting for social enterprises is defined as, "The process of identifying, measuring, recording the financial transactions and communicating the events in terms of economic and social transactions, of the social enterprise to the interested stakeholders".

Changing role of Accountants

For centuries, accounting had been generally confined to the financial record keeping functions of the accountant. However, in recent times, the role of an accountant has gradually evolved from that of a mere recorder of transactions to that of a member providing relevant information to the decision-making team. Accounting now is an integral part of management information system. It collects data and communicates economic information about an enterprise to all the stakeholders related to the social enterprise. The charitable and social enterprises now find themselves in a rapidly changing landscape bound by more regulatory and compliance requirements than others.

In short, accounting is a tool for decision makers or managers. It helps with resource allocation and deployment, allows control of resources and is an aid to monitoring performance. As far as the social enterprises are concerned, there are many sets of

Chapter 2: Social Information System (SIS)

(D. P. Sarma)

Introduction

Social entrepreneurship is an attempt to exploit business techniques to find solution to social problems such as low cost availability of commodities to economically deprived sector. Conventional entrepreneurs typically measure performance in terms of profit and returns, but social entrepreneurs, on the contrary, also takes into account a beneficial return to the society. Social entrepreneurship works at the cross-section of broad social, cultural, and environmental goals. Establishment of an information system is, therefore, an imperative for such institutions to provide all round support.

The Social Information System (SIS) begins with the concept of establishing communication and exchanging data and information among various points of concern in the society. The modern information system assisted by information technology has a definite impact on the working of a social enterprise. Therefore, information technology has become a driver for change in all dimensions of society.

Information is fundamental to knowledge; information also encourages exchange and builds up of sharable knowledge base in a social setting. It is a means of cultural exchange in the society. It has changed the dimensions of social behavior to a larger extent. The intervention of information technology has given a structured shape along with expediting the entire system to cope up with pace of time. In the social utility context, information technology is also known as Information and Communication Technology (ICT).

Intervention of information technology in the social aspect is twofold: firstly, in the purely social setting, and secondly, in the organizational setting. In the social entrepreneurship avenues it works as communication provider, data and information provider, and work progress facilitator.

Social Information System

Components of Social Information System (SIS) can be defined in a manner starting from the basic entities like data, information and knowledge, before we try to define Social Information System in the right letter and spirit.

Data, Information, and Knowledge

Data - Data is not the numerical or symbolic representation of facts about this world since it is atomic part of the information, it is unstructured. Thus, it is meaningless. Data are the basic elements to be input, stored, and manipulated by the computer to turn it into certain facts. For instance, to get information about salary of a staff member, we need his attendance data, tax data, and advances data, etc. to be input and processed by a computer to get his payroll done.

Information - Information is the meaningful organization of data. That is, when the data is organized in a manner that carries certain meaning, it is known as information. It involves relationships among the represented facts. Computer processes data to

Chapter 3: Types of Social Entrepreneurship

(PVL Ramana)

Introduction

Any person or group of people whose intention is to provide services to the social sector with an innovative idea, approach or program can be said to be working in the field of social entrepreneurship. However, the whole concept is much beyond the purview of a specific definition as there is variety of ways in which social entrepreneurs contribute to the society. In this unit, we will broadly discuss different types of social entrepreneurs and this will also throw light on the kind of work they do. This unit will focus on the type of social entrepreneurs in India as well as abroad, to give a broader perspective on the topic. Organizations like NGOs, Self-Help Groups, and Co-operatives are more prevalent in developing countries like India, while development trusts and community interest companies are more prevalent in countries like the UK.

Non-Government Organizations (NGOs)

A Non-Government Organization, commonly referred to as a NGO is a not-for-profit voluntary organization, which may be formed by a group of people at the local, national or even international level. The primary motive of a NGO is to bring citizens' issues to the forefront, which may include areas like public health, environment, and sanitation, etc. NGOs are also involved in closely monitoring public policy and bringing public concerns to the Government. NGOs are task or mandate driven and depending upon their size, they hire people with appropriate background. For example, a NGO working for spreading awareness on HIV/AIDS will be focused on the core activity and not take up anything else. It would also hire people who are interested to work for a "cause". A "cause" is a short version of "social cause". Hence, NGOs work on a premise of taking up social issues, bringing them to the mainstream and developing programs to effectively implement their agendas.

NGOs are also known as "Charitable Organizations" (especially abroad) as it is assumed by their very definition that there is no motive for profit. NGOs work in rural as well as urban areas and work typically on a tight budget, the money for which is usually raised through donations from individuals, corporate houses and institutions/agencies. While the character of a local or a national NGO is defined by the activities they execute, the International NGOs sometimes act as "funds provider" and hence they are referred to as "Donor agencies" of Funding NGOs.

Examples of leading Indian NGOs include Bachpan Bachao Andolan, Prayas, and Goonj, Yuva while the prominent International NGOs include Plan International, Sightsavers International, and CARE.

In India, NGOs can get registered under Societies Registration Act, 1860 or Bombay Public Trust Act 1950 (Applicable in the states of Maharashtra and Gujarat) or Indian Trusts Act, 1882.

Chapter 4: HRD for Social Enterprises

(PVL Ramana)

Introduction

Social Enterprises are people driven and hence Human Resources Development (HRD) is the key to determine success in such kind of organizations. Like the corporate sector, where HRD is now considered to be a big element in creating value for an organisation, through its interventions, the social enterprises also need robust HRD systems and processes to increase their overall efficiency through various tools including performance management, training and development, etc. In this unit, the overall concept of HRD would be explained along with its relevance in the social enterprises. This includes various functions of HRD and how they are applicable in contemporary social enterprises. There are activities embedded in this content, which would enable the student to apply the learning holistically.

Overview of HRD

Raj is an experienced social worker who is employed with a social enterprise which works in the area of creating awareness on eye health and also provides free cataract surgeries for people who are not able to afford them. Now his organization is expanding into diabetic health and his seniors want him to work in the new area as well. Raj doesn't have much experience or knowledge in the area of diabetic health. Hence, he calls on the Human Resources Development (HRD) department in his enterprise which is now planning to get him trained in the new area of work

Hence, it is the Human Resources Development (HRD) function, which helps employees gain new skills so that they are efficient and effective in their jobs. HRD has emerged as one of the core areas of the wider concept of Human Resources Management (HRM). While HRM includes recruitment and retention, payroll management, performance management, manpower planning, employee welfare, employee engagement and related functions, HRD deals with "development" activities which include employee career development, capacity building, training & development, organizational development and related functions.

Leonard Nadler, Professor Emeritus, George Washington University, is credited by many with coining the term, "Human Resource Development". According to him, "Human resource development is a series of organized activities, conducted within a specialized time and designed to produce behavioral changes". Nadler is referring towards producing behavioral change so that the people within the organization can contribute better and execute tasks with high level of precision and efficiency.

HRD Structures and Functions:

1. **HRD structure**: Every social enterprise which is medium to a bigger size necessarily needs to have a HR Department to take care of functions related to managing people. Some organizations choose to call such department as "HR Department" while some social enterprises, who are seriously interested in

Chapter 5: Social Marketing

(R. Muthu Kumar)

Introduction

Social marketing plays major role in social enterprise. It is the one which can create awareness and retain the cause of social enterprise in the society. In this unit, meaning of social marketing, social marketing and behavioral change, situational analysis of social marketing, and strategic planning in social marketing are discussed. Segmenting, targeting, and positioning of social marketing, social marketing mix are explained. Evaluation of social marketing and ethics in social marketing are also touched upon in the unit.

Meaning of Social Marketing

Rohit works for an organization which is into social business, selling pepper spray to rural women and creating awareness at the grassroots level. His job is not only to market his product but also to create awareness towards behavior change and in this case, his campaign expects even men to understand the need of women's safety.

If we speak of Social marketing as a field of marketing, it has been in existence for long time, yet it is only relatively recently that it has gained popularity in the Indian context. Key areas where the social marketing approach has been employed successfully include health, cottage industries, environment protection, and financial well-being, etc. Social marketing does not focus merely on selling a product or service but it is about changing behaviors through ideas and focused interventions.

To explain the concept little more clearly, following can be some of the examples of social marketing - Promotion of safe sex practices through usage of condoms, Opening rehabilitation centers for drug addicts, and awareness campaigns on breast cancer prevention. Social marketing hence can be defined as an approach aimed at changing or modifying people's behaviors for the benefit of individuals and society as a whole.

Social Marketing and Behavior Change

In normal parlance, marketing signifies any activity which is targeted towards influencing buying behavior in people. For example, marketing of cosmetics where the companies undertake strategy to make people aware of products through branding/product promotion and subsequently make the product available on the shelf. This also includes understanding consumer behavior (for example, which geographical area has more women in higher income groups). Hence, there is a substantial effort to change people's behaviors so that they buy products. In social marketing, the only thing which is different is that behavior change is undertaken to make a social impact, which would benefit a certain section of the society or the entire society as a whole. For example, making people aware of population control through marketing of condoms is a perfect example of marketing with a purpose of behavior change. The campaign on contraceptive pill by the Government of India, *Mala D* was very successful in changing people's behaviors, in the late 1980's.

Perspectives in Social Enterprises



Editor
Mohd Abdul Nayeem

Perspectives in Social Entrepreneurship

Editor:
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Chapter 1: Strategy of Social Entrepreneurship

(Srinivasa Rao and K. Veena)

Introduction

Strategy plays major role in any social venture. It is about having long term vision and mission for the social enterprise. Social entrepreneurial strategy should be in line with the society's needs. In this chapter, strategy formulation, strategy execution, and strategy in social enterprises are discussed.

Defining Strategy

Strategy signifies a plan of action for any issue on hand or the future which inculcates growth and expansion as well as better performance of an organization. Through strategy, an organization can find a solution for the issue on hand or develop roadmap for the future.

What is Strategy?

Strategy is a direction an organization wishes to take with an objective to target growth and expansion, along with a substantial increase in the organizational value. In social enterprises, this would also mean expanding the operations to newer thematic areas or segments. A social enterprise working in one state in India may think of expanding to other states.

The concept of strategy has its origins in the military, where the deployment of forces for maximum impact, considering the capabilities was the key for the armies. Subsequently the concept was adopted by the companies who were trying to become both efficient and profitable by expanding their base. Social sector is also not far behind as far as strategic thinking is concerned and hence strategy plays a big role in defining the role, capabilities and the mandate of a social enterprise.

Three Levels of Strategy:

In social enterprises, the strategy follows a hierarchy of three levels – Organizational, Mandate Driven and Functional. The overall organizational strategy encompasses the path a social enterprise wishes to take for next 3-5 years, considering its current and projected capabilities (of programmes, activities, campaigns, and human resources) and its current and projected impact. When it comes to mandate, a social enterprise can revisit the same and reassess the priorities, if needed. Mandate refers to the area of operations which reflects the point of view of all stakeholders, including the management, funding partners, employees and whosoever has a stake or interest in the organization. It also can refer to ideology and identity of a social enterprise. For example, for a NGO working in the area of community health may have a mandate of "serving village level community health". Hence, that organization's strategy may be linked to its mandate. As far as functional strategy is concerned, at different functional levels (Refer Figure 1.1), a strategy can be developed (examples: Marketing strategy, Human Resources Strategy, Funding strategy)

Chapter 2: Business Plan Preparation

(Srinivasa Rao and Sandeep Kulshreshta)

Introduction

The singular purpose of social enterprise is to take social challenge and address them in a most appropriate way. Such an enterprise is called a social enterprise. By addressing a social cause, it could be eliminating illnesses, eradicating poverty, providing education to society etc.

Business plan is at the heart to any business or social enterprise. The entrepreneur's skills can be evident from preparation of the business plan. Venture capitalists or funding agencies first look at the business plan of a venture before financing it.

A good business plan guides you through each stage of starting and managing your business. You'll use your business plan as a roadmap for how to structure, run, and grow your new business. It's a way to think through the key elements of your business.

Business plans can help you get funding or bring on new business partners. Investors want to feel confident they will see a return on their investment. Your business plan is the tool you'll use to convince people that working with you — or investing in your company — is a smart choice.

In this chapter, need of business plan, components of business plan, and steps in business plan preparation are discussed. Business plan approval and business plan template are also touched upon in the chapter.

Need of a Business Plan

Business Plan is a document which is prepared by an entrepreneur, as a basic document for attracting investors and building a positive image of the enterprise.

The business plan will clarify your business idea and define your long-term objectives. It provides a blueprint for running the business and a series of benchmarks to check your progress against. It is also vital for convincing your bank — and possibly key customers and suppliers — to support you.

In the context of social enterprise, a business plan is the road map that gives direction in executing an intervention, managing a program, and ultimately realizing the program's goals and objectives. An effective business plan:

- Articulates the mission of your program;
- Defines a strategy based on needs of the target population, customers and market conditions;
- Outlines specific actions to achieve program goals and objectives;
- Establishes targets for planning, measuring and improving performance;
- Motivates employees;
- Communicates your plans and ideas to all stakeholders;
- Projects the necessary resources, costs, and revenues of your program; and
- Provides a basis for sound decision making.

Chapter 3: Leadership Factors in Social Entrepreneurship

(Srinivasa Rao and PVL Ramana)

Introduction

Leadership drives an enterprise. Without effective leadership an organization cannot go forward and social enterprise is not an exception. What are the leadership skills and competencies required for social entrepreneur?

In this chapter, understanding leadership and leadership styles are described. Leadership skills and leadership required in people handling social enterprises are discussed in the chapter.

Understanding Leadership

Seema, the CEO of a social enterprise, which works for women empowerment is preparing for a monthly meeting with the department heads. Usually her meetings end within 15-20 minutes as her agenda consists of four items – things which went well in the last month, things which didn't go well (with an action plan to correct the deficiencies), things which are planned in the forthcoming month and sharing of any specific learning from the past month. This reflects the leadership style of Seema, who likes to empower her teams for producing results. She had taken charge from another dynamic lady, Ameena who was fond of meeting her team more often and was even checking their day to day schedules. Ameena was hence more interested in controlling her team. This reflects another leadership style as every person who is in a leading role in any organization will have different ideologies and beliefs.

If we come to leadership, it can be defined as an effort to lead an organization by involving, directing and empowering people to achieve specific goals. Originally, the word leadership was a monopoly of political leaders and monarchs as they have been instrumental in leading countries and empires. However, when organizations started getting professional and competitive, especially in the last fifty years, business leaders started getting more and more recognition which started with people like Andrew Carnegie and went on till people like Bill Gates, Steve Jobs and even nonprofit leaders like Muhammad Yunus (of the Grameen Bank). Now, leaders of social enterprises are increasingly admired for their leadership skills and the change they bring in the society through their efforts.

Business strategy consultant Robin Sharma (of "*the monk who sold his Ferrari*" fame) has defined Leadership like this, "Leadership is not about a title or a designation. It's about impact, influence and inspiration. Impact involves getting results, influence is about spreading the passion you have for your work, and you have to inspire team-mates and customers".

Leadership and Management:

Leadership and management are two related words used to describe two relevant concepts. Some people say that the managers do things right, leaders do the right things. But this distinction is too simple. Leadership has two implied meanings. It can be

Chapter 4: Growing Social Enterprises

(Sandeep Kulshreshta)

Introduction

Social Entrepreneurial ventures also have a growth trajectory, like their business counterparts. Though the growth in business is related to the profitability as reflected in the bottom-lines, in the case of social enterprises, usually the growth is linked to number of innovations carried out, scale-up of an enterprise to a diverse geography and better reach, besides many other tangible and intangible factors. In this Chapter, the theme is on innovation, incubation, and scaling-up which will assist the student in understanding how social enterprises grow.

Innovation in Social Enterprises

In Social entrepreneurship, innovation implies a new way of working, introducing new ideas, and usage of newer technologies which can benefit the target beneficiaries or the society as a whole. The concept of innovation had always been an abstract idea, with different practitioners defining it in diverse ways. As per Stanford University's Center for Social Innovation, *"A social innovation is a novel solution to a **social** problem that is more effective, efficient, sustainable, or just than present solutions and for which the value created accrues primarily to society as a whole rather than private individuals".* Hence, a social innovation portrays a new and different solution for either a social problem or a social need.

Both the corporate and social entrepreneurs have one thing in common and that is definitely innovation. The innovation starts with understanding what the social need is and how that need can be best fulfilled considering the available resources. Once the understanding is clear, the next stage is innovating. Hence the entrepreneurs who start social ventures have to innovate so that an efficient solution is provided.

The real life example of innovation is a refrigerator made out of clay by a man named Mansukhlal Prajapathi, who is a clay craftsman from Gujarat state in India. This refrigerator, called "Mitti Cool" doesn't need any electricity to operate and keeps vegetables and fruits fresh for 4-5 days. It can also keep milk and buttermilk fresh for 24 hours. There are two compartments in this refrigerator. A small tank on the top stores water while the bottom half acts as a refrigerator. The water tank keeps the entire refrigerator cool and a special type of clay is used in manufacturing. This is suitable for villages and small towns where the regular and stable power supply is not available. The pictorial representation of "Mitti Cool" is given in figure 4.1:

Chapter 5: Resource Mobilization and Fund Raising

(Sandeep Kulshreshta)

Introduction

For Social Entrepreneurs, it is of paramount importance to raise financial and nonfinancial resources in order to facilitate smooth operations of their enterprises. Social entrepreneurs face innumerable challenges in raising capital because of the fact that most of the time their enterprises are not driven by a profit motive. Besides this, there are not many investors who are willing to invest in a social enterprise because of various reasons. In this chapter, we shall understand various ways in which resources can be raised and funding can be mobilized, for a social enterprise.

Requirement of Resources

Social Entrepreneurs need resources which include financial resources like capital, human resources and even resources related to infrastructure like office spaces, warehouses, air-conditioning equipments and even vehicles for movement of the material/staff. Such requirement for resources is always expected in a social enterprise because people who start social enterprises usually do not have a large chunk of capital to invest in their ventures. The beginning of a social enterprise starts off with a purpose and a mission, to solve a social problem through an innovative approach and to sustain a social enterprise for a long term, it is very important to get all the resources, of which the financial resources are mainly required so that the enterprise is able to fulfill its objectives.

Availability of Resources:

In the social entrepreneurial sector, the available financial and other resources are limited as compared to a corporate, profit-oriented enterprise. The reason is that there is either low profitability in the social sector or none at all (there are many organizations which are nonprofit oriented hence there are no defined “profits”). The investors are not much willing to invest in a social enterprise, until they accept some social commitment. The scenario is changing to an extent now and new types of investors are becoming interested and committed to social causes.

Assessing Financial and Non-Financial Resources:

The financial resources available to a social entrepreneur include seed capital, venture capital funding, incubation, later stage funding, and angel investing. These will be discussed in some detail in this chapter. The non-financial resources include human resources, the administrative resources like vehicles and office space, etc. For a social enterprise, raising resources is necessary and hence various options have to be explored. Before representing to the would-be investors, the social entrepreneurs need to make a realistic assessment of how much capital is needed and how the money raised will be used in the future. For non-financial resources, the questions which need to be asked include - what are those resources and how they would be put to use, to achieve the objectives of the social enterprise.

Chapter 6: Impact Assessment and Policy Evaluation

(Srinivasa Rao and Sandeep Kulshreshta)

Introduction

Social entrepreneurs work towards bringing social change and to understand whether interventions have worked at the grassroots level, it is of paramount importance to evaluate the impact. The impact evaluation process hence is the key to understand whether any social project has delivered as per the expectations and whether the objectives set by the stakeholders are met.

Meaning of Impact Assessment

A corporate organization which is focused entirely towards profit-making and enhancing the shareholders' wealth functions with the approach of investment v/s return. In contrast a social enterprise, irrespective of whether it is profit making or totally nonprofit considers social good as its overarching goal. However, how does one know if the goal of social good is achieved or not. To evaluate this, and many other aspects of a social enterprise, a study called "Impact Assessment" is undertaken. According to Johanna Mair, School of Governance, Stanford University and Suchi Sharma, researcher at Bennett Day School Chicago, "Unlike Business and corporations where profit is the primary goal, social enterprises prioritize social and/or environmental impact over personal or shareholders' wealth. In contrast to traditional not-for profits, they stress good business planning, measurable outcomes, achievable milestones and high levels of financial accountability".

Impact assessment is a tool through which a social enterprise can understand in simple terms as to whether it was able to achieve its objectives and if not, what corrective actions could be taken in the future to avoid the setbacks. It is an approach of performance measurement through which organizations monitor the progress made, the social benefit derived out of interventions and the results which were achieved during a given time frame. Impact assessment benefits a social enterprise in the following ways:

a. Impact Assessment makes an organization better disciplined and it leads to establishing better internal controls which would be useful in monitoring the impact of social interventions in the community

b. Impact Assessment is also linked to accountability. Through impact assessment, an enterprise becomes accountable for the mandate it is working on

c. Impact Assessment allows enterprises to plan and implement with a result-orientated approach so that a social change is facilitated professionally and a level of financial sustainability is achieved.

d. Through Impact Assessment, a social enterprise can proudly showcase the social capital which gets formed through targeted interventions, to its various stakeholders.

While the goal of a corporate business is achieving the desired "bottom lines" or high levels of profitability, for a social enterprise, it can be earning profits along with social

Best Practices of Social Enterprises



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Preshita Neha Tudu

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Chapter 1: Ethics of Social Entrepreneurship

(Sandeep Kulshreshta)

Introduction

Ethics are the principles and values on the basis of which organizations conduct their businesses. These include transparency and integrity with which an organization functions. The value system makes an organization better committed to its stakeholders. For social entrepreneurs ethics is like a sacred vow because their work includes commitment to social change and that is only possible with ethics and shared accountability with all stakeholders.

Meaning and Relevance of Ethics

Imagine a social enterprise is in the news for all the wrong reasons. It has not filed the statutory compliance documents related to the local laws. It also has cases of financial mishandling registered against it. Will you develop a positive image about such enterprise? On the other hand, there is another social enterprise which is known to be meticulous in its financial management, has implemented good HR practices and has implemented social projects which has impacted people's lives. What would you think of it? Logically, the latter organization would be more respected and would be considered "ethical" because of its financial as well as people practices. So, what is ethics?

In general parlance, ethics refers to the values on which an enterprise is created. Ethics deals with human beings who are capable of judging between right and wrong, and good and bad behavior. Ethics is associated with values and morals. Ethics is more a science than an art as it is systematic knowledge about the moral behavior and conduct of human beings. Ethics is a normative science which tells us what we should do and what we should not do. Ethics is thus called the science of moral conduct, moral principles and recognized rules of conduct. It also implies systematizing, defending, and recommending concepts of right and wrong behavior.

Business ethics refers to the application of ethical judgments to business activities. Some philosophers have defined business ethics as 'the normative study of moral standards as they apply to business policies, institutions, and human behaviour', while others regard it as an 'ethical analysis of business practices'.

Businesses encounter two types of ethical problems- overt and covert. Overt ethical problems are clear (transparent) and reprehensible, and deal with bribery, theft, collusion etc. Covert ethical problems are complex and have deft ethical solutions, and occur in corporate acquisitions, marketing and personnel policies, capital investment etc. An ideal ethical decision should be right (morally correct), equitable (just and equal), good (the highest good of all concerned), proper (appropriate and acceptable), fair (honest) and just (action).

Chapter 2: Governance of Social Entrepreneurship

(Preshita Neha Tudu and PVL Ramana)

Introduction

Social entrepreneurs resolve social issues through innovative solutions and there are many expectations from them to deliver on their promises or mandate. In this context, it is very important to have a framework of Governance, so that there is proper accountability and control. This Chapter focuses on the Governance of Social Enterprises and covers the different ways in which such organizations are governed considering the overall objectives of societal good.

Meaning and Relevance of Governance

Governance is establishing policies and continuous monitoring of their proper implementation by the members of the governing body of an organization. It includes the mechanisms required to balance the powers of the members with accountability. Its aim is to ensure that all effort is directed towards fulfillment of the vision or mandate.

Governance is "The system by which entities are directed and controlled. It is concerned with structure and processes for decision- making, accountability, control and behaviour at the top of an entity. Governance influences how an organisation's objectives are set and achieved, how risk is monitored and addressed and how performance is optimised". Successful implementation of a good governance system requires a systematic approach that incorporates strategic planning, risk management and performance management. Governance is the system of principles, policies, procedures, and clearly defined responsibilities and accountabilities used by stakeholders to overcome the conflicts of interest, inherent in the corporate form.

It can be defined as the framework or a system, by which the board of directors ensure fairness, transparency and accountability in a social enterprise's professional relationship with all stakeholders including founders, investors, donors, government, communities, and employees. The word "Governance" initially came from politics where governance means the process of governing a country. Now, in contemporary times, governance means proper process of governing anything which has a value, such as the economy or a business entity. Hence, social entrepreneurs should also have a system or process of "Governance". It is also crucial for a social enterprise to have a governance framework because a sizeable number of social enterprises are donor driven and hence are expected to perform due diligence in spending the money for the purpose it is meant for. Besides the monetary aspects, a social enterprise should be able to use all available resources which are at its disposal, including people and infrastructure, so that the main purpose is achieved diligently and effectively.

Governance is relevant because through it, a social enterprise can develop processes and systems which would be useful in running the organization on operational as well as strategic terms. In a nutshell, governance can also convey efficient and ethical management of an organization and in this context, it is especially important for social enterprises to have a structure of governance. Governance systems are framed by the

Chapter 3: Sustainability and Social Entrepreneurship

(Preshita Neha Tudu and Sandeep Kulshreshta)

Introduction

This unit explains in brief the fundamental concepts of sustainability and how it is an important issue as well as challenge for a social entrepreneur. Environment protection, its sustenance and issues of climate change have been topics of debate over the last few decades. Through this Chapter, a student will get more clarity on these areas.

Meaning and Relevance of Sustainability

Sustainability in simple words means "ability to sustain" or when applied to Environmental Science it is the ability to consistently maintain the ecological systems and the environment on this planet while retaining its flora and fauna. It is an obligation for the companies, institutions and Governments to create structures, systems, policies and practices to assist in sustainability so that the environment is protected

Sustainability is a big issue and a challenge in the current world order because of various reasons including emissions from big factories, dumping of industrial waste, lack of potable drinking water and similar problems which are impacting the world.

Sustainability in business addresses two main concerns:

- The effect business has on the environment
- The effect business has on society

The goal of a sustainable business strategy is to make a positive impact on either one of those areas. When companies fail to assume responsibility, the opposite can happen, leading to issues like environmental degradation, inequality, and social injustice. Sustainable business practices are characterized by environmentally-friendly practices initiated by a company for the purposes of becoming a more sustainable organization. These companies aim to reduce their environmental footprint through initiatives that cut down on waste, poor environmental stewardship and unethical environmental practices that offer a reduced level of sustainability within company practices. Sustainable business practices differ among industries and are often specific to the company type and the product or service it produces. When a company tries to implement such a strategy, it is crucial that customers should not lose trust in the company. Even though the business strategy of acting in an environmentally friendly way has great potential, in order to be successful, it is necessary to thoroughly assess the feasibility, suitability and prerequisites for its successful implementation. It is crucial to thoroughly assess whether there is a market for such products, and at the same time to evaluate the company's ability to successfully manufacture and introduce products to the market. It is essential to consider the size of any investment expenditure as well as the company's resources. When implementing a green strategy, companies must use these resources efficiently and also take advantage of the weaknesses of the competition. The importance of considering environmental factors is affirmed by the fact that it is perceived to be a global trend. This creates new opportunities for companies, because customers are more interested in companies which adopt a friendly

Chapter 4: Social Business Solutions

(Preshita Neha Tudu and Sandeep Kulshreshta)

Introduction

Corporations globally are increasingly getting engaged in providing social solutions through CSR as well as partnering with Governments. These initiatives work towards sustainability and assist people and communities in solving their day to day challenges. This unit focuses on the role of the corporate sector in bringing about innovative solutions for society in collaboration and partnerships with other entities, primarily social enterprises which are already intervening through their programs and activities.

Role of Corporations in Social Benefits Activities

Corporations, especially big and diverse companies, have been historically playing an important role in the socially beneficial activities (for example, in India, Tata Group is known as a pioneer in social work, which meets its social obligations through different non-profit trusts including Sir Dorabji Tata Trust, and Sir Ratan Tata Trust). In current times, Indian organizations like Wipro, Infosys, ITC and MNCs from abroad like Cognizant, and Deloitte are also involved in Corporate Social Responsibility Initiatives on a large scale. The role played by companies in social activities, can be broadly put into three main categories, as listed below:

1. **Direct Involvement with social projects**: The Company may enter the social space directly and create a CSR department which would look for specific projects to fund (for example a company wants to fund eye surgeries, it may look for areas where such intervention is required and accordingly take up the project). In this way, the company can utilize its professional management competency to manage and operationalize a project
2. **Work in a Partnership Model with an existing Social Enterprises**: The Company may choose to work at the grassroots level with a locally established social enterprise, so that the mutual synergies can be exploited. A company which is interested in providing social business solutions may not have expertise in a particular social and community work but has the technical know-how which can help social enterprises that have ideas about solving pressing issues.
3. **Work with Governmental agencies in partnership**: There are a lot of Government agencies, departments and institutions which need expertise of the private sector. Here, the corporations can play an important role in providing managerial and technological expertise to a Government Initiative. For example, the “Akshaya Patra Foundation”, a social enterprise assists Government schools in providing healthy and nutritious mid-day meal, with the support of corporate houses, in the states of Karnataka, Rajasthan among others. Similarly, corporations can assist the Government in upgrading schools, providing access to healthcare and clean drinking water etc. This is a critical area where the corporations can work closely with the Government.

Chapter 5: Social Sector Interventions

(Preshita Neha Tudu and Sandeep Kulshreshta)

Introduction

Social sector initiatives refer to the social interventions where Government plays an important role, either on its own or in collaboration with the social enterprises and the private sector. Government has an active role in areas like healthcare, education and food security for the poor and similar policy level initiatives. In this Chapter, we shall study how social sector interventions create an impact in the lives of the underprivileged.

Overview of Social Sector Organizations in India

In India, the social sector organizations are broadly divided into two – the organizations which come under the purview of the Government and its ministries (including State Governments) and Non-Governmental Organizations or the NGOs who work closely with Government with a purpose of bringing social equity and social change. Some of the central government ministries in India which are actively involved in developing initiatives for the social sector include the following ministries:

a. Ministry of Social Justice and Empowerment

b. Ministry of Finance

c. Ministry of Consumer Affairs, Food & Public Distribution

d. Ministry of Health and family welfare

e. Ministry of Housing and Urban Poverty Alleviation

f. Ministry of Human Resources Development

g. Ministry of Panchayat Raj

h. Ministry of Tribal Affairs

i. Ministry of Water Resources

The above mentioned ministries have a significant portion of work dedicated towards social sector. By social sector, we infer the society at large, which has a large portion of people who are extremely poor and have limited or no access to various services provided by the Government. Hence, the Government, through its programs and interventions tries to reach out to all sections of society, for balanced and sustainable development.

The first aspect of the social sector interventions includes the Government, its ministries and the programs of those ministries. On the other side of it, there are NGOs and other groups like self-help groups, which complement the Government's efforts in carrying out its agenda of social development. These NGOs, have experience in working at the grass root level and they assist the social sector interventions by way of generating awareness, understand the development gaps and bring them to the notice of the Governmental agencies. In these ways the NGOs are also an important part of the social

Applications of Information Technology in Business



Editor

Dennis Joseph

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Editor:
Dennis Joseph

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Chapter 1: Personal Productivity Software

(Dennis Joseph and Sumangala Rathore)

Introduction

Computer software can be classified into system software and application software. We have discussed about system software in detail in the same chapter. In this chapter, we introduce you to application software which is used by both individuals as well as businesses.

Application software comprises programs that enable users to carry out certain tasks like creating documents, conducting analysis, making presentations, etc., without writing any code. Word processors, spreadsheets, presentation graphics, etc., are some examples of application software. The use of application software enhances the efficiency in operations. For instance, in a supermarket, generating bills and reports using software is likely to be quicker and more accurate than making manual calculations. There are two types of applications: vertical and horizontal applications.

Vertical applications cater to the specific function in an organization and therefore require special programmers or operators to carry out these. These applications are more expensive than horizontal applications and are used to automate the operations of a particular business function. Accounting software and bill generation software are some examples of vertical applications.

Horizontal applications are general-purpose programs that are common across different functional divisions of business and can be used by anybody in the organization. These applications can be used for writing, carrying out numerical calculations, and data storage by business as well as individual users. Personal productivity software is a popular horizontal application that includes word processing, spreadsheets, and presentation graphics software.

Personal productivity software also called as productivity software or office productivity software is an application software which helps in creating documents, databases, worksheets, presentations, audio/video clips etc which helps to increase productivity. It may also include software

Chapter 2: Enterprise Collaboration Systems

(Dennis Joseph and Y V Subrahmanyam)

Introduction

In the previous chapter, we have discussed about personal productivity software like word processing, spreadsheets, and presentation graphics software that can be used by businesses as well as individual users to perform certain tasks like creating documents, conducting analysis, and making presentations, without writing any code.

Enterprise collaboration systems (ECS) sometimes also abbreviated as EC consists of hardware and software that enable seamless and efficient sharing of resources like information within a company. They are increasingly becoming an important tool for many businesses around the globe. ECS can be systems which have only basic communication capabilities like instant messaging or emailing, or it can also include complex function like project and document management. It can be useful for teams that are at the same location or spread out geographically. Even though face-to-face interactions are seen as the key to successful collaboration teams, some companies have people from the same team located at different centers which are thousands of kilometers away from each other. This technology is helping in bringing down the geographical barrier, and facilitating communication and enterprise wide collaboration. Since most businesses in the current scenario are global in nature having face-to-face communication is not always practical. Some examples of such collaboration software include workflow systems, electronic calendars, client portals and enterprise social media platforms. Companies are better understanding the potential benefits of collaborations software and are investing heavily in them.

An important factor that must be decided by businesses is on the type of ECS that is required for them. Not every company may need the same type of software or solutions. It depends on the particular business of each, and what they are trying to achieve. Most companies have already adopted technologies like employee chat rooms and video conferencing capabilities. Video conferencing helps in conveying visual information such as body

Chapter 3: Management Information Systems

(D Saravanan and Venkata Dharma Kumar M)

Introduction

In our previous discussions, we have seen how individuals and business users are able to create documents, conduct analysis, and make presentations with the use of personal productivity software, and how enterprise collaboration systems like the Internet, intranet, extranet, and the groupware, have helped organizations communicate, coordinate, and collaborate both within and outside the organization.

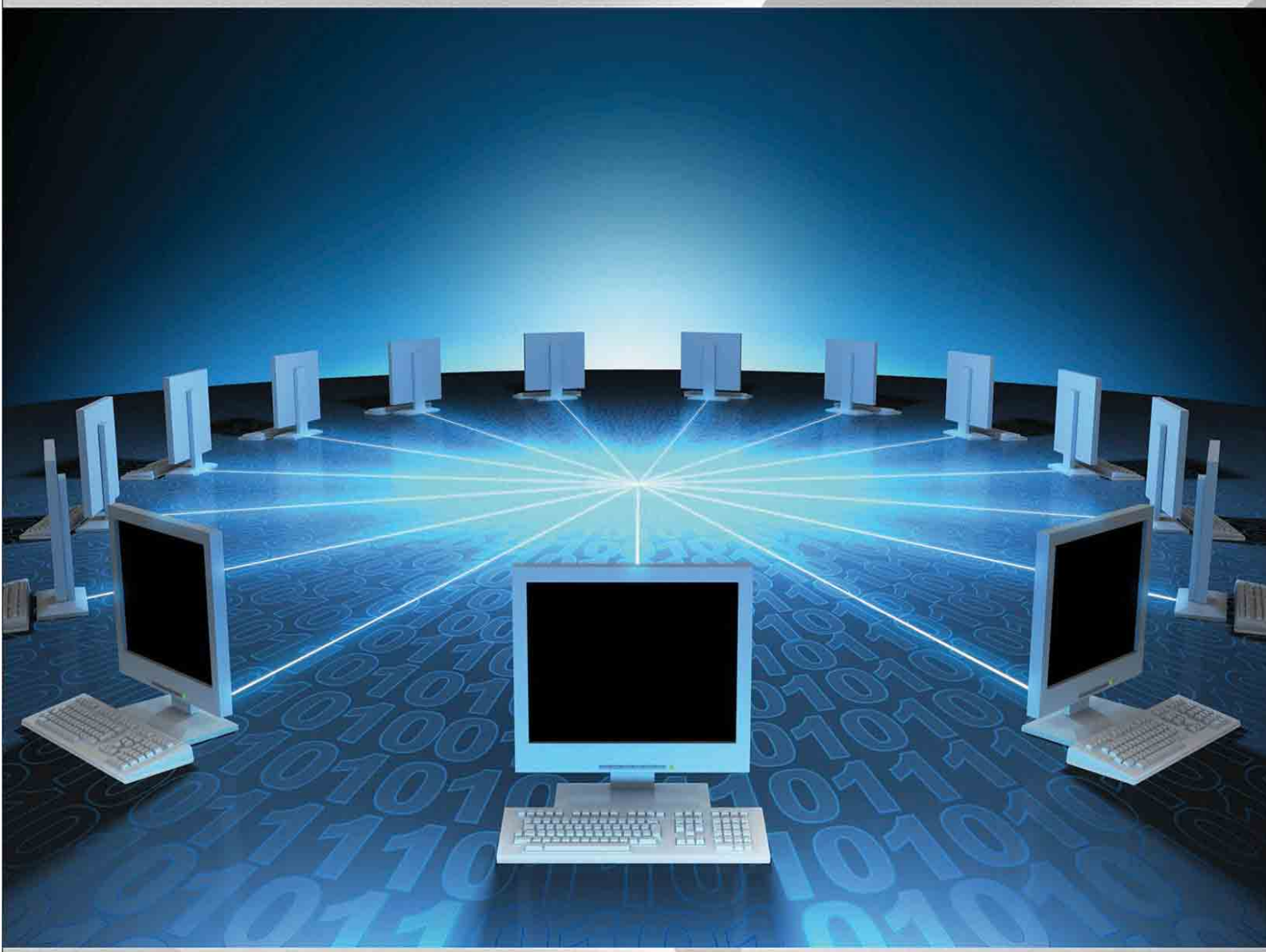
In the following chapter, we would discuss about the role played by information systems such as transaction processing systems, functional information systems, management information systems, decision support systems, executive information systems, and online analytical processing in simplifying the way business operations are carried out and in improving the business performance.

For every organization, transaction processing is one of the fundamental activities. Apart from the role played by information systems in supporting management, ensuring control, and undertaking other knowledge-based work, information systems have specific applications in the various functions of an organization like marketing, manufacturing, human resources, accounting, finance, etc.

Marketing information systems support the marketing function whereas manufacturing information systems support the production or operations function. Likewise, human resources information systems maintain records of the details of all employees working in the organization and also that of the new applicants. Accounting information systems record and report the flow of funds and help in producing financial statements. Financial information systems assist in allocating and controlling the financial resources within a business.

Management information system is a management support system which helps an organization in its day-to-day operations. It uses computer-based strategic, tactical, and operational information systems for converting data into information. MIS supports structured decision making.

Software and Database Concepts, and Networks



Editor
D Saravanan

Software and Database Concepts, and Networks

Editor:

D Saravanan

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Chapter 1: Program Design and Programming Languages

(C Lakshmi Devasena and Sumangala Rathore)

Introduction

We can define computers as electronic devices that perform certain basic operations under the direction and control of a program. In this chapter, we introduce you to program, and process through which it is developed and the various tools used.

Computer software consists of a set of programming instructions, called as programming languages. These languages are used by software professionals for writing programs. Programming languages consist of a set of rules called syntax that the programmer should follow while writing programs. Proper care should be taken while planning the logic and writing the program in order to avoid errors. The various program design tools are flow charts, pseudo code, decision tables, etc. Computer programs are generally designed and developed in sets. The Program Development Life Cycle (PDLC) is an organized plan that consists of modules. These modules are units into which the various program developed tasks are divided.

In this chapter, we would discuss about the various tools used for designing programs, the program development life cycle, and the different programming languages.

Program Development Lifecycle

The development of computer programs enables automation of the existing processes and creation of new functionalities. Computer programs are usually designed and developed in sets that together constitute a whole system. Proper care should be taken while writing computer programs as leaving out of any program instructions or writing the instructions in the wrong sequence would result in incorrect answer. Therefore, proper sequence should be used for writing each and every instruction to generate an effective computer program without any omissions. The basic objective of a program is to generate output. Program preparation begins with deciding upon what comprises the output, how this information will be formatted, and how it will appear. The PDLC, developed in early 1970s is similar to the System Development Life Cycle (SDLC). It provides an organized plan for breaking down the task of program development into manageable units called modules. Each of these modules should be successfully completed before the programmer moves on to the next phase.

Defining the Problem

The first step in developing a program is to define the problem. The system analysts give program specifications like the input data, the processing that needs to be done, the output features, and the user interface design to the programmers. Depending on the size of the job, program development can be handled by a single individual or a team of programmers. In program development, documentation is an ongoing process and these documents are maintained for reference in the subsequent stages, if required.

Chapter 2: Database Management

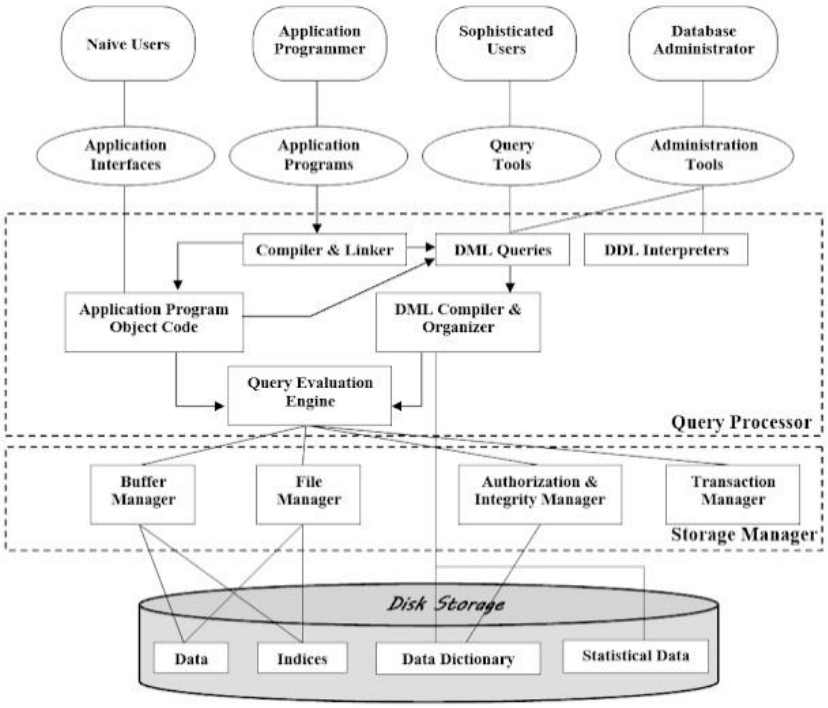
(Dennis Joseph and YV Subrahmanyam)

Introduction

As we have discussed in the previous chapter, storage of information is one of the most important operations carried out by a computer. Earlier, organizations stored data in a file-processing system, where records were stored in files. The file-processing system had certain problems related to data duplication, data access, and other security related issues. These difficulties led to the evolution of the Database Management System (DBMS). The main goal of a DBMS (Fig 2.1)was to make easy the storage and retrieval of information, while providing security, preventing unauthorized access to information, and avoiding data loss due to a system failure.

In this chapter, we introduce you to the database system, the various data models, and the database management approach. We would also be discussing about the entity-relationship and the relational database models. Then, we would move on to discuss the concepts of data dictionary, data warehousing, data mining, and distributed database. Finally, we would be ending this chapter with a discussion about the object-oriented databases and the object relational database system.

Figure: 2.1 Database Architecture



Source: ICFAI Research Center

Chapter 3: Computer Networks

(D Saravanan and K V Subrahmanyam)

Introduction

As we have discussed earlier, computers help in converting raw data into useful information. But, how can one share this information with another person? This is possible through computer networks. In this chapter, we introduce you to computer networks.

Computers are said to be interconnected if they are able to exchange information. In simple words, a network links two or more computers and enables sharing of information between them.

Many developments have taken place in the field of computing and communication technologies. Information is being shared and disseminated through computer networks due to advances in communication technologies. A network is a data communication system that links multiple computers for sharing of information. They may be connected through a copper wire, fiber optic cables, microwaves, or communication satellites.

In this chapter, we would first discuss about the basics of computer networks and the classification of networks. We shall then move on to discuss about the peer-to-peer and client/server networks. Finally, we would be discussing the various network topologies, network infrastructure, and the network architectures and protocols.

Basics of Computer Networks

A computer network is a data communication system that links two or more computers and enables sharing of information between them. Computers are connected through cables, radio waves, telephone lines, infrared light beams, or satellites. Depending on the usage of the network, they are classified into Local Area Network (LAN), Metropolitan Area Network (MAN), and Wide Area Network (WAN).

Elements of a Network

The elements of a network include network interface cards (NICs), cable, hub, and protocol.

Network Interface Card: NICs allow a computer to communicate over a network.

Cable: A cable is a physical medium that connects two network devices for enabling communication for the purpose of data transfer.

Hub: A hub is the central connecting point that connects all the network devices through network cables.

Protocol: A protocol is a set of rules regarding communication that ensures that all the computers in the network communicate in the same language.

Chapter 4: Telecommunication Networks

(N Siva Prasad and Deepak Prawal Sharma)

Introduction

In the previous chapter, we have discussed that it is possible to share information if the computers are interconnected. However, mere interconnectivity would not facilitate transfer of information. The computer systems need telecommunication networks to aid such a transfer. In this chapter, we introduce you to telecommunication networks.

Telecommunication involves transmission of signals for the purpose of facilitating communication. A telecommunication system obtains information from the transmitter and converts it into a signal for transmission using a medium; this signal is received by the receiver at the other end. A telecommunication network consists of links through which messages are transferred from one part of the network to another.

Over the years, there has been a rapid change in the telecommunication technology that brought about a significant change in long distance communication. With the advent of the internet, intranet, VSAT (Very Small Aperture Terminal), ISDN (Integrated Services Digital Network), ADSL (Asymmetric Digital Subscriber Line), cellular telephony, video conferencing, etc., distance has not been a barrier to communication.

In this chapter, we provide you with a basic understanding of various aspects of telecommunications like enterprise-wide collaboration, electronic and mobile commerce, and internal business systems. Apart from this, we would also explain you about the various media used in information transmission and the manner in which telecommunication helps build internetworked enterprises. Wireless communication has gained popularity over last two to three decades and has become preferred mode of communication in all most all the walks of life. Different technologies are developed based on wireless communication. We will cover some of the aspects related to wireless communication in the present chapter.

The Telecommunication System

The first telecom network was the Public Switched Telephone Network (PSTN). The PSTN used analog technology. In the PSTN, the data to be transmitted is carried by copper wires in the form of electrical pulses from one end to another. The services provided by a PSTN is sometimes referred to as the Plain Old Telephone Service (POTS).

With the advent of telecommunication networks like ISDN and Fiber Distributed Data Interface (FDDI), there has been a shift from analog to digital technology. The telecommunication system comprises of several elements like service providers, the transmission media, and standards and regulations/regulatory authorities.

Management Information Systems



Editor
Santosh Kumar Yadav

Management Informations Systems

Editor:

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Chapter 1: MIS – Planning and Design

(***Dennis Joseph and Venkata Dharma Kumar M***)

Introduction

Information systems play a very important role in simplifying the way business operations are carried out, in improving the business performance, and in achieving strategic advantage.

However, there are many organizations which under-utilize the potential of their information technology (IT) systems. One of the main reasons of this under-utilization is the lack of managerial involvement in strategic planning for the development and design of IT systems. In this chapter, we introduce you to the planning and design of a management information system (MIS) in the organization. Conceptual design gives a direction to the MIS project and requires the involvement of not only technicians but also the managers.

Organizations have various interests, levels and specialties, which require different information systems. A single system may not provide all the information required by an organization. The different levels of an organization are the strategic level, the management level and the operational level. These levels may be further divided according to the functional areas like sales, marketing, manufacturing, human resources, finance, production etc. Different systems are built to cater to different levels and functional areas.

There are three major categories of information systems which serve the three levels, strategic level systems, management level systems and operational level systems. Strategic level systems are built to help senior management with strategic and long term issues, which arise within the firm and also from the external environment. The primary goal of such systems is to match changes in the external environment with internal organizational capabilities. Deciding the future employment levels, cost trends and product design and manufacturing decisions all are a part of this strategic level. Management-level systems on the other hand are concerned with controlling, helping in decision making and administrative activities which are done by middle level managers. They try to monitor and understand whether the decisions taken by senior managers in the strategic level are working well or not. These systems produce periodic reports which tell how well the organization is functioning. In contrast to strategic level systems, management level systems deal with non routine decision making, which are less structured and has unclear information requirements. Operational-level systems help operational managers by keeping track of day to day activities and transactions of the organization like, case deposits, payroll, credit decisions, sales, material flow, etc. The principal purpose of systems at this level is to answer routine questions and to track the flow of transactions through the organization.

Chapter 2: MIS – Implementation, Evaluation and Maintenance

(***Sashikala P and Sumangala Rathore***)

Introduction

In the previous chapter, we have discussed the planning and design aspects of an MIS. We have also discussed how the systems approach to problem solving can be used for developing an MIS. In this chapter, we introduce you to MIS implementation.

The implementation of MIS takes place in three phases, namely, initial installation, testing the entire system, and evaluation and maintenance. For implementing MIS, an organization must develop a plan for implementation, allocate responsibility for implementation, develop the procedures for implementation, train operating personnel, develop forms for data collection and dissemination, develop the files, test the system, document the system, evaluate the system, control and maintain the system, and perform a cost benefit analysis of the system. Some of these activities need to be carried out simultaneously for reducing the implementation and development time.

An effective MIS framework and competent managers can help prevent major errors. Talented and experienced managers, well-defined plans, and capable implementers can minimize the problems faced during the development of MIS.

In this chapter, we shall discuss the implementation, evaluation, control, and maintenance of an MIS in the organization. Each of the activities (listed above) to be carried out for implementing an MIS has subtasks, and these are explained in detail in the chapter. The chapter also examines the various challenges faced while developing an MIS.

Organizational Change and MIS Implementation

Across the world, MIS has been implemented in organizations for over 40 years. However, the success rate of MIS implementation is very low mainly because of the organization's resistance to change.

Lynne Markus has identified three possible theories about resistance to change. The first theory describes the behavior of employees in the organization, which leads to resistance to the implementation of new processes. The second theory traces the technical disfunctionalities in the system which can lead to resistance in using the system. A third theory proposes that people resist systems due to interactions between the characteristics associated with the people and with the system.

Chapter 3: Information Resources Management and IT Governance

(***Santosh Kumar Yadav and Venkata Dharma Kumar M***)

Introduction

In the previous two chapters, we have discussed the planning, designing, implementation, evaluation, and maintenance aspects of an MIS. Apart from the above discussed aspects, it is very important to manage the information resources and technology in an organization. Information technology (IT) has largely contributed to the effective use of information and its impact can be seen throughout in an organization. In this chapter, we would be discussing the various ways in which information resources can be effectively managed and how they can enhance the performance of an organization.

Managers are aware of the influence of firm's environment and the firm is connected to environment with conceptual and physical resources. Managers can improve an organization's performance by bringing change to its components such as people, task, technology, culture, and structure. Therefore, Information Resource Management (IRM) has become a major responsibility of all managers, irrespective of the organizational functions they perform. Hence, data, computer hardware and software, and information systems personnel, should be viewed as valuable resources that must be managed by every business manager.

Data is the collection of facts, figure and raw material which is unorganized. Information is organized form. The term information is regularly used in our day to day activities. In management information system, information is different from data and it has a precise meaning. Information has a value while taking decision and it brings clearness and produce an intellectual human response in mind. In MIS, there is difference between data and information. Data is a raw materials and information is equivalent to the finished goods created after processing of the raw materials. The information has some of the characteristics:

- Help in decision making
- Bring up to date the level of knowledge
- Reduce insecurity
- Improve representation of thing
- Has a surprise value

Information is very necessary for all type of organizations whether they are product organizations or service organizations or social organizations. Decision is based on information and without information organization cannot interact with the environment. The element of the environment may be government, the firm, suppliers, customers, labor, competitors, and global firm and so on. Example, suppose a firm has many employee and each employee works for number of hours within the company. So this is called data but when this data is processed then it became information. Let us consider a medical shop where

Chapter 4: Global IT Management

(***Santosh Kumar Yadav and K V Subrahmanyam***)

Introduction

In the previous chapter, we have discussed the various ways in which information can be managed. We have discussed that information resource management helps in facilitating the smooth flow of information across the various departments in the organization. In this chapter, we introduce you to the role played by information technology (IT) in the conduct of global business.

Globalization has transformed the way in which business is carried out. With more and more countries entering the World Trade Organization (WTO), the trade barriers among the countries have been largely reduced. This in turn has resulted in increased competition in several countries across the world and only those companies having some competitive advantage are able to grow in the market.

Information technology has become emerging technology and benefits every aspect of business as well as our personnel lives. In the current global environment, Information technologies are an essential elements for any business success and help the organization to connect with others easily. Information technology encompasses the internet and email.

IT E-mail: In the present scenario, it is highly cost-effective and provides faster communication. Within a minute, your response reaches anywhere in the world and it's very easy to remember only one line address. Example-xyzxyz@gmail.com

IT Internet: it may be used by single or multiple computers which is very powerful but it requires bandwidth connectivity. It is also a network of millions of computers. Using the Information Technology internet, information delivery is possible at any time in the world (24X7). This helps to do more work in new ways and also reduce distance and time to reach the information to the receiver.

IT has made it possible for organizations to expand themselves into international markets, diversify their business profiles, and bring out new and innovative products and/or services. It helps organizations to meet their strategic objectives and compete with global players. However, the top managements of many organizations may not be willing to use IT due to certain financial issues, cultural issues, etc. This can be overcome by educating and training them.

In this chapter, we will discuss the role of IT as an enabler of global business and about global management information systems. The chapter discusses the challenges faced by organizations in managing IT globally. The chapter ends with a discussion on the different strategies and approaches that can be followed and the role that the chief information officer plays in conducting global business.

Chapter 5: MIS in Specialized Areas

(***Dennis Joseph and Deepak .Prawal Sharma***)

Introduction

Any organization becomes successful only by managing certain resources they have in a productive way. Traditionally these resources are referred to as labor, money, materials, managers, machines and facilities. Lately, information has come to be recognized as an important resource by organizations, which enables the efficient management of other resources. Like other resources, information also has many properties like value and being available to the management in time. Since information is a valuable resource, it must be managed in a proper way using well-designed systems. Managers have to be aware of utilizing management information systems effectively to be competitive in the business world.

In the previous chapters, we have discussed about management information systems, the various ways in which information can be managed, and about managing information technology globally. Information technology (IT) is not only being widely used in business organizations but also by various other types of organizations like government organizations and non-profit organizations. IT is also being used for managing performance of an organization, for managing projects, and for buying and selling products/services.

Despite the opportunities provided by Information and Communication Technologies (ICTs), it poses certain challenges related to storage, retrieval, and processing of data causing delay in decision making. These problems were addressed by developing advanced computer systems. For instance, marketing databases, electronic point of sale systems, and automated teller machines (ATMs) have changed the way traditional business functions, and the development of just-in-time (JIT) practices, materials requirement planning (MRP), etc., have enabled faster and economical production.

Management information systems serve management-level functions. MIS provides managers with reports of an organizations' current performance and historical records. MIS can also give online access for managers to these reports. MIS are used to deal only with internal activities of an organization, and not the external environment. Planning, controlling and decision making at the management level is assisted by the MIS. To function, MIS depends on the information which is collected from the operational level by transaction processing systems. MIS summarizes and reports the details of an organizations basic operations. Transactional data are first compressed and presented as a reports at regular intervals, which are then converted into MIS files. These reports are usually generated in a weekly, monthly or yearly time horizon, but with MIS, managers have the ability to dig deeper and drill down to watch daily or hourly data. MIS systems are concerned with answering routine questions

Enterprise Functions & E-Business



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Chapter 1: Basics of E-Business and Enterprise Application Integration

(Y V Subrahmanyam)

Introduction

We appreciate that the Internet plays a very important role in helping organizations to streamline their business processes, and in enhancing the speed and efficiency of business transactions.

The Internet is being used to reduce the costs related to logistics, supply chain management, etc. As companies gain faster access to information, there is a reduction in costs, inventory is at the optimum, decision making becomes quicker, and customer service improves. Organizations are using a number of software packages to improve their business processes such as supply chain and customer service.

In this chapter, we introduce you to electronic business or e-business. E-business is used by organizations to conduct business, and maintain relations with business partners and customers.

In this chapter, we shall discuss the evolution of e-business and discuss how organizational culture affects e-business. We shall also learn about the various e-business models. Toward the end of the chapter, we will be introducing you to the emerging concept of Enterprise Application Integration.

Evolution of E-Business

The terms e-business and e-commerce are often used synonymously. However, there is a difference between the two. E-Commerce refers to business transactions that take place between two organizations (B2B) or between an organization and consumers (B2C) with the help of computer networks. E-Commerce helps in improving the level of customer service and ensures minimum inventory control.

Monetary e-business transactions are called e-commerce transactions. E-Business has a wider scope than e-commerce. E-Business not only refers to buying and selling of products and/or services through the Internet but also involves online collaboration with business partners and servicing of customers. It encompasses other areas like supply chain management, organizational processes & culture, customer relationship management (CRM), knowledge management, etc.

Stages of E-Business

There were two phases in the evolution of e-business: the Communication phase and the Information phase that began in the mid and late 1990s respectively. The first phase was characterized by the rapid adoption of e-mail and the development of websites. It focused mainly on e-commerce-based transactions related to buying and selling of products/services. The dotcom companies focused on improving capabilities related to search, product displays, and

Chapter 2: Supply Chain Management and E-Business

(Sumant Kumar Tewari and Venkata Dharma Kumar M)

Introduction

In the last chapter, we have discussed the vital role played by the Internet in streamlining business functions. In this chapter, we introduce you to supply chain management and the ways in which the Internet is enabling the supply chain management function in the organization.

With a highly competitive business environment, companies are trying to reduce their product development cycle time and launch new products faster. To create and sustain a competitive advantage, a company requires both internal capabilities and tight integration with the external entities. Supply chain management helps companies integrate their customers, suppliers, and channel partners. The number of stages in the supply chain depends on the customers' needs and the role each stage plays in fulfilling their needs. The Internet has also provided organizations with the ability to integrate the entire supply chain, from the stage of raw material sourcing to the delivery of products to the customers.

In this chapter, we shall discuss an overview of supply chain management and electronic supply chain. We shall discuss how relationships can be managed in an e-supply chain and the various issues in an e-supply chain. The chapter would end with a discussion on the future of e-supply chain.

Supply Chain Management: An Overview

Stank et al. describe supply chain management as a "strategic level concept."

Ho et al. conceptualize SCM as having three core elements:

1. Value Creation
2. Integration of Key Business Processes
3. Collaboration

Based on this conceptualization, they define supply chain management as follows:

"SCM is the philosophy of management that involves the management and integration of a set of selected key business processes from end user through original suppliers, that provides products, services, and information that add value for customers and other stakeholders through the collaborative efforts of supply chain members"

Supply Chain Management (SCM) as defined by the Council of Supply Chain Management Professionals: "Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities." Importantly, it also

Chapter 3: Enterprise Resource Planning

(Santosh Kumar Yadav and Deepak .Prawal Sharma)

Introduction

In the previous chapter, we have discussed supply chain management and electronic supply chain. We have learnt that e-supply chains aid in achieving a synergy in supply chain operations. They also provide communication and coordination among the supply chain members. In this chapter, we introduce you to enterprise resource planning (ERP).

Operational efficiencies and the ability to quickly respond to changing customer demands act as sources of competitive advantage for an organization. An organization can quickly respond to the customers' demands through proper communication and coordination between the various departments as well as efficient planning/execution of resource utilization. Most of the companies are adopting ERP applications to solve their integration problems, to develop optimum business models, and to achieve operational efficiencies. ERP implementation significantly affects the architecture, processes, and procedures of an organization. Proper ERP implementation would reduce inventories and cycle times, cut costs, and enhance the operations and customer service of an organization.

In this chapter, we shall learn about ERP, the rationale for ERP, enterprise architecture planning, the implementation of ERP, and the effect that ERP has on an organization. We shall also discuss the ERP modules, and the ERP investments in the US and in India. The chapter would end with a discussion on the problems during ERP implementation, emerging trends in the ERP industry, and the future of ERP applications.

Enterprise Management System (EMS)

Enterprise works as a single entity. An enterprise is a combination of people with common objectives, which has firm resources to achieve organizational goal. Today's modern approach is better than traditional approach. Traditional approach deals with different department and each department has their own objectives. Enterprise Management System (EMS) automates all the stages of day to day organizational operations related to HR, accounts, inventory, payroll, sales, purchase, production, assets and day to day management of the organization. Some organizations rely on human resources rather than on processes. For them enterprise management systems are very useful. EMS brings more visibility and control over the organizational business processes. EMS should be in compliance with regulatory environment.

Enterprise management system component include HR management system, accounts management system, inventory management system, payroll management system, sales management system, purchase management system, production management system, asset management system, petty cash management system, office management system, and customer relationship

Chapter 4: CRM and E-Business

(Vaibhav Mishra and Sumangala Rathore)

Introduction

In the last chapter, we have learnt about the important role played by enterprise resource planning in integrating different functional modules in an organization. We have seen that enterprise resource planning helps in reducing lead time and cycle time, and in enhancing customer satisfaction, supplier performance, and information accuracy. In this chapter, we shall discuss customer relationship management (CRM) and electronic customer relationship management (E-CRM).

The Internet has led to an increase in general awareness among consumers. With it emerging as an important tool of communication, consumers are being informed instantly about the availability of various products and services. They are able to compare the prices of an organization's product those of its competitors' products before making a purchasing decision. The increasing demand by consumers for a high level of customer service has led to the evolution of e-CRM. E-CRM is a combination of the customer relationship management processes and related technologies. It enables an organization to understand the needs and preferences of the customers better. It also helps in building relationships with customers. Organizations are using e-CRM as a tool for achieving a competitive advantage.

In this chapter, we shall define CRM and the functions of CRM. We shall also discuss the E-CRM architecture and the infrastructure requirements of E-CRM. The chapter ends with a discussion on the role played by CRM on the e-customers, an emerging concept, and the challenges in implementing E-CRM projects.

Defining CRM

Customer relationship management or CRM refers to the methodologies and software applications employed by organizations to maintain long-term relationships with their customers. Organizations can use the Internet to implement CRM. This process is called e-CRM. Other factors that have led to the evolution of e-CRM include the increase in the number of customers, increasing levels of globalization, rising competition among companies, and the costs associated with servicing new customers. Organizations are making attempts to enhance and personalize the experience of online customers with the help of e-CRM tools such as e-mail organizers, help-desk software, and web development applications.

The E-CRM platform can offer various services to any business or company for smooth conduction and management of their process and activities. As per the report given by Gartner, commerce sell-side platform, e-CRM communication infrastructure, and CRM applications are the main components of E-CRM. The E-CRM applications includes the following services:

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Chapter 1: Cloud Computing

(C Lakshmi Devasena and Y V Subrahmanyam)

Introduction

Start-up organizations cannot afford the straight down- payments for resources such as hardware, servers, networks and storage. Now there is a simple solution for this problem. That is cloud computing and cloud services. Using cloud services organizations can pay as per usage of the resources. They do not even have to pay for the resources they acquire in cloud. They have to pay for their usage only. They don't have to pay for the ideal resources. Scaling the applications, ramping up the teams, acquiring infrastructure, platforms, software applications is easy and cost effective for the organizations using cloud computing. This avoids huge investments for the organizations. Organizations can go just in time for the resources, based on need. Just as one pays for electricity, water, and gas as he or she moves into new apartment, organizations can subscribe to cloud providers and acquire infrastructure, platforms and software applications by sitting from anywhere and connecting to Internet.

The advantages of clouds include decreasing upfront cost for start-ups, availing readymade software with per-usage cost, reduced cost of software development, reduced time to market, increased productivity because of componentization and reuse, access from anywhere, availability, and portability between different cloud vendors. Virtualization, storage, backup and recovery and cloud management services are provided by the cloud providers. Organizations such as Amazon, Microsoft, IBM, HP, Apple, Oracle and Google are competing with each other in cloud space. Amazon as infrastructure-as-a-service and Microsoft Azure as platform-as-a-service are currently very popular in the market. Cloud computing is changing business models, product development models, product deployment models all together. Now the non-cloud based products are to be deployed or migrated on to the clouds for effective business purposes.

In the chapter, the early distributed systems, cloud features and functionality, cloud architecture, cloud deployment models such as public cloud, private cloud, community cloud and hybrid cloud are discussed. Cloud service models such as Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS), Business process-as-a-Service (BaaS) and Anything-as-a-Service (XaaS) are discussed. Cloud business models, grid computing and Amazon cloud services are discussed in the chapter.

Distributed Systems

The origins of highly proficient computer networks known as *distributed systems* dates back to the 1970s. The availability of networking technology coupled with computing power created the distributed systems. Distributed systems were used to solve complex problems in areas such as banking and financial services,

Chapter 2: Business Intelligence and Big Data

(Sashikala P and K V Subrahmanyam)

Introduction

Many business organizations are adopting business intelligence to learn from the past experiences and to predict the future. Intelligence of business is the need of the hour for the current day organizations. Organizations are using human cognition and artificial intelligence techniques for business decision making. Current day organizations are having information about customers, suppliers, competitors, vendors, business partners, operational data and economic environment. Business intelligence is used for competitive advantage of the organizations. With the available data, economic conditions and using business intelligence, organizations extrapolate and predict the future trends required for the organization. The main objective of business intelligence is to provide timely, good quality information and insights to the management for organizational decision making purposes. In a survey done on 50 Finnish organizations, it was found that organizations do not go for business intelligence for cost and time savings, but they go for it expecting big bang return in future.

Business intelligence can be used to find what products and services customers prefer and in what regions, etc. Credit card frauds can also be found using business intelligence tools. Call centers and e-commerce support are generating huge data for the organizations. Business intelligence can be used in different industries such as airline, retail, manufacturing, financial services, healthcare, bioinformatics, and hospitality industry. There were some forms of business intelligence systems 50 years ago. However, the current day business intelligence systems are replacing decision support systems, management information systems and executive information systems. Organizations such as Tesco, Capital One, CEMEX and Netflix have made intelligent better decisions based on business intelligence.

In the chapter, the need for business intelligence and the definition of business intelligence are explained. The distinction between data, information, knowledge and wisdom are explained. The data warehouse, business intelligence architecture, business intelligence components, business intelligence methodologies, data mining techniques and business intelligence tools are described. The usage of business intelligence in market intelligence and its applicability to decision making is highlighted. The data in the organizations is growing much faster than the computing speed in the world. Hence, the importance of big data, Hadoop and big data analytics are also explained in the chapter.

Need for Business Intelligence

Business intelligence (BI) influences software and services to convert data into actionable insights that inform an organization’s strategic and tactical business decisions. BI tools access and analyze data sets and present analytical findings in

Chapter 3: Current Trends in Software Design and Architecture

(Venkata Dharma Kumar M)

Introduction

Software design is the heart of any software system. If design is not proper, the software would be full of bugs and maintenance costs will zoom up. Integration will be a problem if design is not correct. Traceability in the system cannot be achieved without proper design. The current software design trends include designing for reusability, modularity, accessibility, reliability, cost and availability. These objectives can be achieved in design through object orientation, component orientation, service orientation and parallelism in project activities. In layman terms, *architecture is a very high level design.* It deals with components, interfaces, sub-systems and external interfaces to the system. Architecture involves mainly taking technological and systems decisions. *Design involves considering the low level alternatives.* Design mostly deals with internal details of the sub-systems by keeping external interfaces in mind.

Since 1970s, so many software design methodologies have evolved. Among them Structured Systems Analysis and Design (SSAD), Object Oriented Analysis and Design (OOAD), Booch notation, OMT (Object Modeling Technique), Object Oriented Software Engineering (OOSE), Objectory, Component Based Design (CBD) and Service Oriented Architecture (SOA) are prominent ones. In this chapter, the different software design approaches such as structured system analysis and design, object oriented analysis and design and component based design are explained. Component based specifications such as CORBA (Common Object Request Broker Architecture), DCOM (Distributed Component Object Model) and EJB (Enterprise JavaBeans) are discussed. Different software application architectural approaches such as pipes and filters, message queues, blackboard, event based architecture and client-server architecture are discussed. N-Tier architecture is explained with a diagram. Service Oriented Architecture (SOA), web based architecture and agent based architecture are explained. Product line development and evolution are also described in the chapter.

Software Design Approaches

Major software design approaches include structured system analysis and design, object oriented analysis and design and component based design.

Structured Systems Analysis and Design (SSAD)

Early structured analysis and design methodologies were very process oriented and did not concentrate on modeling the data. SSAD's approach is modular approach. Its main objective is to have a hierarchical functional decomposition of the software system. SSAD uses tools such as Data Flow Diagrams (DFDs), Functional Decomposition Diagrams (FDDs), Entity-Relationship Diagrams (E-R Diagrams), State Transition Diagram and Structured Charts. DFDs

Chapter 4: Mobile and Social Technologies

(Jaipal Dhobale and Sumangala Rathore)

Introduction

In 1890, Tesla introduced concept of wireless communication to the world. G. Marconi, well known as father of radio, invented transatlantic electromagnetic waves for radio transmission in 1901. Since then mobile and wireless technologies have undergone a lot of changes. Those electromagnetic waves supported small quantity of data and data transmission speed was very slow. Introduction of 5G technology increases data rates, reduce latency, saves energy, improves device connectivity by reducing costs. 5G mobile networks is having higher data transmission rate than the previous technologies. It provides up to 10Gbit/s which is 100 times faster than the current 4G network technology. Latency time also known as response time is less than 1 millisecond which was 30-70 milliseconds in 4G technology. Mobile devices having sensors are able to exchange information and data with clouds over the Internet. Mobile devices are becoming smarter and context sensitive. They are getting integrated to social networking sites as well. Mobile technologies reduce costs, increase efficiency and accuracy of data transmission.

In this chapter, different generations of mobile technologies, advantages of mobile technologies and risks with mobile technologies are discussed. Mobile operating systems, advanced mobile technologies and future of mobile technologies are discussed. The benefits of social technologies, components of social technologies, characteristics of social technologies and challenges with social technologies are explained. The application areas of social technologies and social networking sites are mentioned in the chapter.

Mobile Technologies

Mobile technology is basically preferred in cellular communication. It works on frequency and uses single frequency to communicate. Multiple users can share this frequency using frequency division techniques. Early ear mobile were used as standard device for communication purpose but within short span of time its role has diversified as multitasking device. Along with cellular phone it acts as GPS navigator, Gaming console, entertainer device, device to brows world wide web, and like such countless number of application handler. Experts believe that future of computer lies within mobile devices. This wireless technology gave new dimension to computing devices.

Currently, Sprint, China Mobiles, T-Mobile, AT & T & Verizon like companies are working towards 5G technology. The speed of 5G technology is 100 times faster than the current 4G technology.

Different Generations of Mobile Technologies

There are four different generations of mobile technologies.

Chapter 5: IT and Business Process Management

(Nasina Jigeesh and Deepak .Prawal Sharma)

Introduction

Business process management is a management discipline that takes a systematic and structured approach to support explicit process management using methods, techniques and tools and involving people, organizations, applications, documents and other sources of information, in order to meet the objectives of the organization by aligning its business processes with those objectives. The objective of business process management is to deliver value to both internal and external customers by using information technology. Business processes are defined and reengineered to reduce costs, increase revenues, reduce processing times, reduce turnaround times and increase customer satisfaction. There should be commitment from the top management team in managing business processes. This is because process management leads to change management in the organization. The senior management should be managing the resistance from people in the organization. In case of business process reengineering (BPR), there should be dedicated team for BPR activities. Organizations such as American Express, AT & T and Ford have managed and reengineered business processes and saved millions of dollars.

In this chapter, business process management process is explained. The steps in business process management such as process definition, process design and process reengineering are discussed. The business process flow design is represented as business process model. Business process model and notation for an example business process are explained. The role of IT in business process management is highlighted. The combination of usage of MIS (Management Information Systems) in the organization with business process management systems is explained. Communication enabled business process functionality is described. Example business process management tools available in the market are mentioned.

Business Process Management

The origins of Business Process Management in the industry was with the landmark article of Michael Hammer (1990) titled “Reengineering Work: Don’t Automate, Obliterate” published in *Harvard Business Review.* Later on more on business process reengineering was explained with many case studies in Michael Hammer and James Champy (Harper Business, 1993) *Reengineering the Corporation.* It is a process-driven approach to achieve operational efficiency of the entire organization.

A business process is a sequence of activities or tasks executed in order to deliver value to either internal or external customer. It is the complete and dynamically coordinated set of collaborative and transactional activities that deliver value to the stakeholders. Any business process begins with the needs of customer(s) and ends with fulfilling those needs.

Introduction to Software Project Management



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Chapter 1: Introduction to Software Projects

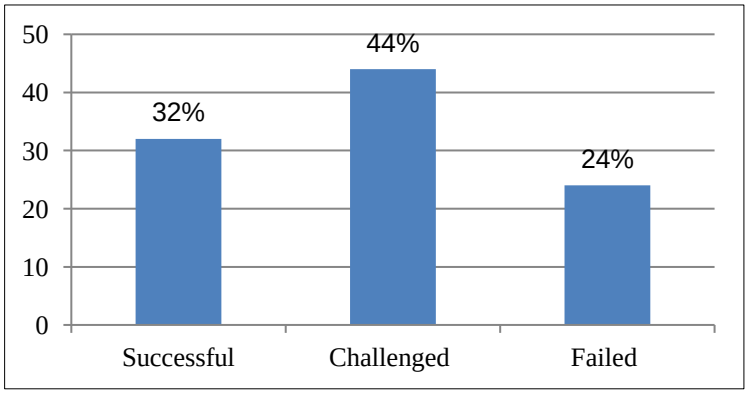
(D Saravanan and Goparaju Purna Sudhakar)

Introduction

"Why should we study Software Project Management?" What is the need for it?

According to Standish Group Chaos Report (2010), 24% of the software projects are failed projects, 44% of the software projects are challenged by cost and schedules, and the rest 32% of the projects are successful by meeting timelines and budget limits (Figure 1.1). That means, more than 50% of the projects are either failed or challenged by cost overrun or schedule overrun. The software projects success rate is less than 50%. This makes us study the discipline of Softw*are Project Management* to save billions of dollars because of failed software projects.

Figure 1.1: Software Projects Success Rate



Source: ICFAI Research Centre

In this chapter, we define project, give some examples of project, describe software project characteristics, and explain software complexity. We explain about the stakeholders of a software project, their influence on the project and the roles and responsibilities of software project manager and we explore the different types of teams in software organizations and the different types of organizational structures used.

We introduce you to the world of practitioners through some project management associations and to the world of thinkers through relevant internationally reputed journals.

What is a Project?

"A Project is a temporary endeavor undertaken to create unique product, service or result"

– PMI- PMBOK (2012)

Chapter 2: Choosing Software Development Life Cycles

(Goparaju Purna Sudhakar)

Introduction

If you keenly observe the essays on software engineer in the book *The Mythical Man-Month* by Frederick P. Brooks Jr. published in 1975, no word as project management is used in the book. However, the days of planning for and analyzing for software development dates back to the 1950s. The early development approaches or life cycles were used in projects in the 1950s, and the 1960s. However, the classical software development life cycle called the "waterfall model" became popular in 1970 with the publication of the paper titled "Managing the Development of Large Software Systems" by Dr Winston W. Royce in the proceedings of *IEEE WESCON*. Later, in mid 1980s, the spiral model was developed at TRW by Barry Boehm. In the 1990s, iterative and incremental approaches, Rational Unified Process, EVO (evolutionary), extreme programming and the current day's SCRUM, Crystal, and Agile approaches became popular. Other old development life cycle models include code-and-fix model, transform model and stage-wise model.

The main function of software development life cycle is to specify the order of different stages of software development and the procedures to review one stage and to move on to the next stage. The software development life cycle addresses questions such as "what shall we do next?" and "How long can we continue to do it?"

In this chapter, the classical model of software development "Waterfall model", V-Process model (developed by German Military), Iterative and Incremental model, Spiral model, Rational Unified Process and Prototyping are explained in detail. The current day project management methodologies (Agile methodologies) such as SCRUM, extreme programming, Crystal, DSDM, FDD, Adaptive and EVO are introduced in this chapter and discussed in detail in later blocks of the material because of their necessity in understanding other essential concepts. The merits and demerits of each of the process models, and how to choose a process model are explained in this chapter.

Waterfall Model

Dr. Winston W. Royce (1970) proposed the waterfall model of software development. This model's philosophy is software can be completely analyzed before designing, software can be completely designed before coding and software can be completely coded before testing. The classic or linear sequential waterfall model is shown in Figure 2.1. It is a linear process model with sequential phases of software development such as Requirements (System Requirements, Software Requirements), Analysis, Design, Coding, Testing and Operations. At the end of each phase, there is a formal review process. Once one phase is completed, entire focus shifts to the next phase in the life cycle. The phases in waterfall model are non-overlapping.

Chapter 3: Software Requirements Management

(D Saravanan and Goparaju Purna Sudhakar)

Introduction

Around 70 to 85% of the software rework costs are because of requirements errors. Total rework cost is around 45% of the project costs. This indicates that nearly half of the software development costs are because of requirements errors. The origin of 85% of the defects in software products or projects is requirements. Around 40% of the requirements create rework in projects. Research indicates that 70% of the requirements were difficult to identify and 54% were ambiguous or unstructured. These statistics indicate the importance of requirements engineering and management in software project management. Large software projects fail because of inadequate requirements originated by cultural, financial, social, legal, psychological and political factors. A *requirement* is an attribute of a system that can be a characteristic, capability or a quality factor to be developed. This chapter explains the role of requirements management in software projects. It explains the requirements engineering process with four steps such as requirements elicitation, requirements analysis, requirements specification and requirements review. It also describes the requirements management activities such as requirements change management and requirements traceability.

The requirements elicitation techniques such as interviewing, questionnaire, observation, focus groups etc. are discussed. The requirements change management process is also explained. Software organizations use requirements management tools for proper management of requirements and traceability. Some of the tools widely used in the industry and their features are explained at the end of this chapter.

Gathering Requirements

Requirements gathering is the first step for any software project. The documented requirements in software requirements specification (SRS) becomes the input to further analysis, project planning and estimations, design, implementation and testing. If the requirements are not correct, the organizations end up in a software product which they do not need. Requirements must be agreed and signed off by all the stakeholders of the project such as customer, vendors, developers, project manager and project sponsor. According to Frederick Brooks, the difficult part of software system is to decide what to develop. Requirements gathering should be done with impartiality, impertinence and attention to detail.

Requirements are of different types. They are business requirements, user requirements, functional requirements and non-functional requirements. *Business requirements* are given by the customers and their business. *User Requirements* are given by the end users. *Functional requirements* are derived from business requirements suitable for software system. They deal with computations and processes in the software product. They deal with tasks, activities or actions that should be performed in the system. *Non-functional requirements* are such as reliability, security,

Chapter 4: Making Software Project Proposals

(Goparaju Purna Sudhakar)

Introduction

Proposals are prepared by the software vendors in response to the Request for Proposal (RFP) from the customer. Based on the evaluation of proposals the customer decides to which vendor the contract has to be given. Hence, the proposal success is key to the vendor's business. Before making an RFP, the customer has to take a decision whether to buy the product/solution from outside or to make it on their own. If he decides to purchase it from outside, then he has to issue RFP and seek proposals. How to write software project proposal, what are the contents of the project proposal, project bidding process, after specific proposal selection how to make different types of contracts, and different types of software licensing by the vendors are discussed in this chapter.

The detailed contents of the proposal such as project description, high level estimates, initial risks, initial stakeholders, the role of project sponsor and the role of customer in making software proposals are explained. The project bidding process right from the issue of RFP till the contract is made is explained in this chapter. Different types of contracts such as fixed price, cost reimbursable and time & material contracts are classified and discussed. Different types of software licensing models from software vendors such as subscription licenses, perceptual licenses and Software-as-a-Service (SaaS) are discussed as well in this chapter.

How to Write a Software Project Proposal

Software proposal is the document submitted by the software vendor to the customer in response to RFP for acceptance purpose. Software project proposal should explain the work to be done and should explain the benefits to the customer. The proposal should explain the problem and the proposed solution to the problem in very high level. The customer wants to make sure that the vendor knows what he is proposing. In case of internal projects, an RFP may not be required; a formal request from the needed department is sufficient to send the project proposal. The next section describes the detailed contents of a software project proposal.

Contents of a Project Proposal

The project proposal should consist of business, regulatory and high level technical details. The proposal should talk about the problem domain but not about the programming part. The proposal should propose the problem, possible solution and describe the plan to achieve it. It should not contain many technicalities; those are part of design documents. The proposal should consist of the Project Title. The proposal should start with a brief description of the problem or the project description. It should consist of potential customer or specific customer, initial stakeholders identified, project manager identified, team members identified and mention the project sponsor.



Software Project Management Lifecycle

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C Lakshmi Devasena

Software Project Management Lifecycle

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Chapter 1: Software Project Plans

(C Lakshmi Devasena and Goparaju Purna Sudhakar)

Introduction

Planning is very important for any software project. Without planning and direction, the project may not be successful. The project plan is prepared by the project manager. He has to continuously update the project plan according to the changes in scope, time, quality and costs. He needs to communicate and share the project plan to the stakeholders and get their approval for the same. He has to share the entire project plan to the team members. To other stakeholders, if not the detailed plan, he has to share the major milestones and major deliverables. Thus project execution depends entirely on how the project plan is prepared.

Project planning is an integrated and organized management process, which focuses on activities essential for successful completion of the project. It prevents complications that arise in the project such as changes in projects or organization's objectives, non-availability of resources, and so on. Project planning also helps in optimal utilization of time and resources allotted for a project. The other objectives of project planning are as follows.

- It defines the roles and responsibilities of members of the project management team.
- It ensures that the project management team works to achieve the business objectives.
- It checks feasibility of the user requirements and schedule.
- It determines constraints of the project.

Several individuals including senior management and project management team help in planning the project. Senior management is responsible for selecting team members and allocating resources required for the project. The project management team, which generally includes developers and project managers, is responsible for planning, finalizing, and tracking the actions of the project.

Tasks of Senior Management involved in Software Project

- Approves the project, employ personnel, and provides resources required for the project.
- Reviews project plan to ensure that it accomplishes the business objectives.
- Resolves conflicts among the team members.
- Considers risks that may affect the project so that appropriate measures can be taken to avoid them.

Tasks of Project Management Team involved in Software Project

- Reviews the project plan and implements procedures for completing the project.
- Manages all project activities.
- Prepares budget and resource allocation plans.

Chapter 2: Software Estimations

(C Lakshmi Devasena and Goparaju Purna Sudhakar)

Introduction

Time, cost, effort, and resources estimations are done during project planning. In current days, it is the biggest challenge for software industry to estimate them accurately for each project. Early estimates are required for project bidding or cost-benefit analysis purposes. Based on the historical data and expert opinion, estimations are done. These estimations are finally adjusted to complexity and risk. These estimates should be updated along with the project duration. The reliability of estimates depends on project size, project complexity, historical information and degree of structural uncertainty. Estimation models are of two types. They are 1) Static estimation model and 2) Dynamic estimation model. Basic COCOMO (Constructive Cost Model) model is a static estimation model. The COCOMO-II, which has a series of estimation models with respect to the project phase, is a dynamic estimation model. Another example of dynamic estimation model is *Software Equation*.

In software, estimations which come first is the size estimate. In this chapter, size estimations in terms of KLOC (Kilo Lines of Code – 1000s of Lines of Code; or KLOC = Total Lines of Code / 1000), SLOC (Source Lines of Code), FP (Function Point), effort estimations in terms of man months/person months/human months are explained. Function Points were developed by Allan Albrecht at IBM in 1979. Later, other variants of FPs such as Mark-II FPs from UK and COSMIC-FPs came into picture. According to Gartner Group study, by 2000, 50% of the software organizations started using function point counting in some form or the other. In addition to FP analysis, the modern software estimation approaches such as object point analysis and use case point analysis are discussed in this chapter.

The cost estimation models such as Basic COCOMO, COCOMO-I or COCOMO'81 and COCOMO-II and other COCOMO variants are discussed in this chapter. COCOMO models were initially developed by Dr. Barry Boehm at the University of Southern California. His other contribution to software industry is, spiral model of software development. One can refer to his book *Software Engineering Economics* (1981) for more details. Also, the usage of empirical studies and their importance in software estimations is highlighted in this chapter.

Size Estimation

Size estimation can be done in terms of KLOC or SLOC or Function Point. The traditional way of size estimation is KLOC. The modern approach is Function Points. The traditional method of KLOC measure considers the historical information or expert opinion in measuring the software size. This is possible with decomposition of project into manageable modules or components and application of bottom-up approach.

Usually, the size estimates are based on the given and known set of project requirements. Normally, size estimates do not include the comment lines or non-executable lines of code of the software program. According to Figure 2.1, one can convert the size estimate

Chapter 3: Project Scheduling and Cost Budgeting

(VSSN Narasimha Murty Kadiyala and Goparaju Purna Sudhakar)

Introduction

After having size, effort, time and cost estimations, one has to develop the project schedule. For developing project schedule from the project scope or requirements, work breakdown structure needs to be drawn. From work breakdown structure, the activities are derived. Identification of activities, finding dependencies between the activities and schedule development are part of project scheduling. The effort in man months can be converted into elapsed time (calendar time) as shown in the previous chapter. Based on this elapsed time, a detailed project schedule needs to be prepared.

In this chapter, different types of work breakdown structures, Gantt chart, network diagrams, activity floats, lead, lags and activity dependencies are explained. How to identify critical path in network diagram is also explained. Some of the network analysis, schedule development techniques, schedule compression techniques such as fast tracking, crashing are discussed in the chapter. Resource leveling, resource constraints based approach critical chain method, PERT (Program Evaluation and Review Techniques) method are discussed in the chapter. PERT technique was development by the US Navy during the 1940s in their Polaris missile project, which involves hundreds of contractors. Cost budgeting and some of the tools and techniques of project scheduling are explained in this chapter.

Project Scheduling

In project schedule stage, one has to identify the project tasks from the set of requirements and the project scope. The project scope has to be converted in the form of work breakdown structure. From work breakdown structure, one has to identify the tasks to be assigned to team members. After identifying the tasks, the project manager has to identify the dependencies between the tasks. The task dependencies can be one among the following:

i. Finish-to-Start: An activity should start as soon as predecessor activity finishes.

ii. Start-to-Finish: Predecessor activity should start to finish current activity

iii. Finish-to-Finish: Predecessor activity should finish to finish the current activity

iv. Start-to-Start: Predecessor activity should start to start the current activity

The most frequent relationship possible or common dependency between activities is the Finish-to-Start. Different constraints such as technical, managerial, date-related and inter-project constraints can impact the dependencies between the activities. These relationships between activities can be represented using arrows in the network diagrams. The deviations or variations in activity durations lead to the extension or compression of project overall duration. Once the network diagram is ready, apply resource leveling, schedule compression techniques to fine tune the project schedule. Then communicate this project schedules to stakeholders after customer or senior

Chapter 4: Software Testing and Quality Management

(C Lakshmi Devasena and Goparaju Purna Sudhakar)

Introduction

Software Testing comprises of a set of activities which are intended to find defects or bugs in the software. Software testing is not only to find bugs, but also to ensure the meeting of specifications or requirements. It makes sure that the software does what it was supposed to do. The main purpose of testing can be verification, validation, reliability and quality assurance and control. Successful testing is one which discovers all the grey or undiscovered areas in the software. Software testing checks the completeness and correctness of the software system. Selecting the right testing strategy at the right time leads to efficiency and effectiveness of the software. The testing process measures the quality of a software system. Software testing ensures whether the system meets the business and technical requirements and behaves as expected.

For example, software defects which resulted in disasters include, NASA's Mars Climate Orbiter satellite project in 1999, which was lost in space because of data conversion problem. This project costed $125 million. Scientists later found that the computer on spacecraft was expecting data in 'meters' and what it received was data in 'yards', which caused the failure. Another well-known project in which software error led to disaster was the European Space Agency's Ariane 5 rocket in 1996. This rocket failed immediately after launch. The project costed $500,000,000. The reason for failure was missing exception handler for floating point error. Hence, software testing and quality management have lot of importance in software projects for the success of projects.

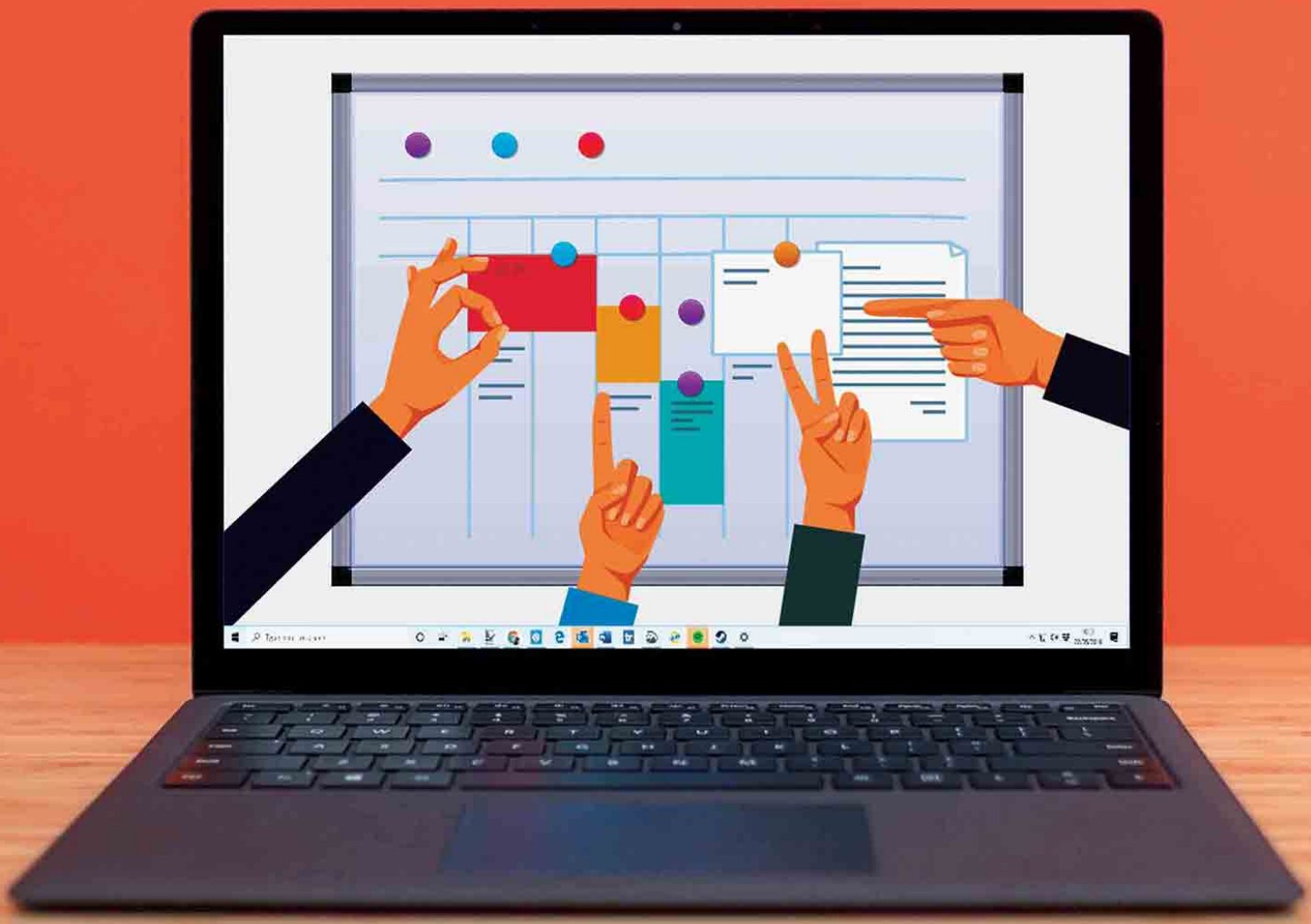
In this chapter, software testing methodologies such as white box testing, black box testing, grey box testing, manual testing, automated testing; different levels of software testing such as unit testing, integration testing, system testing, user acceptance testing; different types of software testing such as performance testing, load testing, stress testing and usability testing; an overview of software test automation tools, test plans, quality plans and their review, quality management standards such as ISO 9001, CMMi (Capability Maturity Model Integrated) and Six Sigma are explained.

Software Testing Methodology

Software testing is an integral part of software development life cycle. Software testing is a process of executing the program with the intention to find bugs/defects. *Software testing methodology* is a collection of testing methods. Testing methods can be white box testing, black box testing and grey box testing. Software correctness testing includes white box, black box and grey box testing.

White box testing tests the input values conversion into output values through internal working and structuring. It tests all the internal control flows and data conversions, which happen in the program. It ensures that the control flows through all the parts of the system and ensures data accuracy at every stage. White box testing is also known as logic driven testing, structural testing, open box testing, glass box testing, clear box

Software Project Execution



Editor
D Saravanan

Software Project Execution

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Software Project Execution

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Chapter 1: Software Design and Development

(D Saravanan and Goparaju Purna. Sudhakar)

Introduction

The objectives of efficient software design are to reduce the development and maintenance costs, increases sales and satisfy the customers. Software design should be reusable, flexible, simple, portable, modular, testable, understandable, reliable and efficient. Since 1970s, different software design methodologies have been developed to address different types of problems. Software design has got a lot of importance because errors found in early stages of software development are less expensive to fix than the errors found by the customer. Software systems design involves finding the essential design components, their interactions, interfaces, etc.

In this chapter, architecture and design are distinguished; various design methodologies such as Top-Down Design, Bottom-Up Design, Stepwise Refinement, System Analysis and Design Technique, Structured Design, Structured Systems Development, Jackson Systems Development and Object Oriented Design are discussed. Software architectural types such as client-server, 2-tier, 3-tier and N-tier architectures are discussed. Software design techniques such as pipes, filters, sockets, threads, design patterns, and web services are mentioned. The process of design review, code review, software building and packaging are explained. The best practices of software designing and code reviews are highlighted. The structured and object oriented programming languages are mentioned as well in the chapter.

Design Methodologies

Architecture describes the elements of the software system, their interaction and their constraints. Architecture is the higher level of abstraction. Architecture concentrates on externally appearing properties of the elements of the software system. It consists of the elements which built the software system. Architecture does not concentrate on data structures and algorithms.

Whereas, *Design* is an activity which concentrates on the internal details of the elements of the system, details of interfaces, data structures, data types, procedures and algorithms which meet the customer requirements. Design involves gathering the abstractions of a software system and their relationships. The amount of detail is more in design and design document consists of standards, design constraints and performance goals. Design concentrates on constructs such as use cases, classes, methods/operations and functions or procedures.

Design methodology is a set of procedures followed from beginning till end of the system design. Design methodology consists of a notation for representation of functional components and interfaces, techniques to convert domain specifications into design specifications, facilities for refinement and partitioning and procedures for quality measurement.

Design methodologies are of two types. They are 1) Formal Types and 2) Systematic types. *Formal design methodologies* are based on Mathematical approaches, whereas, *Systematic Design Methodologies* consist of procedural components, representation

Chapter 2: Software Risk Management

(Goparaju Purna Sudhakar)

Introduction

Risk management has its origins in insurance and manufacturing industries. Later on risks came to play a major role in software projects. The early detection of project risks can save a lot of money to the project and avoid major disasters. According to Barry Boehm (1991), successful project managers are also good risk managers in software projects. The complexity of software applications also has increased based on the nature of the problem and the domain. Usual *management problems* in software projects include project organization structures, project management methodologies, estimation techniques, resources related issues, improper risk management and customer satisfaction. The *technical problems* in software projects include poor software design, testing methodologies, compliance to requirements, wrong functionality and inappropriate code reviews.

Risk management has roots in *probability theory*, *prospect theory*, *expected utility theory* and *bounded rationality theory*. Risks may result into financial loss, credibility loss, production loss, reputation damage, property loss, future business loss, and performance reduction, loss of sensitive information, personal safety, delayed deliveries, legal issues and law suits. Risks can be introduced from Internet, organizational network, server, routers or any malicious access. It is better to eliminate risks in software projects before they become major threats or lead to rework. The important aspects of risk management in software projects which are discussed in this chapter include risk management models, risk identification, risk analysis, risk prioritization, risk monitoring, contingency plan, mitigation plan, risk review, risk handling strategies, risk register and best practices of risk management.

Software Risks

Risk is defined as a potential problem which may happen in future because of current activities or processes.

Risk may happen in future because of any major or minor mistakes in current activities in software projects. According to Tom Gilb's (Developer of EVO Model), if you don't work on the risks actively, they will work on you actively.

Risk classification can be done based on the attributes of risk. Majorly risks can be classified as *internal risks* and *external risks*. *Internal risks* come from the project team or the organization and *external risks* come from outside the project, organization and may be from external stakeholders, agencies, bodies, external political, economic, social and legal environments. *Internal risks* can further be classified as *Project Risks*, *Product Risks* and *Process Risks.*

Other risk categories include software requirements risks, software schedule risks, software cost risks, software quality risks, software procurements risks, software acquisition risks, software maintenance risks and customer related risks. For example, *software requirements risks* include changing requirements, ambiguous requirements,

Chapter 3: Software Team Development

(Goparaju Purna Sudhakar)

Introduction

"There is no saturation point in education" – T.J.Watson, Sr., Founder, IBM Corporation

According to IDC (2008) survey on worldwide IT education and training vendor analysis, 60% of the software project managers said that the skills of the team members is one among the critical success factors for software projects. The software team development happens through right developers and designers recruitment, induction, training and making them reach the stage of performance. The programmer's productivity varies from one programmer to another programmer, technology to technology, programming language to programming language and domain to domain. The productivity and performance are also impacted by the problem complexity and project manager behavior. Unless individual programmer is productive and performing total software development team performance cannot be achieved. Individual programmer's skills, knowledge, experience, behavior and background are very much important for software development team performance. The best programmer can also become a best designer/architect but he may not be a right choice for project manager position. Hence the project manager has to monitor both technical and soft skills of the individuals in the team to fill the future roles in the project or organization.

The software team development can be achieved through different human resources processes in the organization. In this chapter the team development activities such as recruiting team members, training team members, setting objectives to team members, define development plan to the team members, providing different methods of training, evaluating performance and taking corrective actions are discussed. In this chapter the importance of reward and recognition system in the project is highlighted. Different human resource processes and activities which help the software team development are discussed. The factors effecting the individual performance and different measures for performance are also explained in the chapter.

HR Processes in Software Projects

Software team development happens through the HR processes in the organization/project. Getting skilled man power is a challenge for the software projects. Because the individual programmer's performance varies over a scale of 1:5, this leads to variations in software development team performance. The human resources related processes in software projects are (Figure 3.1) recruiting team members, setting objectives, training the team members after joining, facilitate on – job - performance of the team member, evaluate the team member performance periodically, in case of non-performance take corrective actions and if the performance is outstanding reward the performance. All these human resource related processes useful for software team development are discussed in the following sections.

Chapter 4: Managing Team Communications

(Goparaju Purna Sudhakar)

Introduction

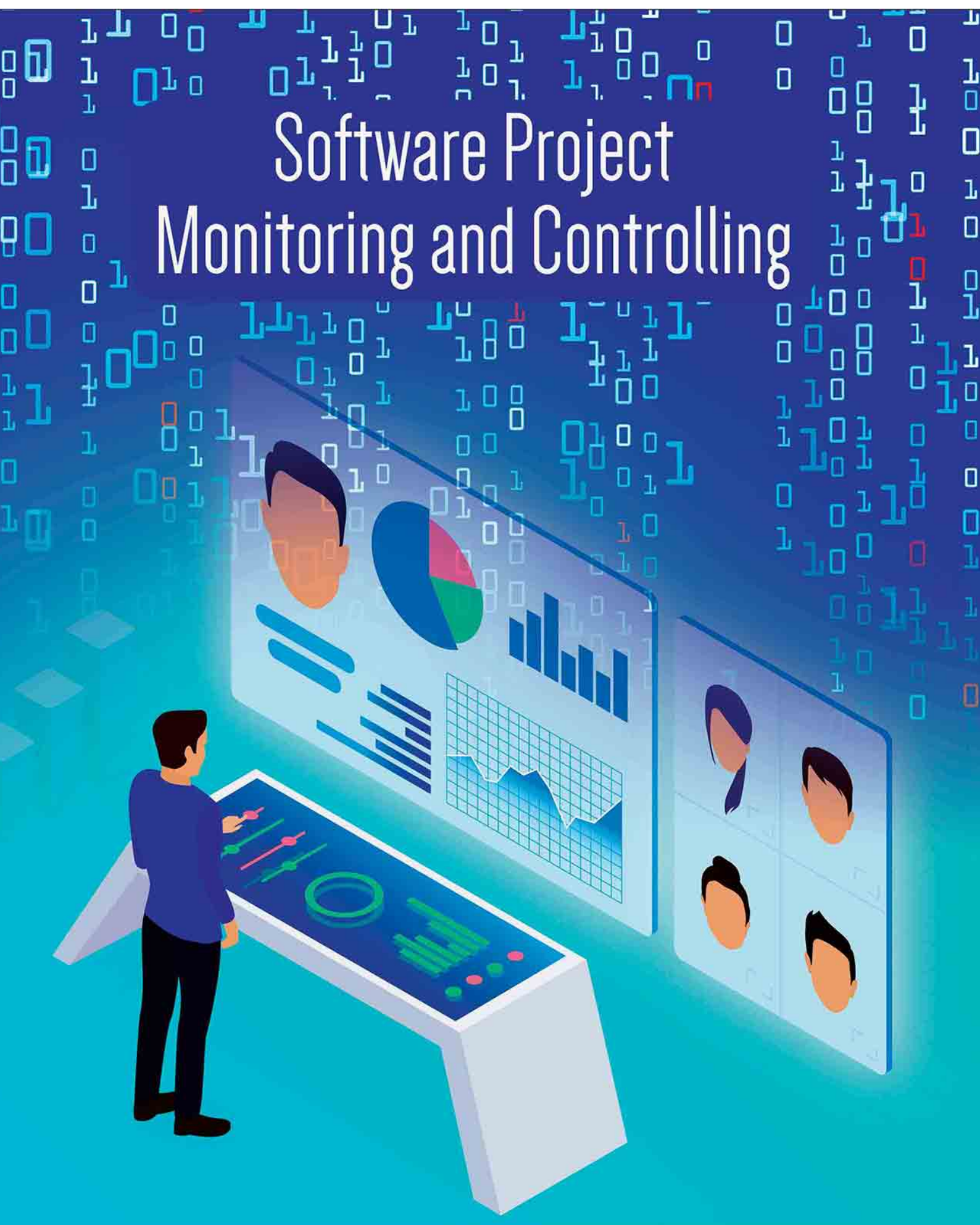
The project manager has to manage the communications in the project. If the communication fails, the project fails. Majority of the technical projects fail not because of technical reasons but they fail because of people reasons. Motorola's Iridium project was a failure because of multiple parties' communications problems in the project. The project manager has to ensure that the right information reaches the right stakeholder at the right time. The project manager has to treat project communications as one deliverable which is needed for project success and involves everybody in the project. Project communications management is about timely generating, storing, retrieving, distributing and saving the project information.

Project communications management includes planning for communications, project information distribution, status or project progress reporting and managing or fulfilling stakeholder information needs and requirements. Project success depends on knowing the stakeholder information needs and finding out ways to fulfill those information needs. Effective communication requires the knowledge of organizational structure, mission, vision, strategy, roles and responsibilities, trust, commitment, loyalty, and communications feedback. Project team members also spend huge amount of time in communication with activities such as design discussion, code reviews, design reviews, causal analysis and other technical issue resolution discussions. Thus communication has got a lot of importance in a project's success. It can make or break the project. In this chapter, communication framework, different communication channels, project information distribution, impact of communication on team performance and conflict resolution in software development projects are discussed. Also synchronous vs. asynchronous communication, formal vs. informal communication are distinguished. The communication directions such as top-down, bottom-up and horizontal communication are explained in the chapter. The information flow between project manager and the stakeholders of the project is also shown in a pictorial form in the chapter.

Communications Framework

The generic communications framework for projects is as shown in Figure 4.1. The important components of project communication include clear message, encode, decode, message understanding and transmission media. The sender makes sure that he is sending a clear message. This message is encoded and transmitted through the media to the receiver who decodes and makes sure that he understands the message. Similarly the receiver after understanding the message, replies to the sender. The reply message also follows the same path. In the transmission media the analog message is converted into digital message to be transmitted over the media such as telephone cable, coaxial cable, Internet, etc and then at the receivers end digital message is converted back to analog message and transmitted to the receiver who decodes before understanding the

Software Project Monitoring and Controlling



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Chapter 1: Project Progress Tracking

(Goparaju Purna. Sudhakar)

Introduction

The main objective of project management is to deliver the projects on time, within budget and acceptable quality customer requirements. To reach this objective the project manager has to continuously track the progress of the project. Timely progress tracking and status checking ensures the project success because it enables taking corrective actions at the right time at the right place. Different parameters and baselines need to be tracked for the software project. The project plan baseline, scope baseline, cost baseline and quality baselines prepared at the project planning stage needs to be compared with the current project performance. Any deviations with the planned parameters need to be addressed by taking corrective action to avoid project delays and failures.

In this direction, this chapter explains the project tracking procedure, what to track (scope, time, cost, risk, quality, deliverables, milestones, and tasks), taking corrective action, project plan updating procedure based on corrective action, project progress report and project status reports such as daily, and weekly, monthly and quarterly status reports. The template of a weekly status report is provided in the chapter. Points to be discussed in project status meeting is explained. Different techniques of root cause analysis, fishbone diagram/cause & effect diagram/Ishikawa diagram for causal analysis with example is given. Project audits such as managerial audits, technical audits, preventive audits and recovery audits are discussed. Quality audits such as internal audits and external audits are explained highlighting their importance. The project reviews for the external and intermediate deliverables of the software project such as design, code, SRS, functional specifications and test plan are also discussed in the chapter.

Tracking Software Project Progress

The project manager's responsibility is to deliver the project on time, within budget and with high levels of customer satisfaction. In order to do that the project manager has to track the progress of the project on a regular basis and take corrective actions, if required. The project manager has to track the critical path, project objectives, and milestones, check progress of individual tasks and ask questions related to task progress and risks to the team members. The process to track the progress of a software project is shown in Figure 1.1. The project plan baseline has to be taken to compare with the current results. As we have studied in project planning stage, every project has a project plan baseline. This has to be compared with the current project results in project execution stage. If any deviations are found, corrective action should be taken, project plan has to be updated, new project plan baseline has to be created and project execution continued. If no deviations are found in time, cost and scope then the project may continue executing by preparing a project progress report.

Chapter 2: Earned Value Analysis

(Nasina Jigeesh and Goparaju Purna Sudhakar)

Introduction

Project performance measurement in a quantitative way to judge the efficiency of a project. One way of measuring the overall performance is the application of aggregate performance measure, called *earned value*. *Earned value analysis* is the quantitative way of analyzing the project's status. It is a method for project performance measurement. The traditional way of measuring the financial performance is to compare the actual costs with the planned costs. This has a problem when applied to projects because this method ignores the project progress as on date while comparing actual costs with planned costs. Hence, the need for and importance for earned values has come into picture. Earned value analysis takes costs, schedules and scope into consideration. In earned value analysis, based on the original expenditure forecasts, a 'value' is assigned to each project task or work package, as identified in the work breakdown structure (WBS). It is useful to check the deviations and also to predict the project's future performance and trend. It can also be used as a warning system for the project manager because it is useful to identify and control the scope, costs and schedules. Earned value analysis helps the project manager in keeping the project on time and within planned budgets.

Earned value analysis concentrates on the actual accomplishments. It also gives inputs regarding the risks. Based on its risk inputs the project manager can adjust the schedules, costs and change the project scope. In any financial transactions, date of transaction and amount of transaction is very important. This applies to software projects as well. The traditional financial reports are based on financial calendar dates and years such as end of the month, end of the quarter, end of the year reports which are to be submitted to the tax authorities, regulatory authorities and investors. This cannot be applied directly to projects because the project performance evaluation depends on the project completion date, milestone date and phase end date which may not align with financial calendar dates. To solve this problem earned values are used for projects to evaluate the project performance.

In this chapter, the history of earned value management, the origins of earned value analysis are explained. The earned value terms such as earned value, planned value, actual cost, schedule variance, cost variance, schedule performance index and cost performance index are introduced. Further budget at completion, estimate to complete, estimate at completion, variance at completion and to- complete performance index, are discussed. Different methods of calculating earned value and estimate at completion are described. Examples and graphs are provided wherever required to make the quantitative project performance evaluation using earned value analysis.

Chapter 3: Software Configuration and Change Management

(Goparaju Purna Sudhakar)

Introduction

Change is inevitable in software projects. The project manager has to deal with changes arising and ensure that the project completes within the given time and budget. He has to control the impact of changes on project schedules, costs, plan and priorities. Sometimes changes are mandatory in case of governmental regulations, financial regulations, tax laws, technological changes, and to comply with organizational and customer standards. The main objective of software configuration and change management is with how much ease we can make the change to the software. Software configuration management deals with controlling changes to the software artifacts.

Proper change and configuration management ensures the frequent project releases without any integration problems. In this chapter, the software change management aspects including change management process has been explained. The requirements change management, scope change management and project plan change management procedures, impact areas, and factors effecting change are explained. The impact analysis process and the impacted areas of the software project due to change, are described. Software configuration management (SCM) which is a knowledge area in IEEE's *SWEBOK (Software Engineering Body of Knowledge)* has been explained. SCM tools such as version control systems with examples of first, second and third generation version control systems with their features have been explained. The difference between centralized and decentralized version control systems are described in the chapter. The factors impacting change implementation and the change implementation review and feedback are explained. Leading change with well defined change management process and steps for change management of software projects are explained in the chapter.

Software Change Management

Software change management is the process of collecting, accepting and rejecting change requests based on the project requirements, schedules, costs and customer needs. The change management process identifies change request origin and defines required roles and responsibilities in dealing with change. The change management process to be defined should be within the organizational boundaries, structures and team processes. The team should know what to change, when to change, why to change and how to change in the project. The change management process selects the change requests and makes needed changes in the project. Usually change requests originate from developers, testers, customers, users, project management team and project sponsor. Change management is part of software project management. It directs and coordinates the changes in the project.

Chapter 4: Advanced Software Project Management

(Goparaju Purna Sudhakar)

Introduction

Agile methods are there in the manufacturing industry for several years. Agile business processes are also existent in current days. In software projects, people, technologies and requirements keep changing. To address this rate of change, quantity of change and speed of change, agile methodologies came into existence in IT industry. Risk management plays a major role in traditional heavy weight project management methodologies. To reduce the risk involved in long waited product release of traditional projects, agile methodologies came into picture. Agile project management methodologies minimize the risk involved because of short iterations. They encourage communication with customer, users and other stakeholders. Traditional project management methodologies are not suitable for dynamic, unpredictable, requirements, volatile, empirical and non-repeatable processes. Agile methodologies are suitable for these kinds of projects. The terminology used in agile methodologies is derived from the sport "Rugby".

Agile methodologies encourage adapting to change rather than facing rigid formal plans. Organizations adapt to changing markets, technologies and social circumstances. Similarly, software projects also have to adapt to changing business, organizational, technological and people conditions. Agile methodologies are about simplicity and speed. The characteristics of agile methodologies include straightforward, incremental, adaptive and cooperative. The main objective of agile methodologies is to increase the ability to react to the changing technological, customer, user, business and organizational conditions. In this chapter, the heavyweight and lightweight or agile project management methodologies are distinguished and the agile philosophy with values and principles is explained. The agile project management methodologies used in software industry such as SCRUM, eXtreme Programming (XP), Crystal methodologies, adaptive software development (ASD), feature driven development (FDD), dynamic systems development methodology (DSDM), EVO methodology and rapid application development (RAD) are explained. The build-operate-transfer model of project governance as a modern approach is also described.

Agile Project Management Methodologies

Project Management methodologies can be classified as heavyweight and lightweight project management methodologies (Figure 4.1). *Heavyweight project management methodologies* comes with lot of documentation, defined processes, process flows, process connections, management processes, tools, techniques, models, roles, responsibilities and other formal processes and procedures. *Lightweight project management methodologies* also known as *agile project management methodologies* comes with few processes, people rather than processes, product development rather than micro management, customer involvement rather than contract monitoring and

Elements of Social Media in Business



Editor
Vaibhav Mishra

Elements of Social Media in Business

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Chapter 1: Introduction to SMACS (Social, Mobile, Analytics, Cloud and Security) Technologies

(Bijeta Shaw and Venkata Dharma Kumar Malla)

Introduction

According to NASSCOM, the Indian IT-BPO industry market size in FY 2017 was around $154 billion. McKinsey projected that by 2025, Indian IT industry market would reach $350 billion (*Source*: *Live Mint, October 28, 2015)*. The global IT and business services industry was worth $2.4 trillion in 2014. According to McKinsey research projections, the global IT industry is going to hit $4 trillion by 2025. In 2015, SMACS technologies (also known as digital technologies) spending globally was around 10% of global IT spending. This is expected to increase to 35% by 2020 and 60% by 2025. According to Athena research (2015), the global SMACS industry will be a trillion dollar opportunity by 2020.

SMACS is driving business innovation with the convergence of these five technologies (social media, mobile, analytics, cloud, and security). The reach of social media, the continued connectivity of mobile technology, the accuracy of business analytics, the continuously evolving security procedures and the network of commercial cloud computing are responsible for the successful B2B and B2C communications. SMACS helps in improving business operation so that they can maximize their reach to customers with minimized overhead. Huge customer generated data (both structured and unstructured) is leading the way to the creation of various business models as well as new business opportunities, thereby creating competitive advantage. Thus, brands which have been promoted using SMACS technology are getting a better response from their customers and prospects. Firms that are smart in strategizing SMACS-based marketing plans are able to do more targeted marketing, thus reducing their advertising cost and saving the organization's various resources. Another important benefit of SMACS is measuring returns from every campaign/activity due to the highly accurate analytical tools. SMACS has thus paved roads for the measurement of return on investments; a measure that immediately creates a best decision scenario and thus leads to greater entrepreneurial initiatives.

Social media is a community-based platform to interact, exchange and share informative content among registered users with the help of the Internet as a backbone. It involves group conversations and building relationships. This unit gives an overview of the latest technologies involved in mobile phones and cloud computing. It also gives an introduction to analytics, business intelligence, and information security issues which are an integral part of the present IT infrastructure used in effective communication.

Evolution of SMACS

In 2011, the consumerizatio of IT was given a name and the term coined was SMACS. Earlier, the computation in enterprise was on the premise of software and hardware devices communicating one-to-one. But this traditional computing model took a sharp

Chapter 2: Social Networking Platforms and Stakeholders

(Bijeta Shaw and Venkata Dharma Kumar Malla)

Introduction

We have covered a few basics of social media, mobile technologies, and their operating systems in the earlier unit, along with an overview of emerging areas like the cloud. In this unit, we will study the role and functionality of social media in business in detail.

Social media has a wide reach and scope which includes interactive information sharing with enhanced capability to attach files, multimedia, conduct video conferences and many more utilities. Some of the popular platforms in the social media segment are Facebook, LinkedIn, Twitter, Google+ and YouTube. This unit also highlights the issues of the Facebook platform and other social networking platforms along with privacy and security related issues.

Social Media: Overview and Benefits

Social media is defined as forms of electronic communication (such as websites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (such as videos) (Source: Merriam Webster dictionary). Social media is used to define social networking and the most popular sites are Facebook, Twitter, LinkedIn, Pinterest, Snapchat, Instagram, etc. It is statistically observed that(Exhibit 2.1):

- 8 in every 10 internet users globally are visiting / using social networks on their mobile devices.
- People are most likely using social media in order to keep communication up with friends (43 percent) or latest news (41 percent), or to pass time (39 percent).
- Around 1 in every 3 minutes spent online is devoted to social networking and messaging, with digital consumers engaging for a daily average of 1 hour and 58 minutes.

Exhibit 2.1: Important Social Media Statistics-2016

Facebook, LinkedIn, Twitter, Google+ and YouTube are some of the popular platforms of social media widely used in social networking. Facebook is a free social networking website that allows registered users to create profiles, upload photos and video, and send messages to keep in touch with friends, family and colleagues. Twitter and YouTube platforms allow registered members to broadcast short posts known as tweets and share videos respectively. According to Pew Research Center (The Pew Research Center is a nonpartisan American think tank based in Washington, D.C. It provides information on social issues, public opinion, and demographic trends shaping the United States and the world). ('Social Media Update-2016'):

- 97 percent of adults who are aged 16-64 and are online, say that they have visited or used a social network within last one month.
- Internet users were found to have an average of 7 social accounts, going up from 3 in 2012.
- More than half (56 percent) of online adults use more than one of the five social media platforms measured in a survey

Source: ICFAI Research Center

Chapter 3: Product Development Using Social Media

(Venkata Dharma Kumar Malla)

Introduction

We have already gone through the basics of social media and IT-enabled technologies like mobile phones, along with issues relating to the impact of different social media tools on society in the earlier units. We have also seen the functions of social networking and its pros and cons in the previous unit. Now we will focus on product development using social media in the current unit. Therefore, this unit will be concentrating on the utilization of social media.

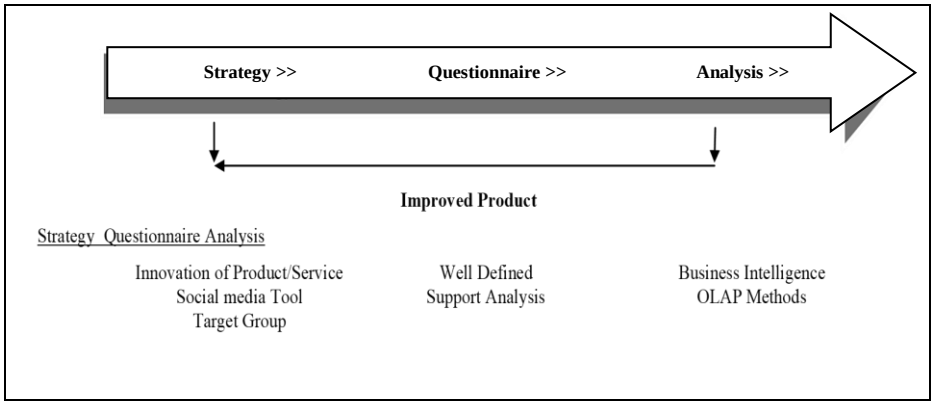
This unit basically addresses two areas regarding product development with the help of social media, firstly, how best a company or an organization can make use of social media to develop an innovative service or a product. Secondly, it dwells on social media's role in enhancing community-based social products like development, value chain and performance.

Using social media, a focused campaign by companies on select group's parameters such as their income level, hobbies, location and profiles can be analyzed based on the type of the product being developed. This, in turn, will help clustering of customers and better market segmentation. This leads to better results and solutions. It also helps in conducting analysis on responses and make changes in product development as per the needs of the prospective customers.

New Product Development and Crowdsourcing

For a new product to be launched, the company requires to do a lot of market study and research to analyze its feasibility and acceptability. Prior to social media's emergence, email was the low-cost alternative to get feedback and comments on a new product. Social media made bulk communication easy. Using this technology, companies can maintain fan pages to engage users and collect feedback. This method is known as 'Crowdsourcing', that is, taking the help of large online social media communities to seek their ideas, suggestions and feedback. (See Figure 3.1) The data collected is analyzed to arrive at a better acceptable product/service.

Figure 3.1: Crowdsourcing Based Product Development Lifecycle



Source: ICFAI Research Center

Chapter 4: Customer Relationships through Social Media

(Vaibhav Mishra and Venkata Dharma Kumar Malla)

Introduction

Social networking platform builds a chain of relationships between people of diverse areas and geographical locations. It creates a larger network base in itself. The market targets the same to channelize products, services, and to get ideas from crowdsourcing. We have discussed this in the previous unit. In this unit, we will go one step further to connect customer relationships through social media.

We live in a time and age where an increasing amount of products/services are bought/ experienced through online shopping websites, aggregator sites and smartphone applications. With India having the world's youngest population, which is IT savvy, it is imperative that companies should have a presence online to reap maximum benefits in terms of sales. In the past, companies used to employ survey feedback forms and sales personnel, who directly collect structured information from customers for tailoring their products and services.

An entire generation of the young population is hooked to the social media websites like Facebook, LinkedIn and Twitter. They use this medium to air their satisfaction, complaints about anything under the sun, in a free-flowing unstructured conversation mode on a daily basis. Companies have begun to take serious note of the content of discussions that happen on social media to get a better and a real-time picture about their brand image, product acceptability and service gaps. Most of the big organizations now employ CRM (Customer Relationship Management) solutions as part of their engagement with customers.

When “established customer relationship management” is combined with the power of opinions on the social media, it becomes a powerful tool for companies to understand consumer behavior. The clear understanding of consumer behavior can result in much bettertailored marketing communications, personalized customer service, better customer retention and improved brand image. Companies are slowly waking up to the fact that this amazing idea of combining CRM and social media data is highly challenging to implement and worth investing in.

The purpose of CRM implementation in corporates is to acquire the new customer, retaining the old and termination of customer-provider relation, which can be explained by three basic components of the traditional CRM process: relationship initiation (acquisition), maintenance (retention), and termination. The methods of relationship building and maining with customer has been evolved with time as the social media space is evolving rapidly, and new applications are continually introduced into the market. Therefore there has need to identify the ways in which the emergence of social media influences the customer for adopting and accepting the product, and the effective use of social media as a tool in promotion and penetration of market in competitive era.

With the advancements in the field of information technologies based CRM tools and activities, companies have changed the method of capturing and processing the data in real time. As the uncertaininty of market has always been noticed, the real-time processing of predefined variables and models in IT systems, which need carefully monitoring of data to ensure their validity under unpredictable market conditions.

Mobile Technologies for Business-An Introduction



Editor
Bijeta Shaw

Mobile Technologies for Business - An Introduction

Editor:
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Chapter 1: Mobile Devices and Platforms

(N Siva Prasad and Venkata Dharma Kumar Malla)

Introduction

A mobile phone is a basic communication tool and with the emergence of the latest technology, it has transformed from a communication tool to a powerful multipurpose gadget. Mobile phones support the different needs of the society such as business, finance, education and healthcare areas to name a few. These phones have become indispensable of late due to their integration with social media and cloud services. Current mobile platforms include: Android OS (Google Inc.), Bada (Samsung Electronics), BlackBerry OS (Research in Motion), iPhone OS / iOS (Apple), MeeGo OS (Nokia and Intel), Palm OS (Garnet OS), Symbian OS (Nokia), WebOS (Palm/HP).

The basics of SMACS technology comprises social networking and platforms, their roles in creating social networks, social media and customer relationships. In the current chapter, we will discuss applications of mobile phones and platforms and their role in networking for useful social services.

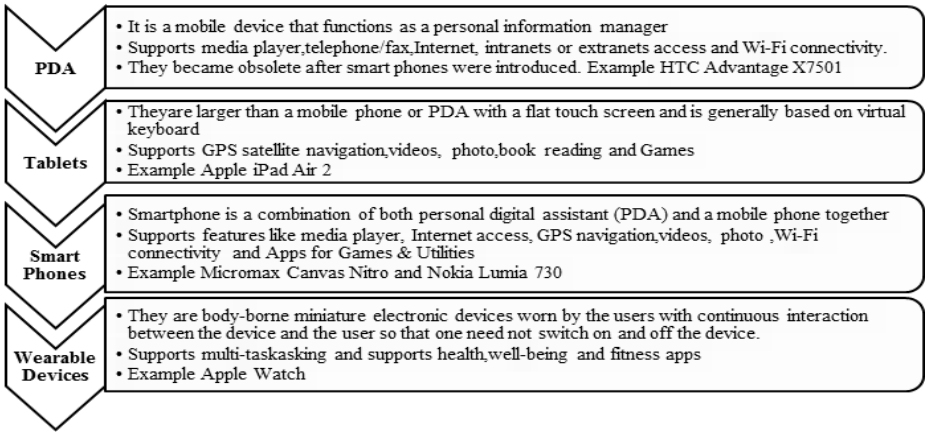
Two mobile platforms Google Android and Apple iPhone are covered in detail in this chapter. It also covers software development platforms and the future of mobile platforms.

When mobile phones are integrated with social media, the paradigm of communication will change significantly with real-time data made available to the user at the fingertips.

Characteristics of Mobile Platforms

Mobile phone technologies saw rapid development during the 1990s with the introduction of Personal Digital Assistant (PDA), smartphones, tablets, and wearable handheld devices (See Figure 1.1). Despite all these advanced devices with various features with limited input-output interfaces, their performance is purely governed by the operating system on which they are running.

Figure 1.1: Trends in Mobile Devices Development



Source: ICFAI Research Center

Chapter 2: Mobile Operating Systems

(Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, we discussed mobile devices and platforms which provided us a good basic introduction to mobile operating systems and its applications in mobile devices. Now we will focus on operating systems in a little more detail to get a better understanding.

The origin of mobile operating systems dates back to 1996 with the release of Palm OS by Canada based RIM (Research in Motion) (currently known as BlackBerry Ltd). Different versions of Palm OS came into the market such as Palm OS 5.0 in 2002 and Palm OS Cobalt in 2004. Microsoft released Windows Mobile in 2003. In 2005, mobile OS such as Windows Mobile 5, BlackBerry OS 4.1 and Android with the acquisition of Android Inc. by Google have entered the market. In 2007, Apple introduced the first version of the iPhone with iOS. Other mobile operating systems which entered the market include EPOC and Symbian in the early 2000s.

In this unit, we will compare different mobile operating systems and also throw some light on important mobile OS features such as open development, user experience, security and cloud integration, which are some of the latest areas that are being focused for the upcoming versions of mobile technologies.

A Comparative Study of Mobile Operating Systems

A mobile operating system (OS) is similar to any standard OS (like Windows, Linux and Mac) but needs to be relatively simple and light (in total load weight) and primarily be able to manage the wireless variations of local and broadband connections, mobile multimedia and various input methods. A mobile operating system (OS) is software that allows smartphones, tablet PCs and other devices to run applications and programs. A mobile OS typically starts up when a device powers on, presenting a screen with icons or tiles that present information and provide application access. Mobile operating systems also manage cellular and wireless network connectivity, as well as phone access.[2] Thus, the major features need to be built into the mobile OS cover:

- Assured user experience
- Battery and power management as minimum features.

Latest mobile operating systems, especially, the most popular ones have a few characteristics like

- Security
- Openness and
- Cloud readiness as latest technology updates.

[2] *http://searchmobilecomputing.techtarget.com/definition/mobile-operating-system*

Chapter 3: Mobile Apps for Business Organizations

(Bijeta Shaw and Venkata Dharma Kumar Malla)

Introduction

The previous chapter has detailed the comparative aspects of various mobile operating systems. Most of the mobile operating systems also provide various important components, including various applications (Apps). In continuation to the previous chapter, we will concentrate on mobile applications and their uses in the current chapter.

Mobile Applications are popularly known as Apps in short, and are very popular and easy to use. There are many Apps used for various activities like weather updates, business, education, finance, entertainment and healthcare. Most of these Apps are easy to access through a number of App stores like the Android Play Store, Nokia's Ovi store, App store from Apple and Microsoft's Windows phone marketplace. These Apps are developed using different approaches to support platform-specific and web-enabled features depending on various requirements.

In this chapter, apart from different development approaches, various App development environments are discussed. It deals with details of the Application Programing Interface gateway and various methods to distribute mobile apps, along with a discussion on programmer's productivity.

Benefits and Approaches of Mobile Application Development

There are different mobile application development approaches available which are based on the requirements of the proposed application to be developed. Some of the approaches are:

- **Native Approach:** A native mobile application is an application program that has been developed for use on a target (mobile) platform or a device. As these native applications are platform specific, these can access all OS services (Operating System) and other software installed on the device. It can make optimal use of device's installed hardware and software capacities, including other features like Global Positioning System (GPS), camera and other features. This is one of the advantages of native applications over the other web-based and cloud-based mobile applications. A native app is a separate version built for each mobile device which can be downloaded from a public or private app store and installed on the mobile device. Major advantages of this approach are best performance, better user experience, consistency, ease of use, multi-touch (double taps), fast graphics (better refresh rates), fluid animation (games), and built-in components (camera, GPS, location detection). Two important drawbacks with this kind of applications are: 1) Knowledge gained is specific to the mobile OS and device only, and 2) The developer will specialize in a specific environment without any scope to easily migrate to other environments. Based on version changes in OS, change in devices, and platforms, there will be need to develop and maintain different versions of the same app for integrating it to the present OS features, devices, and platforms.
- **Mobile Web Approach:** A web based mobile app is a collection of web pages that are designed to work on a handheld device's small screen. Mobile web apps are coded either in CSS (Cascading Style Sheet), JavaScript, or HTML5 (Hypertext

Chapter 4: Mobile Business Process Management

(Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, we discussed mobile apps for business organizations, which provide most of the processes and the process of using apps for business purpose. The current chapter may be treated as a complementary chapter of the previous one. This chapter discusses the business process management, an important business process service, which is implemented on a mobile device.

The enormous growth of the Internet combined with the development of mobile technologies has led companies to integrate multiple technologies on a single platform. These technologies include social media, mobility, analytics and cloud computing, which collectively bind customers and companies, leading to an increased collaboration. The reach of the Internet and the growth of smartphones provide consumers with unmatched access to information.

The combination of Social Media, Mobility, Analytics, Cloud computing and Security technologies, known as SMACS in short, is the latest domain transforming technology. It is being used in marketing, healthcare and many more areas to collectively share information through mobiles for improving quality of service. This chapter deals with some of the SMACS related aspects like the change of work/process flow, web technologies involved and improving customer experience with due adoption of SMACS based technologies in companies.

Business Process Management through SMACS

Today's technology and its users are posing challenges to companies and technology inventors to deliver more services, which can be used with minimum effort. User organization's perspective is based on the information collected which must be suitable for strategic planning and making operational decisions.

Business Process Management (BPM) is a systematic approach to evolve a better workflow in an organization to be effective, efficient, and capable of adapting to changing technological and business environment. The emergence of mobile, cloud, analytical and social age has transformed the way in which business operations and customer engagement are being handled. The changes required due to the adoption of SMACS technologies include changes in the workflow and processes, also known as BPM (Business Process Management). A traditional business process management is an integration of conventional resources like people, IT (Information Technology) systems, information, business rules and policies. This helps in operational process outcomes. With the growing requirements for mobility, BPM approaches moved to one level higher, to be more proactive and intelligent towards processing capabilities.

Given below are the points where BPM processes need to be relooked in the wake of SMACS.

- **BPM and Social Media**: The virtual world of social media is making companies redefine their processes for better implementation, optimization and control. By

Elements of Big Data and Business Analytics



Editor
Sashikala P

Elements of Big Data and Business Analytics

Editor:
Sashikala P

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Elements of Big Data and Business Analytics

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Chapter 1: Decision Making Using Big Data

(Sashikala P and Venkata Dharma Kumar Malla)

Introduction

Big data has become a critical challenge of the present time. It is created by the accumulation of years of data sets, as well as generation of voluminous data because of e-commerce, retail growth etc. It is normally defined in terms of volume, velocity and variety. Therefore, handling big data needs special technology like Hadoop, SAP HANA, etc.

In business, the related data is generated from customers, competitors and the companies themselves. It is either transactional or decision-making-based and the nature of data is both quantitative and qualitative. At present, it is a data-driven society because technological evolution has made "data capturing and its analysis" easy and convenient. Any volume of data can be captured and warehoused; it is up to the decision makers either to use data or to lose it. The data available is structured, semi-structured and unstructured and is available in many forms such as numeric text tables, graphs, etc.

In this chapter, complete working methods with big data, moving from operational dashboards to evidence-based decision making and the role of cloud computing in big data management are discussed.

What is Big Data?

Big data is a concept which defines the large volume of data which can be both structured and unstructured that floods in a business on a day-to-day basis. How huge is the data is not important but the most important thing is what the organizations do with the data. Big data can be analyzed for insights that lead to better decisions and strategic business moves.

The data can be taken from any source and analyze it to get the solutions that help in 1) cost reductions, 2) time reductions, 3) new product development and optimized offerings, and 4) smart decision making and 5) Increased customer satisfaction. The business related goals can be achieved when big data is combined with high-powered analytics which can be as follows:

- Determining root causes of failures, issues and defects in near-real time.
- Generating coupons at the point of sale based on the customer's buying habits.
- Recalculating entire risk portfolios in minutes.
- Detecting fraudulent behavior before it affects your organization.

How "Big" is the Big Data?

Business houses and science-based institutions have been using data for a very long time. They have been using very small to huge databases, but the present day technologies like cloud storage and cloud computing facilitate storage of huge volumes of data. The data dealt is in petabytes, exabytes, zetta and yottabytes. The data in petabytes and exabytes is usually referred to as big data.

Doug Laney of Gartner group defined big data as "Big data is high volume, high velocity and/or high variety information that requires new forms of processing to enable enhanced decision making, insight discovery and process optimization".

Chapter 2: Handling Unstructured Data

(Sashikala P and Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, we have briefly looked at decision-making using big data. However, handling big data is itself a rigorous task that needs a careful categorization of data to understand how it must be handled. In this chapter, we will visit the handling procedure of unstructured data.

Big Data is made of both machine and human-generated unstructured, semi-structured and structured data. Unstructured data means everything from social media posts to images of data like fingerprints, from email to weblogs on the internet and many other forms of content. It is growing at an unprecedented pace, contributing to huge volumes of content.

Small volumes of unstructured data can be handled easily. But as the unstructured data becomes large, its analysis becomes quite complicated because of the heterogeneity of the data. The solution for this is to adopt available IT solutions. Basically, unstructured data is divided into two broad categories, textual and non-textual data. Textual data includes all the documents, e-mails, text files, and chat files. The non-textual data covers graphics, sound, movies, etc. Analytics are applied to the data for analysis purpose. Such data will support the decision-making process in areas like retail business, e-commerce, education, healthcare, marketing domain, etc. In addition, the IoT (Internet of Things) is growing and generating much larger volumes of data. To manage, store and provide security to such huge volumes of data is a complex task to handle. This chapter concentrates on issues relating to unstructured data management practices. It describes various forms of data generated on social media and mobile to be analyzed and stored using cloud technology. The cost of storage, backup and recovery operations incurred by organizations are also discussed. This chapter also gives an insight into different file archiving solutions along with the problems that exist for analyzing textual and non-textual content.

Different Formats of Unstructured Data

Data is the heart of any business activity and it is maintained by users in different formats based on the requirement. For example, it may range from a person's name you want to remember, or an address entry in a diary or a diagnostic lab report. When this data is organized in the form of a report, it is known as information (i.e. data with a meaningful purpose).

There are two basic types of information based on the structural standard that is being followed. The first category is structured data, which is generally stored in a database based on a predefined format, known as metadata. The second category data is the unstructured and semi-structured one, which does not have a defined structure of its own. The below given Figure 2.1 shows the growth of data over 10 years.

Chapter 3: Data Analytics for Top Management Decision Making

(Sashikala P and Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, we have discussed unstructured data handling methodologies in detail. We have also studied the conversion strategy of unstructured data to structured data which facilitates the environment to apply data analytics. In the present chapter, we will discuss data analytics at large to understand the inference procedure out of the big/enormous data collection.

Focus on business analytics has increased in the past decade, reaching many organizations and a wider range of users like executives, business managers, analysts and knowledge workers within the organizations. With fast growing data volumes due to increasing use of applications in companies, business analytics allows to optimize operations and at the same time to maintain flexibility.

There are many statistical models developed and extended to execute and perform Business Intelligence and Business Analytics. Various tools like Correlation Analysis, Regression Analysis, Multiple Linear Regression and Logistic Regression are discussed in this chapter. Data Mining Techniques like Exploratory Factor Analysis (EFA), Principle Factor Analysis (PFA), Confirmatory Factor Analysis (CFA), Classification, Predictive Analysis, Cluster Analysis, Association Analysis, RFM (Recency Frequency Monetary) Analysis and Market Basket Analysis (MBA) are also explained in this chapter.

Business Intelligence

Business Intelligence (BI) is a broad category of application programs and technologies used for gathering, storing, analyzing, and accessing data to help users make better business decisions. BI applications support the activities of query and reporting, decision support, Online Analytical Processing (OLAP) (computer processing that enables a user to easily and selectively extract and view data from different points of view), forecasting, statistical analysis, and data mining (examining large pre-existing databases in order to generate new information). Business Intelligence includes concepts/methods and by using fact-based support systems, it improves business decision-making.

Business Intelligence is an art of gaining business advantage from data by answering various fundamental questions. These may include, how various customers rank products, organizations, etc., how business is doing at the present stage, and if continued on the current path, which clinical trials should be taken further and which should be stopped.

The concept of Business Intelligence (BI) discusses the technologies, applications and practices for the collection, integration, analysis, and presentation of business information. The purpose of Business Intelligence is to take care of better business decision making. Basically, Business Intelligence systems are data-driven Decision

Chapter 4

Business and Marketing Intelligence Using Analytics

(Sashikala P and Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, we have studied the methods used in analytics at length. Here, in this chapter, we will visit the application part of the analytics. We will specially refer to business and marketing intelligence in this chapter, as it is well associated with analytics. Business Intelligence (BI) can be used in different industries such as airline, retail, manufacturing, financial services, healthcare, bioinformatics, and hospitality industry. The current day business intelligence systems are replacing DSS (Decision Support Systems), MIS (Management Information Systems) and EIS (Executive Information Systems). Organizations such as Tesco, Capital One, CEMEX, and Netflix have made better decisions based on business intelligence.

In the current chapter, the need for business intelligence and the definition of business intelligence are explained. The distinction between data, information, knowledge, and wisdom are explained. Data warehouse, business intelligence architecture, business intelligence components, business intelligence methodologies, data mining techniques, and business intelligence tools are described at length. The usage of business intelligence in market knowledge collection and its applicability to decision making is highlighted. Data in organizations is growing much faster than the computing speed in the world. Hence, the importance of big data, Hadoop and big data analytics are also explained in the chapter.

Need for Business Intelligence

What is the need and application of business intelligence systems in an organization? In the absence of data for decision-making in an organization, it would be just guessing, instead of judging the current status of performance of a business. Hence, the organizations looking for performance improvements prefer to go for business intelligence. The organizations initially have to think: why do they require business intelligence application? If they decide to have business intelligence, then they should think: which stakeholders get benefited using business intelligence tools and what are the investments for the acquisition of such applications? Business intelligence is required for effective decision-making, operational and strategic excellence.

The evolution of information systems (Fig 4.1) over a period of time is shown in Figure 4.1. Legacy systems used complex algorithms, being developed using procedural and functional programming languages and were mainly used in scientific computing.. Transaction Processing Systems (TPS) used some form of data and file-based systems and these were used for business purposes. Decision Support Systems (DSS) used data models and interfaces for the users. Management Information Systems (MIS) used relational databases and business logic. Executive Information Systems (EIS) were used in management reporting and data visualization. Expert Systems (ES) were rule-based and search knowledge bases for analysis. The current

Macro Aspects of Cloud for Business



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MICRO ASPECTS OF CLOUD FOR BUSINESS

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Chapter 1: Cloud Architectures and Services

(Shailja Tripathi and Venkata Dharma Kumar Malla)

Introduction

We discussed marketing, and business intelligence using analytics in the previous chapters. This was based on data, information, knowledge, wisdom, business intelligence components, business intelligence architecture, data mining techniques, and customer experience management. All these involve huge investments and many organizations, especially the start-up organizations cannot afford the straight down-payments for resources such as hardware, servers, networks, and storage. Now there is a simple solution to this problem— cloud computing and cloud services. Using cloud services, organizations can pay as per usage of the resources. They do not have to pay for the resources they acquire in the cloud. They have to pay for their use only. They do not have to pay for the idle resources also. Scaling the applications, ramping up the teams and acquiring infrastructure, platforms, software applications can be easy and cost-effective for the organizations using cloud computing. This avoids huge investments for the organizations. Just as one pays for electricity, water and gas as he or she moves into the new apartment, similarly organizations can subscribe to cloud providers and acquire infrastructure, platforms and software applications from anywhere and connect to the internet. Currently, cloud computing is becoming popular because of the gradual growth of the firms which require digital storage of their data. Therefore, several cloud providers compete with each other to provide, "quality service and huge space for data storage " to companies with many features.

Various companies are advancing with their innovative cloud computing solutions. Microsoft lunched cloud solutions like Microsoft Office 365 and Microsoft Dynamics for office related tasks. Salesforce.com is well-known for its on-demand provision of customer relationship management (CRM) applications on a subscription basis using software as a service (SaaS) model. CRM online provides a set of web based tools for small businesses, independent consultants and professionals. IBM provides IBM SmartCloud which is for social business, such as social networking and collaboration that is delivered through SaaS model. VMware offers vCloud Hybrid service as infrastructure as a service (IaaS). vCloud Hybrid service provides two distinct core compute services, dedicated cloud and virtual private. These two services provide a set of resources to compute, storage and network. Amazon Web Services provide infrastructure to several businesses around the globe with high reliability, scalability and cost effectiveness. Rackspace provides an enterprise level hosting services to all sizes of firms across the world.

This chapter discusses cloud features and functionality, cloud architecture and cloud deployment models such as public cloud, private cloud, community cloud, and hybrid cloud. It covers all the available Cloud service models such as Infrastructure-as-a-Service (IaaS), Platform-as-a-Service (PaaS), Software-as-a-Service (SaaS), Business process-as-a-Service (BaaS) and Anything-as-a-Service (XaaS). Cloud business models, grid computing and Amazon cloud services are also shared for the benefit of the business executive.

Chapter 2: Enterprise Systems Development Using Cloud Technologies

(Shailja Tripathi and Venkata Dharma Kumar Malla)

Introduction

In the previous chapter, cloud features and functionality, cloud architectures, cloud service models, cloud business models, representative clouds in the industry, and grid computing are discussed. Cloud in the computer terminology is an 'extended environment' which can be used for "providing", "developing", "hosting", and "virtualization" of software. Cloud can be used for both Software and Infrastructure services. Currently, enterprise systems such as ERP and CRM systems are also being developed over cloud frameworks.

The business executive needs to be exposed to these aspects for adapting suitable model.

This chapter provides details on types of the cloud environment, various deployment models and architectures used for cloud services. Different types of clouds, cloud applications design, Elastic Computing Platform, and architecting big data systems will be discussed in the chapter. The chapter also explains architecting with Hadoop, ERP on a cloud, designing with virtualization, DevOps, factors impacting cloud architectures, cloud entrepreneurship, and some of the business models.

Different Types of Clouds

The operation of the cloud depends on the various services provided by the cloud operating agencies to its subscribers.

Some of the services provided by cloud operators include:

- Providing software: Cloud environment provides software for end-user usage. This type of service available in the cloud environment is called "Software-as-a-Service". It is also called SaaS.
- Developing software: Cloud is available as a platform or a complete environment to develop/modify software applications. This type of service available in the cloud environment is called "Platform-as-a-Service", also called PaaS.
- Hosting software as an infrastructure: Cloud environment is available as an infrastructure platform to host software and it is called "Infrastructure-as-a-Service", also called IaaS.
- Virtual Desktop as an Infrastructure: DaaS (Desktop-as-a-Service) is a service provided by the cloud service provider to host the virtual desktop infrastructure.

There is a continuous demand for cloud models as business drivers are changing and organizations are thriving towards efficiency, agility and other capabilities around the growth.

Chapter 3: Clouds for Social Marketing

(Shailja Tripathi and Sanjeev Jha)

Introduction

The previous chapter, Enterprise Systems Development Using Cloud Technologies, covered different types of clouds, cloud architectures, big data, ERP on the cloud, Hadoop and factors impacting cloud architectures. Nowadays, millions of people are connected through the internet on social networking sites. It has become an online gathering of platform for friends and family members, use of email, connecting to fellow researchers, connecting to peers in the field, a great search engine for knowledge articles, and idea sharing. Social networking sites are becoming a destination for e-commerce and marketing. Modern social marketing is based on the cloud environment. The cloud computing services are provided through the public cloud, private cloud, and hybrid cloud environment.

Every organization is taking highest advantage of social marketing in the present day scenario to achieve larger connectivity to prospective customers with 100% assurance and at lower costs. Cloud is one such platform which aids the business execuitves in achieving this goal through scalable operations. Hence they need to know of usage of cloud for social maketing.

Cloud for social marketing is becoming a hotcake these days. Here, in this chapter, we discuss the various opportunities and risks in social marketing using clouds, social software, validating various social data for social marketing, and measuring social marketing results.

Opportunities and Risks in Social Marketing Using Clouds

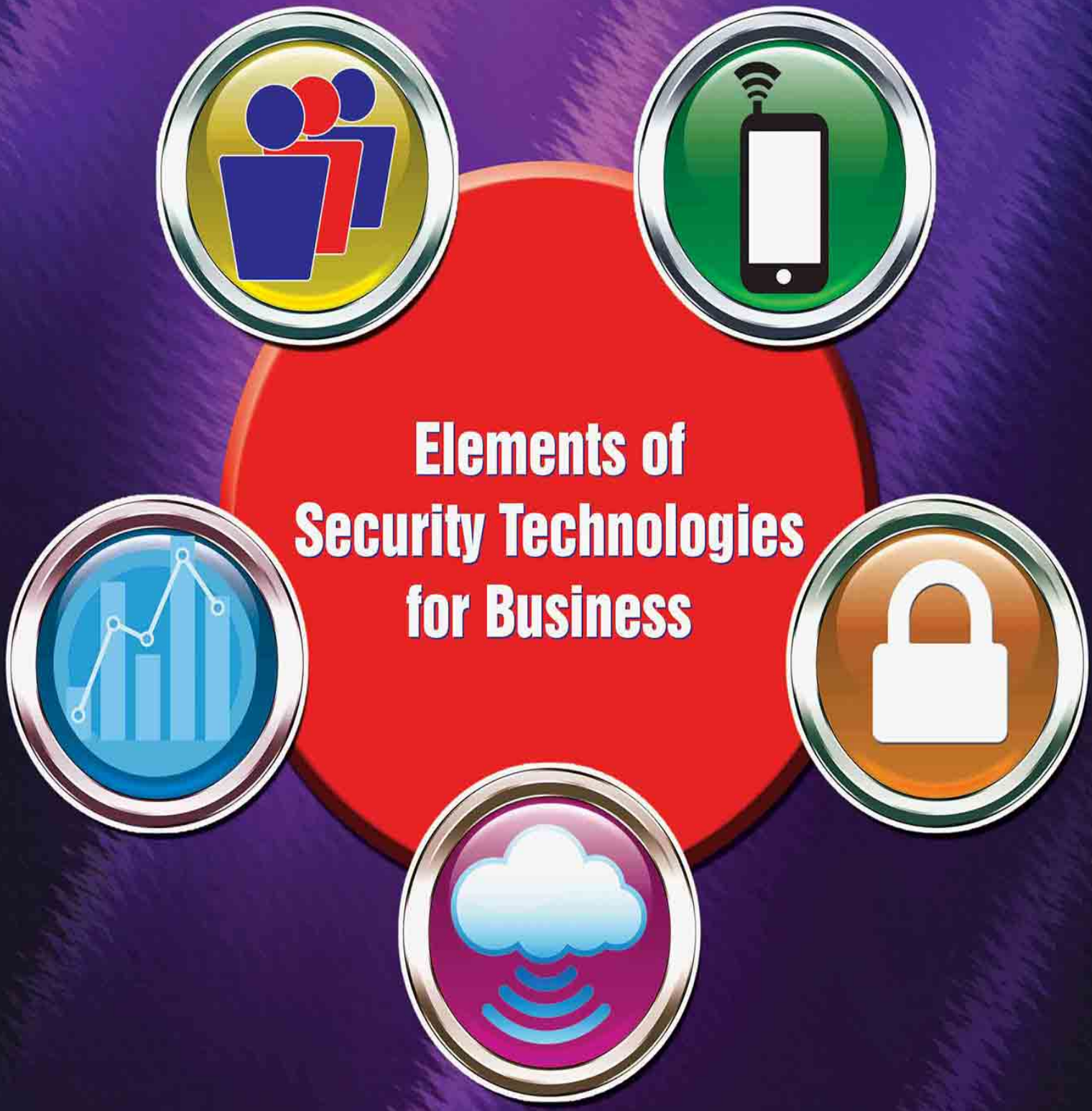
Facebook founder Mark Zuckerberg opined that the "social norm" of privacy was "evolving":

"People have really gotten comfortable not only sharing more information and different kinds, but more openly and with more people. That social norm is just something that has evolved over time."

US Attorney-General George Brandis said:

"There is an entirely different attitude to privacy among young people than there was perhaps a generation ago."

The survey of 1,600 people, commissioned by the digital rights and governance group at the University of Sydney, asked a series of questions about privacy in the digital world.



Elements of Security Technologies for Business

Editor
C Lakshmi Devasena

Elements of Security Technologies for Business

Editor:
C Lakshmi Devasena

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Elements of Security Technologies for Business

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Chapter 1: Data Security in Organizations

(C Lakshmi Devasena and V S Murty)

Introduction

Information and information systems are recognized as key assets for an organization of any size. The information technology assets (which have value) provide a competitive advantage to organizations in this rapidly changing, competitive marketplace. Most modern organizations are heavily dependent on information systems to run their operations. There is a very thin line between information systems and business systems. As such, securing such assets has been recognized as very critical for sustaining and growing business operations. The adoption of "SMACS (Social, Mobile, Analytics, Cloud and Security) Technologies" by organizations in a big way has thrown up new security challenges for organizations.

This chapter looks at the meaning of data security, various kinds of security threats and the risk mitigation strategies to be implemented by organizations. It starts with technical threats and then goes on to look at issues related to data privacy and protection of employee and customer data. Anti-virus procedures are followed by different techniques. Encrypting and decrypting sensitive data is another security protection measure. The issues related to security of servers and routers are looked at, followed by procedures for physical security for information processing facilities. Overall security procedures needed to be followed by any organization are described in detail for understanding and appreciation by the student.

Data security is a set of technologies and standards that shield data from accidental or intentional modification, destruction, or disclosure. Data security can be imposed using a range of technologies and techniques, including physical security, administrative controls, logical controls, organizational standards, and other protection techniques that limit access to illegal or malicious processes or users.

The main elements of data security are confidentiality (ensures that the data is accessed only by authorized users), integrity (ensures the data is reliable and accurate), and availability (ensures that the data is available and accessible to authorized users to satisfy business needs). This is a security guide for organizations to keep their sensitive data protected from data exfiltration and unauthorized access.

Technical Data Security Threats to Information Systems

In information security, a threat is something which will exploit the vulnerability (weakness) in the system and cause damage. For example, if anti-virus software is not up-to-date, any virus can exploit and cause damage to the documents and data, and that is vulnerability.

The following are major technical data security threats to information systems:

- Information systems are exposed to the threat of malicious code in the form of computer viruses, worms, Trojan horses and logic bombs.
- Threat from mobile code is another major security issue which information systems are vulnerable to. Mobile code is a code (program) which transfers from one

Chapter 2: Network Security in Organizations

(Jaipal Dhobale and Hemant Kumar)

Introduction

The previous chapter discussed data security covering encryption, data encryption standards, data security risks and physical security procedures. With the advent of technology, the Internet became popular worldwide. Almost all devices like PDA (Personal Digital Assistant), laptops and PC, etc., are interconnected through the Internet. The Internet is a viable tool for everyone to share their data in the most prominent way. But in this run, none shall be unaware of their data security which will be a major concern in network security.

This chapter initiates discussion with a brief history of network security. Further, in order to understand the vulnerability and attack methods, different internet attacks have been elaborated in this chapter. However, the business applications use different devices like firewalls making intranet withstand the security challenges at the enterprise level. US federations implement the network security testing that utilizes the technique of encryption. Network security deals with components, interfaces, sub-systems and external interfaces (an interface is a device or a system that unrelated entities use to interact, while external interference refers to barriers occurring outside the system.) to the internet. Architecture involves mainly taking technological and cryptographic decisions. Design involves considering different level protocols.

In this chapter, types of exposures to different risks on the web, approaches to make good security countermeasures to oppose threats such as cryptography and password protections are explained. Moreover, an overview of the organization security and control areas is also discussed through the network security testing program.

History of Network Security

Network security has been a concern since the inception of networked computers. Networks led to new terminology like:

Network: A computer network is a set of computers connected together for the purpose of sharing resources like a printer or a file server. The most common resource shared today is connection to the internet, which itself can be considered a computer network.

Internet: The internet is the global system of interconnected computer networks that use the internet protocol suite (TCP/IP) to link devices worldwide.

Cyberspace: Cyberspace is defined as the interdependent network of information technology infrastructures, and includes the internet, telecommunications networks, computer systems, and embedded processors and controllers in critical industries.

Web: The Web, or World Wide Web (W3), is basically a system of internet servers that support specially formatted documents. There are several applications called Web browsers that make it easy to access the World Wide Web; popular being Firefox, Chrome and Microsoft's Internet Explorer.

Before the 90s, networks were relatively uncommon and the general public was not made-up of heavy internet users. There were several high profile violations of security

Chapter 3: Information Security in Cloud Environment

(Jaipal Dhobale and Butchibabu Muvva)

Introduction

The previous chapter discussed the history of network security, internet attack methods, technologies for internet security, wireless network security, testing and future of computer network security. A core challenge of information security is to reduce risk to an acceptable level in an organization. Information security protects against misuse of corporate data, loss of assets, unauthorized data disclosure and accessibility.

As many business processes and systems related activities are being moved to cloud nowadays, it is essential for the users to understand the security aspects of information security under cloud environment. This chapter covers management of cloud based systems activities, the allied governance, preparing the plans for deployment and security, actions for implementing the plans, controlling the actions and applications by measuring and monitoring the information systems. Focus is also on improving information security under cloud environment.

Cloud Information Security Management and Governance Framework

There is a need to identify ways to improve the existing information security steps involved in building information systems.

Information security governance

IT Security governance has many characteristics. Leading firms establish good governance systems and practices to achieve accountabilities and actions in an organization. The core objective of the IT security system is to achieve good governance and formation protection. Information governance decides the overall strategy for information at an organization. Information governance takes care of information risks. It maintains balance between information risks and information value. Information governance guides for legal compliances, operational transparency and reducing expenditures associated with legal discovery. An organization can establish a consistent and logical framework for employees to handle data through their information governance policies and procedures. These policies help organizations and employees to store and safeguard electronic records in a legal way.

IT Security Governance

"Establish and uphold a culture of IT security to provide assurance that the business objectives and stakeholder requirements for the protection of information are continually met."

The five general governance areas are:

- Govern the operations of the organization and protect its critical assets
- Protect the organization's market share and stock price (perhaps not appropriate for education)
- Govern the conduct of employees (educational AUP and other policies that may apply to use of technology resources, data handling, etc.)
- Protect the reputation of the organization
- Ensure compliance requirements are met" Governing for enterprise security means viewing adequate security as a non-negotiable requirement of being in business."

Source: https://spaces.internet2.edu/display/2014infosecurityguide/ Information+ Security+ Governance

SMACS

Applications in Business



Editor
Bijeta Shaw

SMACS Applications in Business

Editor:
Bijeta Shaw

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SMACS Applications in Business

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Chapter 1: SMACS Applications to Top Management

(Sashikala P and Prerna Lal)

Introduction

A new evolving model for business, is SMAC(Social, Mobile, Analytic, and Cloud). SMAC built business models are very attractive and most preferred trend in digital marketing networks. The business owners are accepting the SMAC as a dominating force that could drive their busineses towards productivity. SMAC-based enterprises are able to develop an attractive customer engagement process and it subsequently reveals vast revenue opportunities for business.

The SMAC uses four drivers of digital marketing innovative channels, namely social, mobile, analytic and cloud. Combining these four drivers for business productivity gives you a complete solution in changing the organization as a highly functional and productive unit with the ability of handling future business encounters.

Social sharing increases the fame of business in the social networks through the speedy sharing of business products and services. Social marketing also improves the collective knowledge for business where brand interacts with potential customers, giving them the opportunity to share feedback and insights on how to improve the products and services. These activities help in connecting valued data coming from customers which helps in building better marketing strategies for the business.

Mobile technology supports the business competence to connect with the customers. The businesses have a huge potential of increasing revenues with mobile marketing as part of business marketing strategy since at about 60 to 80 percent of consumers use their mobile devices for shopping and looking for services online. Using mobile devices, the consumer enters the mobile marketplace where shopping can be done with comfort.

Analytics can help the businesses to improve supply chain and strengthen the capability to improve customer experience. It is possible to extract valued information of the customer that enhances customer engagement with the brand, products or services using analytics. This data extracted using analytics helps as an important guide in marketing decisions.

Cloud computing is another valued factor that provides businesses a cost effective way of building flexibility and enterprise agility for better productive outcomes for business. The cloud technology helps in creating a more cost effective IT ecology and infrastructure for organizations with the ability of businesses to cut down the costs for maintaining a physical server.

The internet has created an opportunity in dissemination of technology applications such as open source platforms that can be used for various business strategies. With this, advanced business solutions became available. The SMAC model has evolved for integrating various platforms for business applications.

SMACS technologies represent the new wave of information technology, which is a combination of social, mobile, analytics, cloud and security technologies. When a combination of these technologies is implemented judiciously, it helps organizations

Chapter 2: SMACS for Marketing

(Sashikala P and Venkata Dharma Kumar Malla)

Introduction

The previous unit discussed SMACS applications for top management covering meeting business cost, time, talent management using big data analytics, creating a center of excellence for analytics, and impact of SMACS on business models.

Information technology has expanded to two new areas, namely, mobile phones and social media which are very popular among younger generations. This transformation enabled users to access information round the clock. Further, technological changes enabled the integration of social, mobile, analytics and cloud components to be available under one single platform called 'SMACS' technology in short. By including analytic and cloud capabilities, this new avenue became a very popular platform in the areas of marketing, education, finance, retail, healthcare, and telecom sectors.

SMACS's analytics helped organizations to perform complex analysis and support decision-making operations, while cloud capability allowed to manage enterprise's data storage, backup and recovery operations in a secure manner.

Making the best use of SMACS technology, business houses are taking new initiatives to engage customers, advertise their products and build relationships with prospective customers. With real-time data being captured and used, companies are reworking their marketing strategies to derive maximum benefit from this new realm of technology. With bulk communication in vogue using emails, text messages, and social media being low priced, SMACS technology has become the best option for marketing companies to promote their new products/services.

This unit describes how marketing, sales and service aspects are integrated to give the best customer experience using different touch points in marketing. It also examines different sales methodologies and processes to be adopted. In this unit, a popular concept called agile selling is also handled. This unit concludes by providing details of two case studies to understand the industry-based marketing, cloud technology being used by companies to address real-time problems and their solutions.

As the worls is digitalized, there is growth in technologies that are changing the directions of the businesses. This indicates that businesses need to transform into a digital business.

SMAC is a technology which contributing fantastic prospects to result meaningful business. Business must progress quickly to clasp the changes enabled by SMAC because competitive benefits, profitable development, market leadership are at end. Digital technologies are allowing clients, transforming how they discover, explore, and buy. They are helping organizations to understand their current state and also support in building the case for digital business. SMAC era is becoming a trend, more innovative in the digital world to think about new ways of allowing tools for preventing interruptions in transforming digital business. This helps the businesses to increase their productivity.

Chapter 3: SMACS for Operations

(Venkata Dharma Kumar Malla)

Introduction

The previous unit 'SMACS for Marketing' discussed the integration of marketing, sales and services using SMACS and improving the customer experience at each touch point. The evolving sales methodologies and processes, using technology for sales enablement and agile selling using SMACS is operational. The next generation of business applications needs to adopt SMACS technologies to enhance the user experience, business productivity and maximize convenience. SMACS-enabled architectures are preferred models to ease operational agility across departments and serve as a means of communication both internally and externally for an organization.

Customers, employees and stakeholders are expecting a new approach to business, content generation and collaboration among themselves to share information, which is SMACS-enabled. Users are expecting uniformity of content across different platforms –anytime, anywhere, and any-device type of convenience.

SMACS technology enablement at organization level will provide hassle-free information sharing among the stakeholders in a secure manner. This platform helps the organization to create, organize, monitor, analyze and decide actions to be taken to enhance the power of business operations. This unit deals with technological convergence required to implement SMACS technology for improving operations in any organization. The unit also discusses in detail the benefits of cloud migration and analytics impact on business in an organization.

Converging Technologies-Disrupting Operating Models

The convergence of SMACS (Social, Mobile, Analytics, Cloud and Security) technologies for the purpose of business operations has transformed the reach and scope of digital business. Digital business is the new paradigm of business designs which minimizes the gap between the digital and physical worlds. Although these technologies are innovative and disruptive on their own, convergence of these technologies has revolutionized the business and society, disrupting the earlier traditional business methods and creating new opportunities.

Regarding SMACS in business operations, one should understand that the cloud is the core, mobile its edge, social connections between stakeholders and data analytics refers to mining the accumulated data to achieve business excellence.

SMACS places the disruptive technologies that are transforming businesses and describes the technical and services infrastructure needed to provide the ideal end-user experience where:

- Everyone including the customers, partners, employees and the organization are digitally connected (social)
- The service follows them wherever they go on the move (Mobile)
- Analytics is used to have better insight using this real-time data for achieving high-end goals and helps better decision-making(Analytics)

Emerging Trends in Business Intelligence



Editor
Sashikala P

Emerging Trends in Business Intelligence

Editor:
Sashikala P

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Emerging Trends in Business Intelligence

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Chapter 1: Big Data Warehousing

(Sashikala P and Subhash Tej)

Introduction

The use of big data, as a strategy to outperform the competitors, has gained popularity among corporates and many companies are turning to data-driven strategies to innovate, compete and to create value. Industries are adopting the big data concepts and technologies to improve upon their value creation processes and simultaneously consumers are able to enjoy the benefits of better value. The increasing realization, that those organizations which capture better quality data in big volumes and use that data effectively are able to succeed, has positioned the big data as a key factor for achieving competitive advantage and success.

Ability to take quick decisions in a complex business environment is the need of the hour for any organization to be competitive in the marketplace. Business Intelligence (BI) applications help the enterprises to take fast decisions by effectively utilizing the data that is available internally to the organizations as well as extracted from external sources. A repository of such quality data, called a data warehouse, is the foundation for successful business intelligence and companies that have implemented data warehouse with complementary business intelligence systems have been able to generate a higher ROI than those who did not. These BI applications involving analytical data processing, trend analysis and complex query processing and the ability to help in critical business decisions depend on the data available in the data

Big Data

Many organizations of different sizes in different sectors have reaped enormous benefits by managing and analyzing data. Data is considered the biggest asset to any organization and it is obvious that successful business is not only based on the possession of data resources but also on the utilization of those resources. The business houses have struggled with finding a practical approach in capturing information that is accurate, reliable and relevant, and adhering to timeliness and completeness with regard to their customers, products and services.

With the improvement of technology, data is generated and collected from many non-traditional sources, and managing that data involves a lot of complexity and difficulty. Companies have to consider new sources of data, generated from machines such as sensors, social media, history, websites, articles and many more. It has become a challenge to store the same, as the data is present in both structured and unstructured formats. Things really started getting better with the arrival of social networking sites and search engines like Google. Online commerce sites like Amazon.com also added to this explosion of data. The emergence of mobile devices and cloud computing has added to the amount and pace of data creation , so much so that 90 per cent of the world's total data has been created in the last two years and 70 per cent of it by individuals. A few years ago, [1]International Data Corporation [IDC] made headlines by predicting that the total amount of digital data created worldwide would mushroom from 4.4 zetta bytes in 2013 to 44 zetta bytes by

[1] *Source: https://whatsthebigdata.com/2016/03/07/amount-of-data-created-annually-to-reach-180-zettabytes-in-2025/*

Chapter 2: Agile Data Warehousing

(Sashikala P and Kartikeya Bolar)

Introduction

The data that gets generated through different business processes is huge and all the data is required for analysis in the decision making process. It requires methodical storage. A Data Warehouse (DW) is simply a database that contains integrated and homogenized information from one or more sources brought together to support analysis and reporting. These sources can be internal online transactional processing (OLTP) systems such as finance, accounting, sales, marketing, payroll, or external sources such as supplier files, purchased marketing lists, social media data, etc. In addition to the data warehouse, additional types of databases for analysis and reporting may also be used. The most common types include data marts and operational data stores (ODSs). Creating a DW is complex, time-consuming and oftentimes overly expensive, especially when traditional data-driven methods are used. A fundamental truth about data warehousing is that data integration and homogenization account for 70% to 80% of the project budget and an even higher percentage of the risk.

In a data-driven approach, it is not uncommon to want to integrate and homogenize most– if not all–of the data before the first query or report can be written. This means that 70% to 80% of the project budget will be expended before any business value can be realized. Similarly, integrating thousands of fields can take upwards of 12 months to complete. What this means is that one's goal should be to minimize the amount of effort associated with data integration and homogenization. Organizations that apply traditional waterfall methods to DW projects accrue unnecessary risk and may find out what they have created does not satisfy the business's needs. Waterfall methods mean it is all or nothing. In other words, design cannot begin until all of the requirements are defined, and coding cannot begin until design is complete. This means that the project takes on ever-increasing levels of risk and that business value is delivered at the end of the project.

In an Agile delivery model, only data needed to answer specific business questions or to solve specific business problems is sourced. So instead of first trying to "boil the ocean" via a massive data integration effort, Agile practitioners work with the business community to define the hundred or so data elements that drive performance. This means that the business will be in a position to receive value much more quickly– in weeks or months rather than quarters or years.

Advantages of Agile Data Warehouse

In the era of big data, advanced analytics, in-memory data warehousing, and real-time business intelligence (BI), the concept of a central enterprise data warehouse (EDW) seems to be something from the past. The companies are currently facing the challenges, as they are exposed to the various sources, the level of detail, and the volumes of data which has to be filtered out for the appropriate information and finding actionable insights. However, an integrated EDW, will provide a crucial point for this diversity of new data and can act as the backbone for the curation of reliable customer, operational, and financial information for both routing the company and satisfying governing and compliance reporting necessities.

Chapter 3: Distributed Data Warehousing

(Sashikala P and Kavitha Venkatachari)

Introduction

The last few years have witnessed a massive explosion in the database sizes. It has led to the creation and development of new techniques related to database architecture, design, creation and management. Terms such as VLDB (Very Large Database) and ELDB (Extremely Large Database) are being coined to distinguish these databases from regular databases. The estimates of what constitutes these large databases also continue to grow. Moreover, the format of data being stored in these databases is also changing from simple textual data to multimedia, video and document data. This non-textual data is not only increasing the demand for huge databases, but is also enhancing the usefulness of data stored in these databases. This has increased the demand for access to such useful information. The requirement to handle vast quantities of multi-format data while satisfying a large base of concurrent users is driving the need for distributed data warehouses, i.e. *data warehouses in which certain components of the data warehouse are distributed across a number of different physical databases.* A distributed database environment also creates a number of challenges such as making the distributed database transparent to the users while simultaneously delivering the highest levels of performance, reliability, and availability, accommodating the heterogeneity of the supporting environment, locating (or building) systems management tools that will accommodate all the diverse software products and managing the communications network. The main aim of distributed data warehouses is to avoid the replication of enormous quantities of local multi-format data, while offering better management of data by spreading it over multiple separate databases.

Distributed Data Warehouse Architectures

Most of the organizations build and maintain a single centralized data warehouse environment due to following reasons:

- The data in the warehouse is combined across the company, and an cohesive view is used at headquarters.
- The company operates on a centralized business model.
- The volume of data in the data warehouse is such that a single centralized repository of data makes sense.
- Even if data could be integrated, and if it were dispersed across multiple local sites, it would be difficult to access.
- In short, the politics, the economics, and the technology greatly favor a single centralized data warehouse. Still, in a few cases, a distributed data warehouse makes sense

Types of Distributed Data Warehouses

The three types of distributed data warehouses are as follows:

Business is dispersed geologically or over numerous, divergent product lines. In this case, there can be a local data warehouse and a global data warehouse. The local data warehouse represents data and processing at a remote site, and the global data warehouse represents that part of the business that is integrated across the business.

Chapter 4: Business Intelligence and Modeling

(Sashikala P and Jyotiranjan Hota)

Introduction

Business Intelligence is quite essential for forward thinking organizations. Nowadays, the strategic intent of firms is built through the core competency of using business intelligence tools. The major importance of business intelligence systems is based on online analytical processing systems. These systems have decisional power to take strategic and semi strategic decisions. These queries can be handled by non-technical business users and semi-technical users. Queries can be applied to the data offline, which are extracted periodically to a data warehouse. Data warehouse is a subject oriented, non-volatile, time variant and integrated collection of data in support of decision-making. The following Table 4.1 differentiates an OLAP (Online Analytical Processing) system from an OLTP (Online Transaction Processing) system.

Table 4.1: OLTP vis-à-vis OLAP Systems

OLTP Systems	OLAP Systems
Here many short queries and transactions cover very small amount of data and many updates happen. Examples can be updated account balance, enrolment in a course etc.	Here transactions are long and complex in nature. Queries cover a large amount of data. Individual queries take a lot of resources. Examples can be 'identifying top selling product and least profitable customers' etc.
As far as performance requirements are concerned, response time is very fast i.e. less than a second. Data must be consistent and up-to-date all the times.	Here, queries consume a lot of resources and can saturate CPU and bandwidth of the disks.
Data Modeling requirements of OLTP systems need normalized schemas, complex data model with many tables.	However, OLAP systems can allow semi-technical users to design ad hoc queries. Table joins are few which improve performance of queries. As numbers of tables are less here, it is easy to understand the schema.
OLTP systems focus on one specific process.	However, OLAP systems integrate data from various sources. These systems also use historical data. Integration of data is a major challenge here.

Source: http://datawarehouse4u.info/OLTP-vs-OLAP.html

BI technology plays a vital role in formulating a strategic framework of organizations. A paradigm shift has happened in using historical data to predict the future course of actions. BI tools are now extensively used for target marketing, customer profiling, campaign effectiveness, product affinity, financial intelligence applications and human capital management. BI takes the help of data warehousing, knowledge management, data mining and statistics to explore trends of various processes of the firms. BI software has the competency to be designed for different category of users differently. Most of the cases,

Chapter 5: Business Analytics

(Sashikala P and Subhash Tej)

Introduction

From a modern business-value perspective, corporations use business intelligence to enhance decision-making capabilities for managerial processes *(e.g., planning, budgeting, controlling, assessing, measuring, and monitoring)* and to ensure that critical information is exploited in a timely manner. Computer systems are the infrastructure in processing data better, faster, and with more reliability. Business Analytics refers to technologies, applications, skills and practices for the investigation of past data and making it more meaningful for decision-making to improve business performance.

Focus on business analytics has increased steadily over the past decade as evidenced by the continuously growing business analytics software market. Business analytics is extending to all the organizations and helping the wider user community, from executives and line of business managers to analysts and other knowledge workers within organizations. In an environment of increasingly faster growing data volumes were operating on intuition is no longer an option, business analytics provides the means to both optimize the organization internally and at the same time to maintain flexibility to face unexpected external forces.

There are many statistical models developed and extended to execute and perform the business intelligence and business analytics. Various tools like Correlation Analysis, Regression Analysis, Multiple Linear Regression, and Logistic Regression are discussed in this unit. In addition, data mining techniques like Exploratory Factor Analysis (EFA), Principle Factor Analysis (PFA), Confirmatory Factor Analysis (CFA), Classification - Predictive Analysis, Cluster Analysis, Association Analysis, RFM (Recency Frequency Monetary) Analysis, and Market Basket Analysis (MBA) are also explained in this unit.

Business Intelligence

Business intelligence (BI) is a broad category of application programs and technologies for gathering, storing, analyzing, and providing access to data to help enterprise users to make better business decisions. BI activities help in decision support systems, query processing & report generation, online analytical processing (OLAP), statistical analysis, forecasting, and data mining. Business intelligence includes a set of concepts and methods to improve business decision-making by using fact-based support systems.

Business Intelligence helps in getting a business advantage through data by answering fundamental questions, such as how various customers rank, how business is doing now and if continued on the current path, which processes should be continued and which should be stopped.

Business Intelligence Components

Business Intelligence makes use of multidimensional analysis and reporting. By providing multidimensional analysis and reporting, the company often builds a company data warehouse to assemble the needed data.

Emerging Trends in E-Business



Editor

Vaibhav Mishra

Emerging Trends in E-Business

Editor:
Vaibhav Mishra

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Emerging Trends in E-Business

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Chapter 1: Planning for E-Entrepreneurship

(Nishit Kumar Srivastava and Deepak Prawal Sharma)

Introduction

This chapter introduces the steps required for students to get prepared to pursue an E-Entrepreneurship career. To be a successful entrepreneur, one has to take advantage of the electronic services in the operations. This increases productivity while throwing up challenges and opportunities. In the context of E-Business, proper organization of technical infrastructure makes the entrepreneur successful when compared to the competitors.

Certain basic business rules apply equally to both (1) one transiting from the traditional brick-and-mortar platform, and (2) a fresh entrant into E-Business. A good planning process serves as a backbone for survival and growth of E-Business, especially in the area of supply-chain management.

In E-Business as the customers' needs are addressed online, prices are known to the end-customer instantaneously for comparison. To meet the competition successfully, an organization should be easily adaptable for price changes in the market while provisioning for higher loyalty returns to its customers. In this process, the entrepreneur should be equipped with all the necessary information to monitor the business and make corrective actions, as required.

In this chapter, the challenges of E-Entrepreneurship, transition to E-Business, causes of E-Business failure, and key to the success of E-Business, are discussed.

Challenges in E-Entrepreneurship

In the traditional business, there is always an established environment where the producers, suppliers and consumers interact directly. The operations are well known for all the operators in the production – supply chain. Brick and mortar businesses generally operate out of a tangible location. It starts with procurement of material. The potential buyers/customers can physically visit and transact with the management team or the employees. The company generally will have its own storage space, office space and manufacturing operations. All this is managed by traditional entrepreneurs.

In E-Entrepreneurship, the operations are global. Each participant should believe others with the limited information available on the electronic media. There may not be possibilities for them to operate through established channels as in traditional business. The operations are wide enough throughout the globe and flooded with competitors, producers, and suppliers who are not personally known to each other. E-Entrepreneurship deals with the setting up of a business with an innovative business idea within the net economy. The E-Business operates on an electronic platform with the use of communication technology and data networks. This business offers the products and / or services which uses electronic platform in selection, supply and in creation of value. It uses the full spectrum of information technology. It operates in virtual space.

There are multiple challenges in the domain of E-Entrepreneurship. These are broadly technological challenges, strategic challenges, and marketing challenges. These three challenges have their own severity and criticality that have to be treated collectively to get a profitable edge in E-Business. The three challenges can be considered as an integral part of the E-Entrepreneurship.

Chapter 2: Current Scenario of E-Entrepreneurship

(Nishit Kumar Srivastava and Deepak Prawal Sharma)

Introduction

India is the seventh largest by geographic area, the second most populous country, and the largest democracy in the world. Indian E-Commerce arena is getting larger as more and more online retailers are continuously venturing into this market. The increase in the volume for the E-Commerce market is favorable from a long-term viewpoint considering the economics of scale for developing of E-Entrepreneurship in this part of the globe. In the last two decades, markets have seen unprecedented growth of the entrepreneurial ventures in the E-commerce sector in the country. In the process, some of them have shutdown very early while few others have emerged as the industry leaders**.**

In 2014-15, the Indian retail sector was worth $ 500 billion. India has contributed less than 0.50% to global online retail segment. It is an indication of huge growth potential in this segment. It calls for a proper understanding of current scenario in the E-retail space in India wherein a lot of foreign ventures, and global giants like Amazon have entered. Indian E-entrepreneurship has created many success stories such as Sachin Bansal and Binny Bansal of FlipKart, Kunal Bhal of Snapdeal, and Vijay Shekar Sharma of Paytm. Other successful Indian E-Entrepreneurships include redBus, PepperFry, Jabong, Infibeam, Yatra.com, MakeMyTrip.com, etc. A successful E-Entrepreneur like Mukesh Bansal of online fashion store Myntra could sell his venture for $ 300 million in 2014 to Flipkart. He could make this $ 300 million fortune in just seven years since startup of Myntra in 2007.

In the previous chapter, challenges of E-Entrepreneurship, transition to E-Business, causes of E-Business failure and key to the success of E-Business were discussed. This chapter presents an overview of present state of affairs in E-Entrepreneurship, the logistic model in E-Commerce and future prospects of E-Entrepreneurship in general with emphasis on the Indian context.

Growth of E-Entrepreneurship

Availability of the open internet has generated several possibilities for entrepreneurs across the globe. The Internet crosses the digital divide and allows reach to those earlier excluded from economic opportunity. These new users utilize what is already online, but can also create wealth in the form of education, research for new ideas, raise money, collaborate, and start their own companies. These are opportunities otherwise not available without access to the open Internet. The most evident impact of the Internet for entrepreneurs is the establishment of a whole new segment of online startups. These are able to target a global market of around 3 billion Internet users and also bringing down distribution costs. The largest of these startups, including Google and Facebook, have thus occupied their place among the top valuable organizations in the world.

Any penetration of markets or into new segments or new business delivery models should be well planned by the entrepreneur. Online retail is one of the fastest growing segments in E-Entrepreneurship. As on date, it is a small fraction of the E-Entrepreneurship space. It is the most challenging segment as the delivery of the

Chapter 3: Utilization of Current Technology for Strategic Gain

(Sanjay Fuloria and Kavitha Venkatachari)

Introduction

In the previous chapters, we discussed the current scenario of E-entrepreneurship, growth of E-Entrepreneurship, E-Commerce logistic model and future prospects of E-Entrepreneurship. In this chapter, we will discuss utilization of technology to achieve the strategic gain in E-Business. Entrepreneurship is a process to win over the competitors in the market where stiff competition exists.

There are channels to support business strategies in the modern era, such as Facebook, Twitter, and Blogs, which provide a definite winning edge over competition. These are the platforms (known as social media), which are generally used to directly reach the final buyers or consumers. The most attractive advantage of social media marketing is that it is absolutely free and regularly visited by millions of people. Marketing, therefore, has become different in style and approach. Thus, reaching to masses has become relatively easy. Yet, there is a challenge, as we cannot reach the people where facilities are not there, or people are not conversant in the usage of electronic social media. In this chapter, the types of technology and uses of technology, utilizing modern technologies, strategic technology tools, and using social media in E-entrepreneurship are elaborated.

Technology in Business

Starbucks made use of the technology in their business[3]: COO Kevin Johnson sums it "Where others are attempting to build a mobile app, Starbucks has built an end-to-end consumer platform anchored around loyalty." The company's main innovation is their Mobile Order and Pay app. This is fundamentally a customer-first strategy, to addresses the basic wants of the consumer: convenience, line avoidance, and so on. Adding to the loyalty program, the app gives Starbucks the perfect venue to up-sell and market to consumers. Furthermore, the app funnels back massive amounts of user data to the company, allowing them to better understand their customers' habits and desires.

In the context of E-Business, understanding the advancements in technology and application in the business is critical due to the pace of change.

Technology is a Greek word derived from the synthesis of two words: *techne* (meaning art) and *logos* (meaning logic or science). Thus, loosely interpreted, technology means the art of logic or the art of scientific discipline.

In the context of a business, technology has a wide range of potential effects on management covering as detailed below:

- **Reduced costs of operations:** Dell Computer Corporation used technology to lower manufacturing and administrative costs, enabling the company to sell computers at a cheaper price than most other vendors.

[3] *https://biznology.com/2016/12/11-inspiring-case-studies-digital-transformation/*

Chapter 4: Digital Disaster Avoidance & Recovery

(Sanjay Fuloria and Deepak Prawal Sharma)

Introduction

Information technology systems require hardware, software, data and connectivity. Without even one component the "system" may not run. Therefore, recovery strategies should be developed and be in place for any IT system to function and to have business continuity. In case of fire or floods, the entire facility may become inaccessible. But the information needs are to be met from that facility. Hence alternatives need to be planned for business continuity.

In the previous chapters, we discussed the technology in business, utilization of modern technologies, strategic technology tools and usage of social media. In this chapter, we will discuss the concept of digital disaster avoidance and recovery. The causes of data and information loss are analyzed. The meaning of digital disaster, the reasons for digital disaster, and safety measures to take in case of disaster are explained. The chapter describes disaster avoidance and preparedness in case of disaster recovery as well.

In this chapter, the process of development of Disaster Recovery (DR) strategies, and translation of disaster recovery strategies into DR plans are also brought out. The DR plan structure provides a practical approach for responding to a disaster.

Information Loss

Viktor Chebyshev, a security expert at Kaspersky Lab said: "The fact that cyber criminals have expanded their activities from financial applications to other areas, including taxi and ride-sharing services, means that the developers of these services may want to start paying more attention to the protection of their users"[7]. This is after Uber disclosed in Nov 2017that 2.7m UK users of its app were affected by a mass data breach in 2016.[8]

Present day business solutions work on modern electronics-based communication and transaction processing systems. It is backed with lot of data being stored and processed for day-to-day business decision-making. These solutions are built around technical systems. They may have some limitations in spite of all possible precautions. Some can be predicted earlier and some are unpredictable. Eg. Cyclone can be predicted but fire hazard can't be predicted. Some other problems may be relating to the improper functioning at times. Business houses must be prepared to take preventive measures against the loss of data, which are real assets for an organization. It is to be noted that, in most of the cases, the data cannot be retrieved, once it is lost, unless alternative ways for restoration are planned. The damage due to loss of data can be catastrophic.

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[7] *https://www.thesun.co.uk/tech/4270599/uber-customers-warned-about-smartphone-virus-that-could-steal-their-bank-card-information/*

[8] *http://www.independent.co.uk/news/business/news/uber-data-leak-customers-ride-hailing-company-taxi-app-london-ban-a8082566.html*

Emerging Trends in Information Security



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Chapter 1: Information Security Management System (ISMS)

(C Lakshmi Devasena and V S Murty)

Introduction

Information and Information Systems are recognized as key assets for an organization. The information technology assets (which have value) provide competitive advantage to organizations in the rapidly changing, competitive market place. Most modern organizations are heavily dependent on information systems to run their business operations. There is almost a thin line between information systems and business systems. As such, securing such assets has been recognized as very critical for sustaining and growing business operations. An Information Security Management System (ISMS) is a set of procedures and policies for scientifically managing an organization's sensitive data. The objective of ISMS is to reduce risk and guarantee business continuity by proactively restraining the impact of an unauthorized access of data, services, applications, networks and/or devices by circumventing their underlying security mechanisms. An ISMS usually addresses employee behavior and processes as well as technology and data. It may be aimed towards a particular type of data used in the organization, such as customer data, or it can be implemented in a widespread way that becomes part of the company's culture. ISO 27001 is a specification for creating an ISMS. It does not mandate specific procedures, but includes proposals for documentation, continual improvement, internal audits, and corrective and preventive action. The International Standards ISO 27001 and ISO 27002 provide a robust approach to establish and manage a holistic information security management system (ISMS). ISO 27001 family of standards are based on risk assessment and risk control. This Chapter gives a broad and lucid explanation of the standard and touches upon business continuity planning, and ethical and legal issues, which have become very critical for organizations.

Basic Principles of Information Security

In the present context of decision making in the business, organizations rely on IT applications that are running on the heterogeneous infrastructure supplied by various vendors and networked together. There is always a threat to the security for both data and accessibility in the Information Technology infrastructure that is operational. Hence, a need exists to prevent these threats through Information security.

Let us start with definitions of Information and Information security. As per ISO standard, “Information is an asset which, like other important business assets, has value to an organization and consequently needs to be suitably protected.”

Information security is protecting information, systems and services against disruption and degradation due to disasters, mistakes or manipulation so that the likelihood and impact of security incidents are minimized.

Let us look at some of the keywords in little more detail. In addition to information, information systems and services offered by information systems are also candidates

Chapter 2: Cyber Security

(Kavitha Venkatachari)

Introduction

Today in the digital world, every individual depends on online services. People start to shop, work, and play online. As the dependency increases, the digital application usage also increases. This may exploit the personal/ sensitive information. The subject, information technology security, focuses on protecting computers, networks, other IT assets and data from inadvertent or illegal access.

Every nation's government, military, corporations, financial organizations, industries collect and process a great deal of confidential information across networks. With the growing degree and complexity of cyber attacks, attention is required to protect sensitive business and personal information, as well as safeguard national security/ terrorism. To achieve good securities identification, detection, and defending techniques must be brought to control the threats. In layman terms, architecture must be complex and non-vulnerable. Cyber security deals with components, interfaces, sub-systems and external interfaces to the Internet. Architecture involves mainly taking technological and cryptographic decisions. Design involves considering the low-level protocols. Mostly, design deals with internal details of the sub-systems by keeping external interfaces in mind.

Since 1980s, extremists are perpetrating cyber attacks and to withstand such attacks many standards have evolved. Among them, ISO 27001 and 27002 are popular. In this Chapter, the different exposures, approaches to make good standards, counter measures to oppose threats such as cryptography and password protections are explained. Overview of computer security and control areas given by the National Institute of Standards & Technology is also discussed in this Chapter.

Cyber Essentials

The Department for Business, Innovation and Skills, UK, to protect information security and hygiene, launched Cyber essentials scheme in 2014. Since the attackers are always keen to attack the other networks and security channels, the government/business lobbies also come up with some strategies to keep a track of the networks of their own country and to monitor the activities of the attackers.

Hence, whichever is the industry or organization that starts to implement its cyber-based business, it should be first recognized under government-endorsed standards of cyber hygiene. Those standards are of two levels such as-CE and CEP.

Cyber Essentials Certification (Ce)

In this level, organizations' questionnaire on self-assessment with answers are verified by certified body(CB).These CBs are licensed by Accreditation Bodies (ABs) for Cyber Essentials evaluations and certify organizations which comply with the requirements of the scheme. Communications-Electronics Security Group (CESG) licenses these accreditation bodies. Some aspects of verification done at this stage are as follows:

- Basic controls must be implemented correctly and the organization must be capable enough to answer the questionnaire. This brings confidence.
- Define network boundaries, location and management control

Chapter 3: Information Security in Information and Communication Technology Products and Systems

(Subhash Tej)

Introduction

Most of the organizations have been automated and all the activities in the business are controlled and monitored by computer systems. Data collection, processing, analyzing, interpreting and storing the results are entirely prepared by computer systems. To stay ahead in this competitive business environment, data or information is a biggest asset for any organization. On the other hand, the computer system has become one of the most vulnerable components in terms of its security. It has become a weapon of choice for many criminals for many illegal objectives.

Threats exist in many forms and ways. Attack can be on the hardware, software, data stored, accessing the data or on a network. The explosive growth of internet is also changing the demographics of computer crime. Many organizations are reporting outside attack through the internet. Now, most of the organizations are considering the computer security as a part of the prime occupation, rather than being looked at as a separate activity. The scope of the security has moved beyond and hence we should take a close look at the obstacles that make it challenging to build a totally secure organization.

There are many techniques in place for providing security to the computer systems. The generic industry standard for computer security is to see the confidentiality, integrity and availability. Security can be provided and improved by having enough infrastructure, security policy that provides a necessary framework, proper planning, security awareness programs and security strategies and tactics.

Information Systems Security

As the dependency of the organization on information systems increases, the system's security has become an important issue for the organization. These systems are vulnerable to several threats especially due to the networking and connectivity to the external world via internet.

Information System: A system is defined as a collection of interrelated components, processes, procedures that are put together to achieve a goal. Information is processed, organized, meaningful and useful data. Thus, an Information System is a collection of interrelated components, which consists of hardware, software, data, people and procedures that collect, process and store the information, which can be used by organization for further analysis or for decision making.

Organizations depend on information systems for running business. These systems help in transaction processing, management control and decision making.

Information Systems Security: Information system's security is the collection of different activities that protect the information systems and data stored in it. Security includes policies, methods and technical measures used for preventing unauthorized access, stealing, or physical damage to the information systems. A successful organization should have multiple layers of security to protect its operations. It should

Chapter 4: Web Security

(Subhash Tej)

Introduction

Today's business world has changed significantly and it no longer has a traditional approach of sticking to local vendors or markets. Companies are choosing to invest in foreign markets. Due to globalization, businesses decided to expand their business processes beyond their national boundaries and take part in the global economy. This has made the world as a single, global space linked by technological, social, economical and cultural factors.

The Internet and World Wide Web (WWW) have led to a connected environment all over the globe and have emerged as new media. A website is a fundamental element required for any business to run its operations over the internet for sharing the information of the product, business or organization. Any company that does not have a website may lose its potential customers and assumed to be of no consequence. A website is even more important for a small business than a big one. In addition, the website can allow for business transactions apart from providing the information, sharing the data, etc. This connectivity with the external world makes websites vulnerable to attack for various reasons.

Websites and the World Wide Web are facing many challenges with respect to the security threats and risks. The prominent ones are SQL injection, phishing, cross-site scripting and malware attacks. With safe web coding of web applications, secured coding and necessary guidelines followed, these can be prevented and it can make usage of web more efficient and effective.

Security Risks and Attacks on the Web

For accessing system resources i.e., data, storage or processor, users enter through the web. The hackers also use this path of entry. Hence, security risks are more in the web applications and sites are vulnerable for the attacks.

A website or a web service is an application used to publish and share, and locate over a web that which can be instantly accessed by large number of people. Any web service is identified with a URL (Uniform Resource Locator) whose interfaces are designed using XML (Extensible Markup Language) in a WSDL (Web Service Description Language).

Generally, websites and web services use common technologies for application development. For instance, both use data stores and application servers as back end and typically use web server as a front end, which runs over a HTTP. These types of similarities in architecture and technology invite many common website security threats. There are many other complications, which are inherent and make the web security more complicated.

Capture and replay attacks: A common threat or attack that any web service would deal with is that when the messages are transmitted over the internet, intruders may attack and gain the access from the middle of the transmission. For example, a hacker may capture and replay a request to make the money transfer or modify the request before it reaches its destination, which causes severe losses in the message exchange.

Chapter 5: Mobile Security

(Hemanth Kumar)

Introduction

Most of the mobile users are becoming dependent on mobiles for their business and private life. These mobiles are the source of new threats. The mobiles are used to store or access susceptible information. Providing Mobile security or the mobile phone security is growing to be complex and critical in mobile world. By Q2 of 2011, on average 765 unique samples were available around the world. A year later, that number increased by 2180% reaching to17, 439 samples.

Such threats have come by means of communication like Short Message Service (SMS), Multimedia Messaging Service (MMS), Wi-Fi networks, Bluetooth, GSM, which can disturb the function and may even modify user data. That is why the applications installed must guarantee the privacy and integrity of the information they collect and store. In addition, some apps are themselves malicious software (malware) whose functionality must be limited.
Mostly attacks are done based on:

- **Data:** Sensitive data like credit card numbers, authentication information, private information, activity logs.
- **Identity:** Every mobile device transmits information related to the owner of the mobile phone, which may be stolen to commit other offences.
- **Availability:** Limiting the access and denying services.

Types of Mobile Attacks

While the usage of mobile for communications is increasing, the penetration is more for usage of the mobile devices for web access and this adds to vulnerability.

Attacks generally happen through communication. Major attacks are due to the flaws that are received from the binary SMSes, distributed denial of service (DDoS), overloading of network, cryptanalysis and eavesdropping on Wi-Fi to obtain user information and abusing of the vulnerability in the software.

Attacks Based on Communication

Today mobiles have become a vital part of everyday life. With advances in technology mobile phones are also used for storing addresses, maintain a calendar, accessing e-mails, drafting purposes, etc. These devices are getting converted into small and portable day by day and the user can be in contact at any time and everywhere. Recent advances in mobile technology make the mobile highly functional, with the improved applications useful for business professionals as well as the casual user.

Mobiles are frequently used for sending and receiving messages. Such devices send text messages using Short Message Service (SMS) and enhanced messages using Multimedia Messaging Service (MMS). However, unfortunately, nowadays, such mentioned services become viable to propagate new malwares vectors with services like SMS/MMS messaging and file transfers. Some of the viruses, worms and Trojans used in propagation are Mabir 2004, Commwarrior 2005, Skulls 2005, Redbrowser 2006, Trojan-SMS.

Chapter 6: Business Continuity Management

(V S Murty)

Introduction

The main idea of Business Continuity Planning is to plan for continuing with business operations in the case of failure of information systems so that the service level agreements with customers are complied with. Obviously, business operations cannot come to total halt. Continuity cannot be ensured unless it is planned and tested. The related concept is Disaster Recovery that goes in tandem with Business Continuity. Disaster recovery deals with the processes to be followed so that the business operations are restored to full level at the earliest. Organizations need to plan and manage overall business continuity keeping in mind a variety of risks. BCP in the context of information systems should be part of the overall company BCP.

ISO 22301 is a management system standard for establishing, operating, monitoring, reviewing, maintaining and improving business continuity. This standard also uses Plan Do Check Act (PDCA) approach. This Chapter explains the various processes to be followed for implementing the ISO 22301 standard. Testing of BCP is mandatory and hence approaches to testing are described. The key concept of business impact analysis is described in detail.

Business Continuity Concept

At any point of time, the ongoing business could come to a halt as an outcome of security threat or other disaster. Business Continuity (BC) is the preparedness of the organization to continue to provide services at agreed levels in the event of any disruption.

Business Continuity Management (BCM) is a management process that documents potential threats and how those threats affect the operations in the event of some of those threats really lead to disruptions. How the organization responds to such events in a planned manner so that the interest of various stakeholders are protected. Business organizations depend heavily on Information Technology. In fact, there is a very thin line between business system and the supporting information system. Many organizations (especially with e-commerce) need to operate 24X7; any kind of downtime has severe impact on the business. A comprehensive BCP is needed to achieve business continuity where critical systems are continuously available with critical processes that run uninterrupted.

We will look at a case study to understand. For example, an IT service company has a BPO contract from a US client. The client has outsourced two processes to the IT service company, which has set up two offices each dealing with one process. The two centers are at Hyderabad and Mumbai, and 100 agents are operating at each centre. Suppose, there is a disaster (say communication failure) at the Hyderabad office. The operations at Hyderabad center cannot come to a halt and that is not acceptable to the client. Let us assume that the restoration is going to take 3 to 4 days. The company can have an understanding with the client that in case of a disaster at one of the centers, some minimum level of service (say output of some 10 agents) will be restored almost immediately at the other centre. To that extent, the agents are trained, or travel

Emerging Trends in Software Design and Architecture



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YV Subrahmanyam

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Emerging Trends in Software Design and Architecture

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Chapter 1: Software Architectural Styles

(Jaipal Dhobale and Goparaju Purna Sudhakar)

Introduction

Software architecture helps software developer to develop the software as per expectations. Software performance and reliability are largely determined by its architecture. Architecture is the heart of any system. Bad architectures leads to increased maintenance costs, more failure times, reduced availability, unmanageable system code, and integration problems. Architecture is nothing but the blue print of a system. Unless blue print of the system is clear, the components of the system cannot be implemented and integration cannot be achieved. Every system's architecture has different views. Different individuals look at the system in different ways. For example, in a house construction, structural engineer, civil engineer, project manager, contractor, owner, electrician, plumber, carpenter, and painter look at the house in different ways. For example, painter may look at the external view of the house and walls. Plumber may look at the internal view. Electrician may look at both internal and external views. Similarly, software system also has to be looked at in different views while architecting. Business analyst or requirements analyst may look at use case view, designer/architect may look at design view, programmer may look at implementation view, a tester and technical support executive may look at deployment view, designer/production executive may look at process view. These are the views of the respective individuals on which they concentrate. Whereas, as an architect of software system, one has to look at all views of the system while architecting and for smooth project transition to operations. In addition, the architect has to look at the extendibility, maintainability, coupling and flexibility of different components in the software system. Nowadays system becomes much more complex and expectations in the form of system behaviour are very high, means high level of system abstraction at architectural aspects. Architectural style defines the way through which system components can build to complete system. There are several architectural pattern and styles available in software industry. One must have a complete knowledge of those styles to make a perfect choice of appropriate style for his/her project.

In this chapter, enterprise architecture, layered architecture, software design quality, architectural patterns and design patterns are discussed. The advanced design topics such as services design, domain driven design, user experience design, and green design are explained. Architectural strategies and tactics, and architectural description languages are mentioned. The modern approach, which reduces software development costs and time, is the 'crowdsourcing'. It improves innovation and brings in the external expertise into the organization. Advanced crowdsourcing for product design and development is also discussed in the chapter.

Principles of Software Architecture.

- Software Architecture should reveal requirements of customer only.
- Software Architecture should be prepared to support software flexibility and it's maintenance requirements.

Chapter 2: Agile Architecture

(Kavitha Venkatachari)

Introduction

In the previous chapter, we have looked at various approaches to information system development. In particular, we have looked at the traditional waterfall methodology, which has been used in majority of projects across the software industry. However, various studies have revealed that a good number of projects get cancelled or short closed. Even if completed, there is a cost overrun. Almost half the time is spent on collecting requirements, but majority of them change during the course of the project. Surprisingly, 65% of the features are rarely used or never used. That means we are landing up with software that is not completely useful or the product is not upto the customer expectations. In a competitive market place, especially where customer requirements and regulations are rapidly changing, the waterfall method is not able to deliver the expected results. Hence, the software practitioners have begun looking at alternatives to this model. The agile methodology is an offshoot of this thinking. If customer wants to get competitive advantage through the deployment of the effective software, the development methodology should continuously assure and convince him that he is getting what he wants for his business.

Agile Vs Waterfall

In the process of software development, when requirements change, shall we stop and start afresh from the scratch or shall the team adjust and continue moving forward from where they were?

Most projects change half way through their development phase as the requirements change and the process should allow the course correction and address these changes. These needs to be addressed by the models of software development. The project needs to adapt the model suitable for a particular business problem and operational environment.

Among the various models of Software Development Lifecycle, the foremost one is Waterfall and the latest one is Agile methodology. Traditionally, Heavy Weight Waterfall Methodology, which requires lot of documentation, reviews and approvals at each phase of software development life cycle, has been used to develop information systems. The methodology passes through the various phases starting from conception to implementation in a strict sequence. Once a phase is completed, it is not possible to go back to the earlier phase. All requirements need to be figured out, beforehand. The whole process takes a long time and there is no provision to address changing requirements. There is a possibility that the developed software may not be useful, as the requirements would have been dramatically changed. It is a huge waste of time and money gone into the system. As the planned software is not useful, the organization may not get the competitive advantage in the marketplace as conceived earlier. The software being tested at the end of the project development will make fixing the bugs complex and unmanageable. On the positive side, this methodology focuses on generating a plan and a solid set of documentation. That way it is easy to predict the

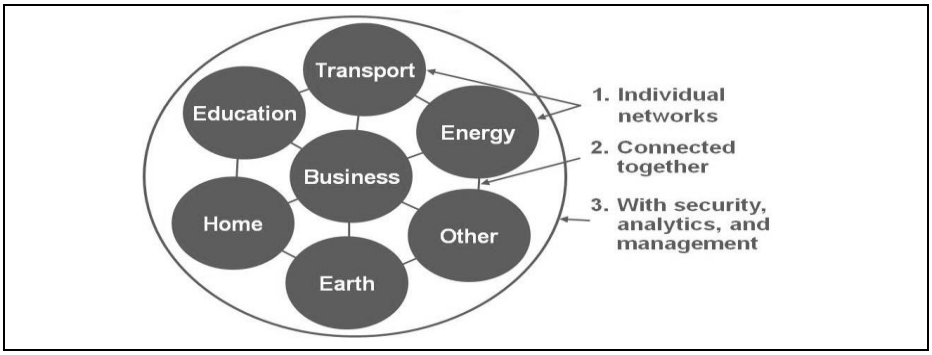
Chapter 3: Internet of Things Design

(Jyotiranjan Hota)

Introduction

New inventions and innovations are happening in our society on a regular basis. The diffusion and acceptance of these technological innovations prove its rate of success or failure. In that sense, Internet of Things (IoT) is not an exclusion. This innovation has brought a paradigm shift in the way we live and the way we do business. As per experts, Internet of Things can be defined as a network of objects accessible through Internet. Home and office automation, healthcare systems, environmental monitoring, infrastructure management, management of cities and transport systems have started utilizing the IoT. IoT(Fig 3.1) can be sensed as a network of networks. As per the internet business solution group of Cisco, around 500 million devices were connected to Internet during 2003, and the world population during the year was 6.3 billion. In 2010, number of devices connected to Internet was increased to 12.5 billion which crossed the human population of 6.8 billion at that time.

Figure 3.1: Internet of Things



Source: Cisco, IBSG, April 2011

The Internet of Things can connect different objects on earth such as business offices, homes, educational institutions, transport vehicles and offices, energy equipment and machinery, sport utilities and wearable devices. The embedded chips in these devices can communicate with each other and transfer both data and control information using Internet of Things (IoT) technologies (refer Figure 3.1).

Software Design and Architecture plays a major role in system development around the IoT. The traditional approaches to software design and architecture are being phased out with the technological developments in cloud, social, mobile, agile and Internet of Things. The approaches discussed in the software development architecting and Agile techniques form the basis for architecting the solutions for IoT.

Brief History of Internet of Things

After the inception of National Aeronautics and Space Administration (NASA) in 1958, the Advanced Research Projects Agency (ARPA) of the USA emphasized more on computer technology and information processing. The aim of ARPA was to connect few universities using common language and common protocol in the USA. ARPANET was born during 1969 which could connect Stanford Research Institute, University of California at Los Angles, University of California at Santa Barbara and University of

Chapter 4: Cloud Architectures

(G V Subrahmanyam)

Introduction

How Cloud Computing Works

A cloud computing system helps in maintaining the critical data on Internet servers instead of sending copies of data files to individual client devices. Netflix streams Video-data over the Internet to a user on the viewing device instead of supplying through DVD or any physical media. For using the cloud services, clients should be always connected to the Internet .Service providers take care of installing and maintaining core technology with the required infrastructure on the cloud. Many organizations prefer this model as it limits their load of work in maintaining infrastructure. Home users dependent on their internet provider in the cloud-computing model. Cloud computing resources are designed to track the entire IT infrastructure. This helps in billing customers on the usage of network, storage, and processing power consumed. Some customers are in favor of this metered billing approach to control costs, where as few will opt for flat-rate payment to pay monthly or yearly costs.

Users can work from anywhere. Their computers can go down but they will not lose any information, it is always accessible. Hence Cloud in the computer terminology is 'extended environment', which can be used for "providing", "developing", "hosting" and "virtualization" of software as explained below:

i. **Providing software:** Cloud environment provides software for end user usage. This type of service available in cloud environment is called "Software as a Service". It is also called SaaS.

ii. **Developing software:** Cloud is available as a platform or a complete environment to develop/ modify software applications. This type of service available in cloud environment is called "Platform as a Service", also called PaaS.

iii. **Hosting software as an infrastructure:** Cloud environment is available as an infrastructure platform to host software and it is called "Infrastructure as a Service", also called IaaS.

iv. **Virtual desktop as an infrastructure:** DaaS (Desktop-as-a-Service) is a service provided by the cloud service provider to host the virtual desktop infrastructure.

So, cloud can be used for both software and infrastructure. It can be the "software" we access through the web or private network for software applications, and "infrastructure" when we provision the server on demand.

How do you know you are using cloud service, i.e. one of the SaaS, PaaS or IaaS?

Tip: If you can access the software application from any system or desktop, it is called cloud-based service.

What is the benefit of using Cloud? One can access applications hosted on cloud platform from anywhere using network and we can increase the scalability of hosting capacity on demand. Therefore, it is, basically, software on demand or infrastructure on demand.

Chapter 5: Software Design Teams

(Sumangla Rathore)

Introduction

More than half the cost of the development of complex information systems is attributable to decisions made in the requirements specification and design phase, and thus appropriate selection and management of software design teams is an important aspect of systems development.

Fortune 500 organizations are transitioning towards teams to execute complex tasks. Teams execute software systems design, being a complex task. Software design team consists of enterprise architect, system architect, designer, and senior programmers. Project manager also participates in design discussions. Software design teams involve professionals who are responsible for creating a specification of a software artifact to accomplish system objectives using a set of basic components under specific constraints. An artifact is one of the many kinds of tangible by-products produced during the development of software, e.g., use cases, class diagrams, requirements and design documents, project plans, business cases and risk assessments. They help describe the function, architecture, and design of software product as well as the process of development. Software design involves all the activities that follow requirements specification and involves "conceptualizing, framing, implementing, commissioning, and ultimately planning a software solution to a business problem". Software design is a detailed representation of software data structures, architecture, interfaces and components that are necessary to implement the system. It includes both low-level component and algorithm design and high-level architecture design.

Software designers or architects should have the domain knowledge, awareness of different technologies, platforms, architectural economics, coordination and programming skills. This chapter discusses characteristics of software design teams such as Scrum, XP (Extreme Programming) Agile, and ERP teams, roles and responsibilities of an architect, skills and competencies required for an architect. Role of project manager in software design and architecture, software design politics, factors influencing software design and architecture are touched upon. Resolving conflicts in software design, team building, impact of team climate on software design, and software design reviews are also discussed.

Characteristics of Software Design Teams

In order to meet the goals and achieve the objectives of any organisation, it is essential to have a proper staffing and organising.. Each staff member will have some skills and traits. All the staff together need to have the total skill set required for executing the full scope of work. In the context of software design also, all the team members put together require to have knowledge of infrastructure needs to execute the project. The versions of base software stack should be known. In case of applications, team need to decide whether a bought out package will suffice or it is to be developed. The team should be knowledgeable on the tools those are required, standards to be followed etc. In addition, members need to work with team spirit, work with harmony and produce the output with synergy.

SMACS Applications in Health Care



Editor
Samyadip Chakraborty

SMACS Applications in Health Care

Editor:
Samyadip Chakraborty

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SMACS Applications in Healthcare

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Chapter 1: Mobile Healthcare (mHealth)

(Sashikala P and Deepa Bhide)

Introduction

Mobile healthcare or mHealth as it is abbreviated has a potential to transform healthcare industry. Mobile phones and wireless technology have matured over years and are now omnipresent across globe. With the increase in the usage of mobile technology and network density across the globe use of mHealth has also increased. However, there is a significant difference in use of mHealth technology as per the present age. For example, in elderly patients slow adoption of this technology has been observed, while in the youngsters fast adoption of mHealth is observed. This difference is greatly due to the technology anxiety. As elders are afraid and not well trained on new technology and its use, they show the resistance towards use of any technology. However, they are used as tools to sustain and resurrect businesses and support delivery across many a domain such as manufacturing, finance, aviation and so on. Healthcare is no different and with an ever-expanding use of mobile phones in our communities, mobile phones and wireless technology is poised to or has in fact transformed the face of healthcare service delivery. mHealth forms a part of SMACS (Social, Mobile, Analytics, Cloud, and Security) stack which is the latest set of drivers in technology.

Upholding the ultimate objective of delivering seamless patient care process, healthcare industry, across the globe, is facing significant challenges around cost, quality care of the patient and accessibility of healthcare, difficulty in acquiring skilled manpower and other resources. Moreover, the bigger challenge for the healthcare industry is allocation of physicians. The distribution of Physicians is not homogeneous. Most of the learned and experienced physicians are practicing in the market where more profits can be earned, as they have an incentive as well as motivation to practice in the profitable market only. This created the service divide between the profitable market and non-profitable rural market. Its stakeholders are in search of low cost, efficient, reliable and easy to use solutions to be able to meet these challenges. Use of mobile phones has proved to be a boon for healthcare that is desperate to meet its objective. This chapter provides an overview of mobile healthcare and its applications in healthcare.

mHealth Overview and Benefits

According to a World Health Organization (WHO) report on new horizons for healthcare using mobile technologies, there are over 5 billion wireless subscribers with 70% of them who reside in low- and middle-income countries and over 85% of world's population covered by wireless signals. This is an immense leap from a technology standpoint with uses of this tool to reach out to any remote destination of the population. Mobile technology thus enters the domain of healthcare as a tool that can help reach patient to record patient activity, create clinical decision support systems, telemedicine support to resource poor settings, monitor compliance and data

Chapter 2: Privacy and Security in Healthcare IT

(Sashikala P and Deepa Bhide)

Introduction

In the previous chapter, mHealth overview and benefits, challenges and barriers to adoption, mHealth initiatives, conflicting and competitive interests and security concerns in healthcare are discussed. Privacy and security of information is fundamental to any organization, application or system. Lapse in the same can be disastrous resulting in losses over billions of dollars and more importantly, loss of credibility of the organization. Healthcare is now turning electronic with patient's data exchanged over IT applications. The Health Information Technology for Economic and Clinical Health Act (HITECH) of 2009 has empowered USA to take a leadership role in creating data exchange standards for quality and coordination of patient care. Healthcare data is unique in a way that it is handled by many users at many points and can be misused by many people for their personal and professional interests. It compromises the integrity of the organization and the identity of the victim of such a data leak. Healthcare generates massive amounts of data.

Data security, privacy and cloud computing are some of the emerging areas in healthcare.

This chapter provides an overview of privacy and security aspects of healthcare information technology and cloud computing delving in many of its important aspects. The list of topics covered in this chapter are Data Privacy and Security Regulations - Health Insurance Portability and Accountability Act HIPAA (US), benefits of cloud computing, challenges to leveraging cloud computing - focus on security issues, data storage and security including Cloud-as-a-service (CaaS) models and Applications.

Data Privacy and Security Regulations - HIPAA (US)

There is a fast universal movement of data in the last decade. This phenomenon has entered into the phase of the people, and more, into the healthcare industry that supports the well-being of the humans.

In particular, the digitization in the healthcare sector has demonstrated the implementation of strong electronic medical record systems (EMR) for maintaining the health records and following patient care. Availability of the platforms using internet is an industry norm for connecting to the medical information of the patients, diagnostic reports, prescriptions and the payments. With the advent of the technology integrated with the tele-health systems the patients are able to consult with their care providers instead of visiting the doctor physically.

In 2010 it's reported as part of "data protection for the healthcare industry", since 2008 more than 110 healthcare organizations reported the loss of sensitive patient data affecting over 5.3 million individuals. Under the HITECH act, dedicating $20 billion for the HIT (Health Information Technology) infrastructure; it has been stressed mandating the strengthening of federal privacy and security related laws to protect crucial health information from misuse. Sharing data with other provider systems

Chapter 3: Big Data in Healthcare

(Sashikala P and Deepa Bhide)

Introduction

In the previous chapter, data privacy and security regulations, benefits of cloud computing, challenges with clouds, data storage and security aspects and cloud as a service model are discussed. With the advent and increasing use of electronic systems in our work, data gets generated and flows into the system every second. Such data can be of varied types such as operational, administrative, financial and clinical. With the large number of systems and users in any given organization, the data is trapped in various forms as input. It is seen that data flow is different in different domains and has a varied velocity. Whatever be the case, data needs to be processed and presented in a human-readable form to the user who can then use it based on his need. When the data is voluminous and it is difficult to process it using traditional software and techniques, it is referred to as "Big Data". The big data is an evolving term and commonly used to refer large volumes of data (structured or unstructured or any other form) that is complex and poses challenges to the normal harnessing. Big data is more powerful than the traditional way of data processing systems, as big data follows the HACE theorem, which states that, big data can handle, Heterogeneous, Autonomous, Complex and Evolving dataset in a meaningful way, from which insights can be drawn and decision can be made. To get an idea of the scale of data generation, in an article titled "Why Healthcare May Finally Be Ready for Big Data", in the Harvard Business Review in 2014, by Shah and Pathak, a total of 2.5 quintillion terabytes of data were generated every day in 2012 alone which is huge. It can be possible because apart from the HACE theorem big data also works on the 4Vs, which includes, volume, velocity, verity and value. Which means that, big data platforms, such as Hadoop, spark, Scala, hive, scoop, HDFS, etc. can handle the data with the large volume, from the variety of different sources, continuously monitoring the data from the high velocity (i.e. data is updated per second or so), and finally creates the value for analyst and decision maker.

Healthcare is a costly business. It accounts for a major share of the GDP across a nation which means that it consumes a major share of income. The healthcare sector is at an inflection point and is poised for rapid changes by the minute. Healthcare industry, across the globe, is facing significant challenges around cost, quality care of the patient and accessibility of healthcare to the population. Harnessing big data is seen as one of the ways to be able to understand the status, need and possible solutions for the ever-increasing challenges in healthcare. This chapter provides an overview of big data in healthcare and its applications and areas of impact. In the hospital set up, there are various points from which a data can be collected and accumulated like (EHRs, LIMS, Instruments for diagnostics and monitoring, Insurance Claims and Billings, Pharmacy, Real-time Local systems, Wearable IoTs like smart watch etc.). All these data accumulated at one place and then the operations or analytics on these data can be run, which may help the physician to select the nature of the treatment, medicine and other things for the patient in a way, which is best suitable to the patient.

Chapter 4: Emerging Areas in Healthcare

(Sashikala P and Deepa Bhide)

Introduction

In the previous chapter, overview of big data in healthcare, challenges and benefits, big data strategies, sources of innovation and big data applications in healthcare industry are discussed. Healthcare is a costly business! It accounts for a major share of the GDP (Gross Domestic Productivity) across a nation which means that it consumes a major share of income. The healthcare sector is at an inflection point and is poised for rapid changes by the minute. The changes are driven by the age old principle of "demand and supply". Healthcare industry, across the globe, is facing significant challenges around cost, quality care of the patient and accessibility of healthcare to the population. These challenges pose multiple opportunities for various sectors such as government, social and private to contribute towards the evolution of healthcare and find ways to deliver patient care effectively. It is thus, easy to understand that there are many areas in healthcare that are emerging.

To deliver seamless patient care process - the main and the ultimate objective of healthcare domain and care delivery settings, healthcare must change and evolve and this in reality is the basis of emerging areas in healthcare. This chapter provides an overview of evolving areas in healthcare related to multiple facets such as information technology, regulations and policy making, newer coding systems and so on.

Policies and Regulatory Changes in Healthcare

Healthcare is in a flux and with changes in every dimension to overcome the challenges around delivery of quality healthcare, affordability, accessibility of healthcare services and improving stakeholder satisfaction. Changes are universal with each nation having to create its own regulations and policies to be able to achieve its specific vision. USA, backed by the federal government, leads the pack with introduction of its landslide changes. Let us understand this with an example. With the regulated challenges also, some of the machine learning algorithms and coding are changing the healthcare regime. For example, the use of Artificial Intelligence (AI) that can be helpful for the radiologists in analyzing the medical images. US FDA (United States Food and Drug Administration) also approved IDx-DR artificial intelligence system, in which clinician involvement is not required to interpret the output of mild diabetic retinopathy in adults diagnosed with diabetes (USFDA Website). With this AI enabled services screening of a patient can be done, and if results are positive, then the patient is referred to the eye care professional and with the negative consequences, the patient is advised to visit again after 12 months.

In the US, The Department of Health and Human Services (HHS) has taken a number of regulatory and policy actions to ensure access to high-quality healthcare services and reduce the cost of healthcare. The changes are part of an effort to take into account the unique challenges around healthcare delivery and streamline effectiveness of federal programs. Some of the policies and regulations under this umbrella (Table 4.1) are:

DEVELOPING RESILIENCE IN DISRUPTIVE TIMES

INSIGHTS FROM STRATEGIC MANAGEMENT



EDITORS

AJOY K. DEY • VILLE-VEIKKO PIISPANEN • SHREYA MISHRA

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Introduction

We are living in a fast-changing world, where societies face tremendous success with technology-driven economies and where the business environment is favourable for innovations, business growth, high employment, and welfare. However, societies globally faced an extremely hazardous threat with COVID-19, the pandemic that has affected every one of us and has changed already many industries and has created a major force that has put in motion many innovations and business opportunities to create value in new ways. However, the pandemic can accelerate the change of our personal values, environmental thinking, business growth, and even in a bigger picture how our societies can and should work and how they could create effective resilience and adaptation at the end. When looking at this change through a business environment there is a vast need for strategic management and understanding how organisations could build a new competitive advantage and be more agile in creating new business opportunities and designing new business models in the ever-changing environment.

The cases in this book present and discuss real-life managerial aspects in a variety of different organisations. The cases provide insight on how businesses and organisations can survive in the pressure of globalisation and the pandemic. Moreover, the cases reveal how non-profit organisations and communities face financial difficulties during the pandemic and how managerial decisions and strategic agility are needed to survive. In addition, the cases provide contextually rich descriptions of their backgrounds, and thus case studies in this book presents new insights and contributions to strategic management, leadership, business agility, business models, marketing, branding, and e-business. The book has six sections: COVID-19 impact on businesses, COVID-19 impact on management, COVID-19 impact on communities, Strategy making and business models, Marketing and business growth and Branding, customer orientation, and e-business.

COVID-19 Impact on Businesses

The first section of this book address how pandemic affects different businesses. The first chapter written by Federico Giovannetti, presents a case study, *Meals on Wheels of TAMPA Confronts COVID-19*, to discuss how the organization could continue meal deliveries despite the contagious pandemic. In the second chapter, Jacqueline Skryd, present a case study *Keeping College Employees Amid COVID-19* on how to maintain employment in economic uncertainty during the pandemic. In chapter three Amanjot Kaushal and Shalini Srivastav present a study entitled *Case Study on Impact of COVID-19 on Small Businesses* on how small businesses can survive in the pressure of globalization and the pandemic. In the fourth chapter, Ajay Kumar, Radhika Malhotra, and Arpita Srivastava present a case study of *OYO's Dilemma: Customer-Based Brand Equity and Marketing Strategies During COVID-19* where they discuss the hospitality industry and the economic impact brought by the pandemic. In the fifth chapter, Saswati Tripathy and Pratibha Singh present a case study *Breakfast Solutions: Crafting Healthy Lifestyles Amidst COVID-19,* and highlight how

Information Asymmetry in Market Research: How Coke 2 Learned the Hard Way the Value of Market Research

Musarrat Shaheen[1] and Sambit Das[2]

ABSTRACT

Information asymmetry is a condition wherein one party has more or better information than the other. In market research, the results are often skewed due to misinterpretation of the queries presented by the market researcher to the respondent. This misapprehension of the indicator questions often leaves the research in disarray because of failure to gain any useful insight in the end. The information asymmetry concept is widely applied throughout management research, and its existence is a core assumption within leading theories on organizations. Despite information asymmetry's central role, however, there have been no systematic reviews of the management literature using the concept. In our study, we have observed that certain queries are not suited for certain respondents due to their lack of background knowledge or their lack of inquisitiveness into the subject. So the responses gathered in the research endeavor are not classified into fields based on the respondent's degree of comprehension of the queries. We collate and compile the understanding of information asymmetry's meaning, its conceptual applications, the roles it plays in different theoretical models, the antecedents, and how the focal actors' self-interests influence the selection of course of action for managing it. We delve into the subject of how questionnaire design could be customised to the respondents coming from all spheres of society so that the response could give the researchers what they are looking for. We highlight the drawbacks of failure to emphasise research on target segments. We theorize to design questionnaires catering to the new socio-economic classes, customize the length, and the language of the questionnaire for better and efficient response.

Dilemma/Questions: *There is no established level of knowledge of the degree of information asymmetry as a research concept. Our quest is to find if any unified basis there is for directing future research leveraging this concept.*

Theory: *Uncertainty and information asymmetry are the main focus in this case. We will look into the various manifestations of information asymmetry that leads to moral hazard or adverse selection. We will also look into the buyer's decision-making process both from the consumer as well as the business buying perspective. The main attributes that affect the purchase decision namely the number of alternatives present and the nature of information available has been studied here.*

Basis of the Case: *Phenomenon based: The case discusses various market research failure and subsequent success after rectifying the mistake.*

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Disclaimer: This case has been developed for classroom discussion and is not intended to illustrate either effective or ineffective handling of an administrative situation or to represent successful or unsuccessful managerial decision making or endorse

Vodafone and Idea Merger: Can the Transition Aid in Recovering the Market Share?

Sanketi Arvind Kale[1], Kaiwalya Rajivkumar Gulhane[2] and Musarrat Shaheen[3]

ABSTRACT

Vodafone Idea Ltd is a joint venture between Vodafone and Idea. The merger was one of the strategic alliances to compete and survive in the telecommunication sector of India. Though, in retrospect, the merger of Vodafone and Idea is an important milestone in the telecommunication industry., the company faces many challenges from the competitors This case discusses the challenges faced by Vodafone Idea–starting from the decision of merger to the declining market share The case then documents communication strategy which the company has adopted to reach to the target customer. . The case details how repositioning can prompt the company to venture into a highly competitive market, where most consumers are not aware of joining of Vodafone and Idea. It later provides information about network integration goals of the company followed by the variety in the product offering. A glimpse is also provided in other strategies and a bright future ahead of the company. It remains to be seen whether the merger was successful or not and could Vodafone Idea retain its position as a leader in the national market.

Dilemma/Questions:

Vodafone and idea were among the leading players in the telecommunication industry in India and were working at a consolidated market share of 35%. When these two players decided to merge and join hands, it was expected that the resources of both companies will result in an increase in market share by more than 35%. But, by the end of 2019, it was seen that the market share dropped down further to 29%. The present case tries to analyze the reasons and causes of the decline in the market share.

Theory: *The case connects to theories behind merger and acquisition and the marketing communication mix. Merger theories such as type of merger (horizontal, vertical, product extension, market extension, and conglomerate) as well as merger theories such as operational, financial, managerial, and market synergies will be linked. It also gives in detail different marketing activities categorized in segments and probable marketing activities as per the marketing*

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Crisis in Sales of Credit Card: A Game-Changing Strategy to Beat the Competitors

Dhruti Sundar Pradhan[1] and Musarrat Shaheen[2]

ABSTRACT

Rajib Mehta joined as branch manager in SBI Cards & Payment Service Ltd. in 2019. Mr. Mehta has 10 years of experience in HDFC bank. After joining in SBI, he studied the details about the magnification, growth and market share credit card. As SBI is renowned brand, still its growth rate is very less as comparison to its competitors. Then he discussed all these issues with the sales and marketing team to ken the gap in selling of credit card. He has taken to grow the sales and awareness about SBI credit card as a challenge. He orchestrated to conduct a market research to know the customer perception about the credit card.

Dilemma*: Mr. Mehta found that the sales of credit card in this branch is very low. So he tried to analyse the factors for truncate growth of sales, performance of selling agents by discussing with the sales and marketing team, what strategies can be adopted. But still he could not properly draft the reasons. So he planned to do a competitive market research as the existing data are not sufficient to analyse. He observed that sales team are giving their best efforts still the result could not meet the expectations.*

Theory: *This case connects to theories behind the types of market research, 7Ps of marketing mix, inbound marketing, scope of marketing, digital marketing strategy, customer management which enables the growth in sales of credit card and reach upto maximum customers. It also entails different marketing activities categorized in segments and probable marketing activities as per communication mix. This case also connects to repositioning of the brand. Though existing product is penetrating in existing market, case connects market scope and ansoff matrix.*

Basis of the Case*: The case discusses the challenges faced by a marketing manager and how did he reposition and create a value in his job location*

Type of Case*: Applied problem solving*

Protagonist: *present*

Findings/Options: *The case has discussed three major options to resolve the dilemma. The first option is market research Survey approach through which he can know the gap in his model, customer needs and what is opportunity in*

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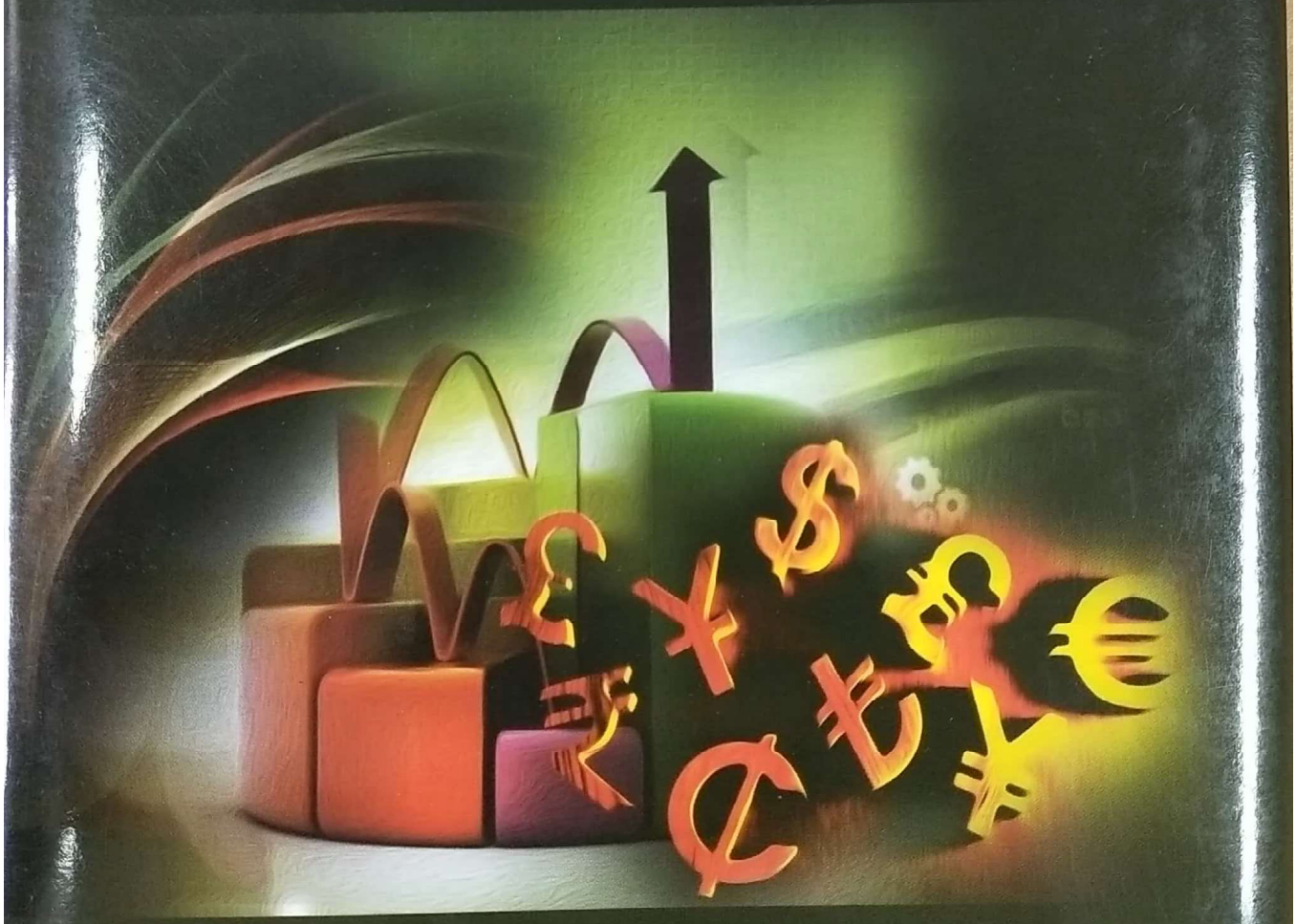
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Foreign Direct Investment

Slowdown in Growth and Future Prospects for Revival



Pushpa Kumari

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Foreign Direct Investment

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Edited by

DR. PUSHPA KUMARI

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Preface

In developing countries, there has been a remarkable shift in attitude towards aspects of FDI. Past apprehensions are that Foreign Direct Investment might sustain or even accentuate, they have and host country income differentials to the recipient disadvantage have mostly given way to recognition that FDI can fuel and facilitate economic development. The agents of FDI, Multinational Corporations (MNCs) can not only supply capital that mobilised labour and land productivity, but they can also act as conducts of technology transfer. Capital flows in the form of FDI have been widely believed to be an important source of growth in recent years. Since the 1970s, imperfections in goods and factor markets, presence of scale economics and governmental restrictions on output, trade and entry have come to be recognised as creating market structure where foreign capital in the form of FDI contributes to growth. It is eminently plausible that FDI flows might not have existed but for the presence of these imperfections.

In India, a significant step towards inviting FDI was taken in pursuance of its policy of emphasising non-debt creating capital inflows during the reform period, but the actual FDI inflows did not pick-up on the expected lines. FDI inflows in India remained low in comparison to other emerging market economies. An international comparison of annual average FDI inflows in recent years shows that such inflow in India is lower than those in emerging market economies like Argentina, Brazil, China, Korea, Mexico, Thailand and Malaya. India's failure to attract enhanced inflows of FDI strongly underlines the need for further reforms in this context. Much inflow of FDI has been encouraged for the development of infrastructure services like electricity, railroad, water management. But it could not speed up employment and growth.

Keeping in view of the role of FDI in growth and the future prospects of FDI in Indian case, the present book has been prepared by obtaining papers from many scholars which contains the views

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GST and the Indian Economy

A Snapshot on the Selected Sectoral Performance

T. Sita Ramaiah, Radha Mohan Chebolu and
Satish Chandra Tiwari

INTRODUCTION

India is one of the emerging countries in the world. It is expected to play an important role in the world economy in the years to come. The expectations from GST which was introduced a couple of years ago are high not only within the country, but across the developed countries of the world. After a series of discussions on the subject for about a decade, Government of India has introduced Goods and Services Tax on 1st July 2017 applicable throughout India. The main objective of introducing GST is to remove cascading effect of taxes and to provide for a common market for goods and services provided in India. GST is an indirect cascading tax levied both by central and state governments. In the view of experts, it is a biggest tax reform founded on the idea of *"one nation, one market, one tax"*. Former Finance Minister Arun Jaitley had estimated that GST will increase the country's economic growth by two per cent; external economists and investment professionals estimated that it will be more than two per cent and closer to five per cent. The GST is expected to increase the ease of doing business within India and between India-based companies and companies based in other countries. From the government viewpoint, "the GST is expected to improve tax fulfillment and draw more people into the tax system in a country where tax avoidance is common. It will also make India more attractive for foreign investors by liberal rules for a huge and increasingly attractive market."

Economic Growth in India

Global and Domestic Challenges

Editors

DR. ABHISHEK KUMAR
DR. IPSEETA SATPATHY

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Challenges and Benefits of Cashless Economy in India

Case Study

T. Sita Ramaiah, Radha Mohan Chebolu
and Satish Chandra Tiwari

INTRODUCTION

Cashless economy is not the complete absence of cash, it is an economic setting in which goods and services are bought and paid for through electronic media. A cashless economy is a situation where there is little or very low cash flow in the society. The transactions will be made by electronic channels like debit cards, electronic funds transfer, mobile payments, multi-functional ATMs, and internet banking. It is the economy that run mostly on plastic or digital money and thus with minimal cash or money in paper form. In other words, it refers to the widespread application of computer technology in the financial system. According to *Woodford* (2003), Cashless economy is defined as one in which there are assumed to be no transactions frictions that can be reduced through the use of money balances, and that accordingly provides a reason for holding such balances even when they earn rate of return. In a cashless economy, how much cash in your wallet is basically irrelevant. You can pay for your purchases by any one of a plethora of credit cards or bank transfer (*Roth*, 2010) observed that the developed countries of the world, to a large extent, are moving away from paper payment instruments toward electronic ones, especially payment cards. Some aspects of the functioning of the cashless economy are enhanced by e-finance, e-money, e-brokering and e-exchanges. In a traditional economy, notes and coins are mediums of exchange and receiving payments. But in a

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Qualitative Techniques for Workplace Data Analysis



Manish Gupta, Musarrat Shaheen, and K. Prathap Reddy

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Chapter 2
Sampling in Qualitative Research

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ABSTRACT

The chapter discusses different types of sampling methods used in qualitative research to select information-rich cases. Two types of sampling techniques are discussed in the past qualitative studies—the theoretical and the purposeful sampling techniques. The chapter illustrates these two types of sampling techniques relevant examples. The sample size estimation and the point of data saturation and data sufficiency are also discussed in the chapter. The chapter will help the scholars and researchers in selecting the right technique for their qualitative study.

INTRODUCTION

Compared to the quantitative research, the sampling procedures in qualitative research are not well defined. Selection of participants in qualitative research depends on the purpose of the research and is found to rely heavily on the researcher's discretion. This flexibility in the procedure of sampling in qualitative has led to confusion to some researchers and increases the chances of mistakes (Morse, 1991). Quantitative techniques, however, rely on randomly selected, larger samples. The sampling

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