

As per New CBCS Syllabus for VI Semester, B.Com,  
Bangalore University w.e.f. 2014-15

# COST MANAGEMENT

(Theory, Problems and Solutions)

**M N Arora**



**Himalaya Publishing House**  
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*(As per New Syllabus (CBCS) of VI<sup>th</sup> Semester B.Com. Bangalore  
University w.e.f. 2014-15)*

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**(THEORY, PROBLEMS AND SOLUTIONS)**



  
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# PREFACE

I am pleased to present this Cost Management for B.Com., VI Semester of Bangalore University. Infact, an encouraging response to my Cost Accounting for B.Com., IV Semester has motivated me to take up this project. I feel grateful to teachers and students of this course for their liking and appreciation of my presentation of the subject in a simple and logical way. This book is an attempt to provide the students with thorough understanding of the cost management techniques. The subject matter has been presented in a systematic and intelligible manner with liberal use of numerical illustrations, charts and diagrams so as to make it interesting and sustain readers' interest.

The book has been divided into five chapters as per the syllabus. Based on the conviction that students can really learn Cost Management by solving problems, the theory and problems approach has been adopted to fully meet all the examination needs of the students in this volume. Thus apart from well organised theory, this book has sufficient number of solved problems and illustrations and unsolved problems with answers and hints, apart from short answer questions and selected theory questions. This will help students tackle examination questions with ease. The theory questions, practical problems and illustrations have been mostly selected from B.Com. and BBM, Bangalore and other leading Indian universities.

I am confident that with all these distinctive features, the students and teachers will find the book extremely useful and rewarding. I invite them to send their constructive and helpful suggestions and also errors in the book at the address given below. These will be gratefully acknowledged and used for improvement of this book in future editions.

I am grateful to the staff of Himalaya Publishing House Pvt. Ltd., for their cooperation and producing this book in a beautiful get up.

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# SYLLABUS

## B.COM., VI SEMESTER

### COST MANAGEMENT

#### OBJECTIVE

The objective is to enable the students to understand techniques used to control as well as reduce the cost.

#### **UNIT 1: COST CONTROL AND COST REDUCTION** **08 Hrs**

Meaning of cost control and cost reduction, areas covered by cost control and cost reduction–product design, target costing, value analysis, value engineering, value chain analysis, Business Process Re-engineering (theory only).

#### **Unit 2: MARGINAL COSTING** **12 Hrs**

Absorption costing, Cost classification under absorption costing, Meaning and Definition of marginal costing – Absorption Costing V/s Marginal Costing - Need for Marginal Costing, arguments against and in favor of marginal costing – Marginal cost equation – Uses and Limitations of Marginal Costing - Break-even analysis - Problems on Break-even Analysis.

#### **Unit 3: STANDARD COSTING** **12 Hrs**

Historical costing - Introduction – Meaning & Definition of Standard Cost and Standard Costing – Advantages & Disadvantages of Standard Costing – Preliminaries in establishing system of standard costing – Variance Analysis – Material Variance, Labour Variance and Overheads Variance – Problems on Material Variances and Labour Variances.

#### **Unit 4: BUDGETARY CONTROL** **12 Hrs**

Introduction – Meaning & Definition of Budget and Budgetary Control – Objectives of Budgetary Control – Essential requirements of budgetary control – Advantages and disadvantages of budgetary control – Meaning, Types of Functional Budgets - Flexible Budgets, Cash Budgets, Sales budget and Production budget. Problems on Flexible budgets and Cash budgets.

#### **UNIT 5: ACTIVITY BASED COSTING** **12 Hrs**

Introduction – Weakness of conventional system – Concept of ABC – Kaplan and Cooper's Approach – Cost drivers and cost pools – Allocation of overheads under ABC – Characteristics of ABC – Steps in the implementation of ABC – Benefits from adaptation of ABC system – Difficulties faced by the industries in the successful implementation of ABC – Problems on ABC.

#### SKILL DEVELOPMENT

- Preparation of Income Statement using Absorption Costing and Marginal Costing Technique.
- Illustrate make or buying decisions helps in decision making.
- Preparation of Sales Budget with Imaginary Figures.
- List any 10 industries where Standard Costing is used.



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# COST CONTROL AND COST REDUCTION

## CHAPTER OUTLINE

Introduction, Target costing vs. Cost-plus pricing, Definition of target cost and target costing, Process of target costing, Just-in-time, Introduction, Meaning of JIT, Features, Implementation, Benefits, Examination questions.

## COST MANAGEMENT

The present day business environment is significantly different from that of the yesteryears. The rapid pace of change is because of factors such as — globalisation of markets, spectacular advances in information and manufacturing technology, deregulation, increasing emphasis on total quality management, etc. The emphasis on quality of products and productivity requires new measures of control. Cost accounting information plays a very important role in determining the appropriate strategic direction for the organisation and effective management. Of course, cost accounting methods and techniques are important but equally important is to understand how to use them for effective decision making. Cost management addresses these changing requirements. In the changed business scenario, the managers have turned towards cost management to find ways and means to continuously reduce costs to improve product/service quality and at the same time maintain profitability.

### Definition

Cost management is a new entrant in the terminology of management and is widely used these days in the business world. Somehow, no uniform definition of this term has developed so far.

In the words of Horngren, cost management is used *“to describe the approaches and activities of managers in the short term and long term planning and control decisions that increase value for customers and lower costs of products and services.”*

According to Hansen and Moven, *“Cost management identifies, collects, measures, classifies and reports information that is useful to managers in costing (determining what something costs), planning, controlling and decision making.”*

It may thus be said that cost management is the practical application and use of cost accounting methods and techniques by the management to improve business performance. Information provided by cost accounting system helps managers make decisions regarding the amount and kind of materials used, changes of product designs, changes in plant processes, etc.

### Advantages

The following are the advantages of cost management:

1. Cost management helps in cost based strategic planning. It provides critical information that manager needs to develop and implement successful strategies. In taking a strategic emphasis, cost management looks to long term competitive success of the firm.

2. Cost management helps in improving factoral productivity and profit margin.
3. Cost management ensures that planning and control of costs are directly linked with revenues and profit planning. For example, the effect of additional cost incurred on sales promotion and product modification on the increase in revenue and profit is studied.
4. Cost management methods and practices are used to help the firm in gaining success.
5. It improves understanding of processes and activities. The same cost may be analysed in different ways to study its relationship with the activity. This helps in more effective planning.

Cost management is an integral part of the general management, planning and monitoring mechanism and it is not practised in isolation. It can be effectively used by both production and service organisations. Use of cost management can significantly benefit many organisations by increasing resource productivity and margins and facilitating effective management of costs.

### COST REDUCTION AND COST CONTROL

Now-a-days businesses are operating in a globally competitive environment, where in order to increase profits, increase in selling prices of products/services may not be possible because of fears of shrinkage in volumes. Thus in order to improve profit performance, businesses have to be extremely cost conscious and improve their performance in cost. In other words, in this age of competition, in order to survive and improve profitability, managers have to make continuous efforts to find out ways and means to *control* and *reduce costs*.

#### COST CONTROL

Cost control is an essential component of any system of cost accounting. It is exercised through comparing actual costs with pre determined standard costs so that the difference between the two can be measured and then analyzed according to reasons for taking corrective action. CIMA, London has defined cost control as, *"the regulation by executive action of the cost of operating an undertaking particularly where action is guided by cost accounting"*. Cost control is thus simply the utilisation of the available resources economically and prevention of the wastage within the existing environment. It is the function of keeping costs within the prescribed limits.

**Steps in Cost Control :** In designing a system of cost control, the following steps are taken :

**1. Establishing norms :** The first step in cost control is to set norms or standards which may serve as yardsticks for measuring performance. These standards or norms are set on the basis of past performance adjusted for changes in future and on the basis of studies conducted.

**2. Comparison with actual :** The actual costs incurred are compared with established standard costs to know the level of achievement. The variations are analysed so as to arrive at the causes which are controllable and uncontrollable.

**3. Corrective action :** Remedial or corrective measures are taken to avoid the recurrence of variations in future and for revision of standards, wherever necessary.

Amongst the techniques used for cost control, the two most popular are budgetary control and standard costing.

#### COST REDUCTION

Cost reduction is often confused with cost control. Cost reduction is much wider in scope and consists of effecting savings in cost by continuous research for improvement in products, methods, procedures and organisational practices. Cost reduction is defined by C.I.M.A. London as *"the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for use intended."* This definition reveals the following characteristics of cost reduction:

- (i) Cost reduction must be real – say, through increase in productivity, change in product design, improvement in technology, etc.
- (ii) Cost reduction must be permanent — temporary reductions in cost due to windfalls, change in tax rates, changes in market prices, etc., do not come in the purview of cost reduction.
- (iii) Cost reduction must not impair the suitability of products or services for the intended use. In other words, cost reduction should not be at the cost of essential characteristics of the products or services.

The cost reduction is, therefore, the term used for planned and positive approach to the improvement of efficiency. It can be viewed in many ways, such as increasing productivity, elimination of waste, improvement in product design, better technology and techniques, incentive schemes, new layouts and better methods, etc. If the cost reductions are not based on sound reasons, like improved methods, then very quickly the costs will grow back to their original size.

### Cost Control and Cost Reduction — Comparison

Cost control and cost reduction are two effective tools of cost management to improve efficiency. Cost control and cost reduction are two separate phases of cost improvement. Cost reduction begins where cost control ends. The main points of distinction between the two are as follows:

1. **Cost control** is the achievement of pre-determined targets of costs.  
**Cost reduction** is the achievement of the real and permanent reduction in costs.
2. **Cost control** tends to assume a static state of affairs and that standards once set are not challenged.  
**Cost reduction** assumes the existence of concealed potential savings in the standards or pre-determined costs set for cost control and that these standards are always subject to challenge.
3. **Cost control** is concerned with predetermining costs, comparing it with actual costs, analyzing the variances and taking corrective action.  
**Cost reduction** is not concerned with maintenance of performance according to predetermined targets. It is rather concerned with finding out new product designs, methods, etc.
4. **Cost control** is a preventive function as it aims to prevent the costs from exceeding the predetermined targets.  
**Cost reduction** is a corrective function because it challenges the predetermined targets and seeks to improve performance by correcting the targets.
5. **Cost control** is a part of cost accounting function.  
**Cost reduction** may be achieved even when no cost accounting system is in operation.
6. **Cost control** lacks dynamic approach to cost improvement.  
**Cost reduction** is a more dynamic approach to cost improvement and elimination of waste.

### Scope and Areas of Cost Reduction

The scope of cost reduction is so wide that it is not practicable to develop fully the areas in which cost reduction may be applied. Wherever costs are incurred, there is scope for their reduction and the management should not feel that there is no room for cost reduction in any particular area. Effort should, therefore, be made to reduce costs right from the top level to the shop floor level. However, in the following areas, scope of cost reduction is the largest :

**1. Product design.** The design of the product provides the greatest scope for cost reduction. Product design being the first step in production, if cost reduction can be made at design stage, then it is likely that the benefits can be availed to the maximum.

There are two basic points that should be kept in mind while effecting cost reduction in product design :

- (a) The product should perform all the functions for which it is intended, and
- (b) The product should retain its 'esteem' or 'aesthetic' value. This is in the case of many products which have the shape or other characteristic which pleases the eye.

Improvement in product design may result in cost reduction as illustrated below :

- (i) *Material cost*—Change in design of the product may result in saving in material cost. Economical substitution for existing material may also be considered. For example, in manufacturing kitchen utensils, brass may be substituted by cheaper alloys. In curtain rings, metal may be substituted by plastic.
- (ii) *Labour cost*—Improvement in design may result in reduced operating time.
- (iii) *Factory overhead*—Reduced operating time not only helps in saving in labour cost but also in factory overhead.
- (iv) *Packing and transportation*—Compact design of a product results in reduced cost of packing and transportation.
- (v) Cost of tools, jigs and fixtures can be reduced through design improvement.

**2. Organisation.** Cost reduction may also be achieved by improving factory organisation in the form of clear-cut lines of authority and responsibility, well-defined channels of communications, co-ordination and co-operation between various executives, etc.

**3. Production.** A cost reduction programme should make a study of sequence of operations to find out the best one, to use the most suitable machines for the work, to use jigs and fixtures to reduce operating time, to reduce idle time, to reduce scrap by the use of better quality tools, to provide better working conditions conducive to efficiency, etc.

**4. Administration.** Items under this head include savings effected by modifying the range of cash discounts to customers, introducing mechanical and electronic aids to office routine, modifying internal and external communication system, etc.

**5. Marketing.** In this function, costs can be reduced by revising the methods of remuneration of salesmen, re-arrange territorial responsibilities of sales representatives, modifying current methods of advertising, improving product design and production quality so as to reduce after sales service, economising channels of distribution, improving packing, etc.

**6. Finance.** A cost reduction programme should aim at securing capital at economical cost, employing capital to give maximum return and eliminating over and under capitalisation and wasteful use of capital, etc.

### Cost Reduction and Value Analysis

Value analysis is a scientific approach to cost reduction. It aims at cost reduction by increasing the value in a product. In fact, cost reduction may be effected in two ways :

- (a) Cost reduction by economising expenditure and increasing productivity, and
- (b) Cost reduction by improving the use value and esteem value of products. Use value refers to those qualities and characteristics which make a product useful and esteem value refers to those properties which make it attractive and create in it an aesthetic value.

Value analysis attempts to reduce cost by operating on the latter method. Value analysis may thus be described as a systematic analysis and evaluation of the techniques and functions in the various spheres of an organisation with a view to exploring channels of performance improvement, so that the value in the product or service may be bettered. It is a technique which is used to analyse all aspects

of an existing product or service to determine the minimum cost necessary for specific functional requirement. Basically, the idea is to weigh cost against value.

### Tools and Techniques of Cost Reduction and Cost Control

Various tools and technique used for cost reduction include the following :

1. Standard costing
2. Budgetary control
3. Inventory control
4. Production planning and control
5. Standardisation and simplification
6. Operational research and statistical techniques
7. Value analysis
8. Automation
9. Design improvement
10. Market research
11. Job evaluation and merit rating
12. Work study
13. Organisation and methods study
14. Quality control.

## TARGET COSTING

### Introduction

Target costing is a technique of cost management which originated in Japan recently in 1970s. Since then target costing has been widely recognized as a major factor in superior competitive position in Japanese companies. As competition grew more intense and profits weakened, the use of target costing intensified. Now over the years it has become widespread and is extensively used in American and other western companies. Many companies in advanced countries are using target costing for their cost management and enhance their cost competitiveness.

### Target Costing Vs. Cost-plus Pricing

Under the traditional approach of pricing the products, the cost is an important factor for determining the selling price. In other words, traditionally price of a product is determined on 'cost-plus' pricing method, i.e. the selling price of a product is set on the basis of total cost plus desired profit. This sounds logical because a company must cover all costs and earn a profit. But it must be accepted that in a competitive market, a company has little influence over the selling prices of its products. Thus a cost plus price may not be acceptable in the market and if it is so then cost-plus pricing approach will prove a recipe for market failure. This view is based on the ground that it is not for the customer to ensure a profit to the manufacturer. In the words of Peter Drucker, 'customers do not see it as their job to ensure manufacturer a profit. The only sound way to price is to start out with what the market is willing to pay.'

In fact, the price of a product has to be determined on the basis of what the market is willing to pay. *Target costing* is a method of determining the cost of a product or service on the basis of competitive price prevailing in the market. In this technique, it is the market price that determines the cost of a product and not the cost that determines the selling price. In simple words, in cost-plus pricing, it is the cost that determines the selling price. But in target costing, it the selling price that determines the cost.

The Japanese philosophy of target costing can be read in the words of Prof. Robin Cooper of Harvard University (USA), who had once said “We tend to build up a model of the product, determine what it is going to cost and then ask whether we can sell it for that. The Japanese turn around. They say, “It’s got to sell for X. Let’s work backwards to make sure we can achieve it”. I’ve never seen this done by a U.S company with the same intensity

### Definition of Target Cost and Target Costing

A target cost is the maximum amount of cost that can be incurred on a product and with it the firm can still earn the required profit margin from that product at a particular selling price. According to CIMA Terminology ‘a target cost is a product cost estimate derived by subtracting a desired profit margin from a competitive market price.’ Target cost is thus an allowable cost for the product or service, given a competitive price, so that the company can earn the desired profit margin. Thus:

$$\text{Target cost} = \text{Competitive market price} - \text{Required profit}$$

Target costing is defined as ‘a cost management tool for determining and realizing a total cost at which a proposed product with specified functionality must be produced to generate the desired profitability at its anticipated selling price in the future.’

In simple words, target costing involves setting a target cost by subtracting the desired profit margin from the competitive market price. For example, if a manufacturer has target a profit of ₹ 25,000 on a new product by producing and selling 50,000 units at a price of ₹ 4 per unit,

Sales 50,000 units @ ₹ 4	₹ 2,00,000
Desired profit	₹ 25,000
Target cost	₹ 1,75,000

The target cost is determined by working from the market price of product to the cost that will allow a company to earn a target profit. It is important that the cost and the price are for the specified product functionality which can be understood from the needs for the customer and his willingness to pay for each function.

Thus target costing is a system where a company determines in advance the cost of the product and the profit margin it wants to achieve. If it cannot manufacture the products at these planned levels, it must cancel its production plan.

In order to reduce cost to a target cost level, companies have to:

- (a) redesign the product or service,
- (b) use advanced cost management techniques to seek higher productivity, and
- (c) use new and advanced technology in the manufacture of goods and services.

### Process of Target Costing

There are a number of steps in the process of target costing. These are briefly described as follows :

1. Define the product, *i.e.*, analyse the product and its functions, identify the customers, study competitive position, etc.
2. Establish a selling price for the product and estimated sales volume from an analysis of the market, and a target profit.
3. Set the target price and cost, *i.e.* set the price that a customer will pay and what should be the target cost by subtracting the profit from the target selling price.

4. Determine the estimated cost for the product.
5. Compare estimate with target.
6. If estimated cost exceeds target cost, repeat cost analysis/value engineering to reduce estimated cost.
7. Make the final decision whether or not to introduce the product once cost estimate is on target.
8. Maintain competitive cost *i.e.*, not only to achieve the target cost but to stay ahead of competitors by using cost reduction methodology on a continuous basis.

## VALUE ENGINEERING AND VALUE ANALYSIS

### Introduction

Value Engineering and Value Analysis are the modern and latest techniques of cost reduction and improving profitability. Before going into the meaning of these techniques, it is better to understand the meaning of the term 'value' as used in this context. The term value may be defined as the ratio of functions of a product to its cost. This means value can be increased by either improving the functions of a product or reducing its cost or both.

There are two elements in the value of a product – (i) use value and (ii) esteem value. Use value relates to use of a product for its functions. Esteem value, on the other hand, pertains to ownership and its appeal to eyes. We can think of many examples from day today life. For example, a watch has more use value if it gives correct time because its basic function is to give time. A watch has higher esteem value if it is designer watch and has gold plated body. Another example can be the difference between a small Maruti Alto car and a luxury BMW brand car and both cars are good but compare their use value and esteem value. Similarly, one can think of simple disposable plastic pen costing ₹ 5 and a branded Parker metallic pen costing ₹ 160 in terms of their use value and esteem value. However, it should be noted that the use value and the price paid for a product are rarely the same, the difference is actually the esteem value.

**Value Engineering** is a systematic method of improving the 'value' in new products and services to be launched. Value engineering is carried out at new product design stage or engineering of the product. It is applied during product development. It is defined as 'a systematic and organized approach to provide the necessary functions in a product at the lowest cost'. It promotes the substitution of materials and methods with less expensive alternatives, without sacrificing functionality so that more functions are performed at a lower cost.

**Value Analysis** is concerned with existing products. In other words, value analysis pertains to products which are already in sale as against value engineering which applies to new products. Value analysis process is used to offer a higher performing product or service to the customer at a minimal cost by substituting an existing product which offers inferior solution. Value Analysis is defined as 'a process of systematic review that is applied to existing product designs in order to compare the function of the product required by a customer to meet their requirements at the lowest cost consistent with the specified performance and reliability needed.'

**Value Analysis Vs. Value Engineering** Value analysis refers to the analysis of an existing product or service while value engineering refers to the same analysis applied to the products or services that are under design and have not been finalised. In other words, value engineering is an early stage process and value analysis is done after the birth of the product *i.e.* an existing product.

The concept of value analysis and value engineering evolved in the 1940s at General Electric Company (USA) during World War II. Due to war, there were shortages of materials, component parts and skilled labour. The Company started looking for substitutes for these and it was found that these substitutes showed equal performance or sometimes improved product functioning and also reduced cost or both.

The following points add to the understanding of value analysis and value engineering:

- (i) The value analysis and value engineering attempt to increase value in products to customers by reducing cost of materials, components, labour, etc and improving product functions.
- (ii) By reducing costs, the revenue and profit from products increase.
- (iii) Value analysis enables a business to take commercial advantage of falling prices, if any, of certain materials, components, technologies, etc. This further helps to reduce costs.
- (iv) Value analysis helps to make improvements in the product in a variety of ways, such as product design, material selection, manufacturing process, assembly, transportation, after-sales customer service, etc.
- (v) With product improvement, the brand value of the product increases. This results in increase in esteem value, thereby making ownership of the product more desirable.
- (vi) The customer are prepared to pay higher price for prestigious and branded products. This further adds to the company profitability.
- (vii) By making a better product as a result of value analysis and other manufacturing techniques, the company gets a competitive advantage.

## VALUE CHAIN ANALYSIS

### Introduction

Value chain analysis is business world's most valuable tool to gain an edge over competitors. It was first introduced in the year 1985 by Michael Porter of Harvard Business School in USA in his book "Competitive Advantage: Creating and Sustaining Superior Performance". It describes the activities that an organization performs and links them to the organizations competitive position.

### Meaning and Definition

In order to understand value chain analysis, one must know what value chain is. The value chain is a full range of activities which a business has to go through to bring a product or service from the stage of conception to the stage of delivery. In other words, a value chain is the whole series of activities that create and build value at every step. The total value delivered by the company is the sum total of the value built up all throughout the company. CIMA London defines value chain as '*a sequence of activities by which, in the perspective of end-user, value is added to (or costs incurred by) the products or services produced by an entity.*' These activities include designing the product, producing the product, marketing the product and then distribution of the same. If you do not add value in some steps of the value chain, your product might be inferior to your competitors. On the other hand, if you add features in the product in other steps of the value chain which are better than competitors, you may create a product which is highly superior to the competitors. The profit margin of the final product is linked directly to the value chain. The more value that is added to the product, the more profit for the company is earned.

### Steps in Value Chain Analysis

There are three steps in value chain analysis :

1. Split business activities into two categories: primary activities and support activities
2. Allocate costs to each activity
3. Identify the activities critical to customer satisfaction and market success. :

### Primary Activities and Support Activities

Michael Porter defines the value chain as made of primary activities and support activities. Primary activities are those activities which directly affect the end product and support activities are those which help the primary functions.

**Primary activities** include the following:

**1. Inbound logistics:** This includes all those activities that are involved in receiving, storing and distributing the raw materials used in the production process.

**2. Operations:** This involves all such activities which are concerned with converting the raw material to the final product..

**3. Outbound logistics:** The distribution of goods produced to customers is carried out in the form of outbound logistics. This means once final product is ready, it is distributed to consumers.

**4. Marketing and sales:** This involves activities like advertising, promotions, organization sales-force, pricing of products, selecting suitable channels of distribution, customer relationships, etc.

**5. Service:** This refers to the activities that are needed to maintain the product's performance after it has been produced and sold. After-sales services is important for maintaining goodwill.

**Support activities** comprise the following:

**1. Procurement:** It may appear similar to inbound logistics but the difference is that whereas inbound logistics relates to transportation, procurement deals with the whole process of buying raw materials, such as negotiating with suppliers for price and terms of delivery and managing the complete process of inbound logistics, etc.

**2. Technology development:** Technology can be used across the board in the development of a product.

**3. Human resource management:** It is concerned with getting the right people for the right jobs. It includes activities involved in hiring and retaining the proper employees to help design, build and market the product.

**4. Firm infrastructure:** This refers to an organization's structure and its management, planning, accounting, finance, legal, IT, government and public relations and quality-control mechanisms.

### Significance

The value chain analysis is a powerful analysis tool for strategic planning. It can help organizations to gain better understanding of key capabilities and identify areas of improvement. It can help companies to understand how competitors create value. The management can use value chain analysis for competitive advantage.

## BUSINESS PROCESS RE-ENGINEERING (BPR)

Business process re-engineering (BPR) is a new concept which is concerned with discovering how business processes currently operate, how to redesign these processes so as to eliminate the wasted or redundant effort and improve efficiency to gain competitiveness. In other words, business process re-engineering is the analysis and redesign of workflows within and between enterprises in order to optimize end-to-end processes and do away with non-value-added tasks. BPR seeks to help companies radically restructure their organizations by focusing on the ground-up design of their business processes. In simple words, BPR is the practice of rethinking and redesigning the way work is done to better support an organization's mission and reduce costs. Business process re-engineering is also known by many names such as business process redesign, business transformation, or working smarter, etc.

### Meaning of a process and re-engineering

In order to understand BRP, it is essential to understand the concept of 'process'. A process is a structured, measured set of activities designed to produce a specified output. According to Davenport 'a business process is a set of logically related tasks performed to achieve a defined business outcome.' Hammer and Champy have defined a process as 'a collection of activities that takes one or more kinds of input and creates an output that is of value to the customer.'

Re-engineering is the fundamental rethinking and redesigning of business processes to achieve major improvements.

### Definition of BPR

Hammer and Champy in their book *Reengineering the Corporation: A Manifesto for Business Revolution* (1993) have defined BPR as 'the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.'

### Illustration on BPR

A customer calls a company office to complaint why his order has not been executed so far. For this purpose the customer gives all details of placing the order, such as order number, date of ordering, product name and quantity ordered, etc. There comes the reply 'your call is being transferred to accounts department to know the status of your order'. Then customer again explains his problem and details of his order to the accounting department. The accounting department explains that the order has already been invoiced and your call is being transferred to logistic department so that you can know the status of execution of your order. Then the customer has to explain the entire situation again for the third time to the logistic department. The logistic office replies 'please hold the line for a while and will find out the position'. After waiting for some time on the line, there comes the reply, 'sir, your order execution is in the pipeline. It will be executed shortly. I am sorry for the delay in execution as the lineman was on leave for the last two days'. In this type of situation, the customer will definitely reconsider to place a repeat order with the same company.

In the above case, the emphasis is on department functions and each employee feels satisfied with his own work in the sense that he has discharged his responsibility. But the situation is awkward because there is a lack of sense of total responsibility leading to customer dissatisfaction. Under BPR, the company will have to reorganize the processes under order processing team in

such a way that the order processing is electronically recorded step by step and customer has to speak to only one person and know the status of his order.

BPR suggests completely new processes to be implemented on the assumption that current business processes are inappropriate. Such a perspective enables complete redesigning of business processes. The outcome of the BPR may include the following:

1. Employees are given more powers and decision making is made a part employees' job.
2. Several jobs may be combined into one.
3. A single point of contact is provided to customers.
4. All tasks which do not add value are minimized.
5. Steps in the processes are performed in the natural order.
6. Work is performed where it makes most sense.

F. Taylor had suggested as early as in the 1880's that managers use process re-engineering methods to discover the best processes for performing work and that these processes be re-engineered to optimise productivity. In the early 1900's, Henri Fayol, another authority on management, had originated the concept of re-engineering to conduct the undertaking toward its objectives by seeking to derive optimum advantage from all available resources. Hammer and Champy propose that 'BPR can help organizations out of crisis situations by becoming leaner, better able to adapt to market conditions, innovative, efficient, customer focused and profitable in a crisis situation'.

Today BPR is widely accepted by business enterprises and it is achieving dramatic performance improvements. Many world famous companies such as SONY, IBM, WALL MART, HEWLETT PACKARD, GENERAL ELECTRIC, etc. had undergone BPR efforts in downsizing their organization structure.

## EXAMINATION QUESTIONS

### Short Answer Questions

1. What is cost management?
2. What is target costing?
3. What is cost-plus pricing?
4. Define target cost.
5. List the steps in target costing.
6. Give three features of target costing.
7. What is cost reduction?
8. Explain the difference between cost reduction and cost control.
9. Give three features of cost reduction.
10. What is value analysis.
11. What is value chain analysis.
12. What do you mean by business process re-engineering?
13. What is the difference between value analysis and value engineering?
14. What is the difference between value analysis and value chain analysis?
15. Define the term value in value analysis.

**Essay Type Questions**

1. Explain target costing and compare it with cost-plus pricing system.
2. Describe target costing and the steps in the process of target costing.
3. What is the meaning of cost reduction? What are its features?
4. What are the points of distinction between cost reduction and cost control.
5. In a competition market, profit can be sustained or increased mainly by cost control and cost reduction. Discuss and state the areas of cost reduction you would like to explore.
6. "Product design provides the largest scope of cost reduction." *(B.Com. Hons. Delhi)*
7. What is value analysis? In what way, it is different from value engineering?



# COST CONTROL AND COST REDUCTION

## CHAPTER OUTLINE

Introduction, Target costing vs. Cost-plus pricing, Definition of target cost and target costing, Process of target costing, Just-in-time, Introduction, Meaning of JIT, Features, Implementation, Benefits, Examination questions.

## COST MANAGEMENT

The present day business environment is significantly different from that of the yesteryears. The rapid pace of change is because of factors such as — globalisation of markets, spectacular advances in information and manufacturing technology, deregulation, increasing emphasis on total quality management, etc. The emphasis on quality of products and productivity requires new measures of control. Cost accounting information plays a very important role in determining the appropriate strategic direction for the organisation and effective management. Of course, cost accounting methods and techniques are important but equally important is to understand how to use them for effective decision making. Cost management addresses these changing requirements. In the changed business scenario, the managers have turned towards cost management to find ways and means to continuously reduce costs to improve product/service quality and at the same time maintain profitability.

### Definition

Cost management is a new entrant in the terminology of management and is widely used these days in the business world. Somehow, no uniform definition of this term has developed so far.

In the words of Horngren, cost management is used *“to describe the approaches and activities of managers in the short term and long term planning and control decisions that increase value for customers and lower costs of products and services.”*

According to Hansen and Moven, *“Cost management identifies, collects, measures, classifies and reports information that is useful to managers in costing (determining what something costs), planning, controlling and decision making.”*

It may thus be said that cost management is the practical application and use of cost accounting methods and techniques by the management to improve business performance. Information provided by cost accounting system helps managers make decisions regarding the amount and kind of materials used, changes of product designs, changes in plant processes, etc.

### Advantages

The following are the advantages of cost management:

1. Cost management helps in cost based strategic planning. It provides critical information that manager needs to develop and implement successful strategies. In taking a strategic emphasis, cost management looks to long term competitive success of the firm.

2. Cost management helps in improving factorial productivity and profit margin.
3. Cost management ensures that planning and control of costs are directly linked with revenues and profit planning. For example, the effect of additional cost incurred on sales promotion and product modification on the increase in revenue and profit is studied.
4. Cost management methods and practices are used to help the firm in gaining success.
5. It improves understanding of processes and activities. The same cost may be analysed in different ways to study its relationship with the activity. This helps in more effective planning.

Cost management is an integral part of the general management, planning and monitoring mechanism and it is not practised in isolation. It can be effectively used by both production and service organisations. Use of cost management can significantly benefit many organisations by increasing resource productivity and margins and facilitating effective management of costs.

### COST REDUCTION AND COST CONTROL

Now-a-days businesses are operating in a globally competitive environment, where in order to increase profits, increase in selling prices of products/services may not be possible because of fears of shrinkage in volumes. Thus in order to improve profit performance, businesses have to be extremely cost conscious and improve their performance in cost. In other words, in this age of competition, in order to survive and improve profitability, managers have to make continuous efforts to find out ways and means to *control* and *reduce costs*.

#### COST CONTROL

Cost control is an essential component of any system of cost accounting. It is exercised through comparing actual costs with pre determined standard costs so that the difference between the two can be measured and then analyzed according to reasons for taking corrective action. CIMA, London has defined cost control as, *"the regulation by executive action of the cost of operating an undertaking particularly where action is guided by cost accounting"*. Cost control is thus simply the utilisation of the available resources economically and prevention of the wastage within the existing environment. It is the function of keeping costs within the prescribed limits.

**Steps in Cost Control :** In designing a system of cost control, the following steps are taken :

**1. Establishing norms :** The first step in cost control is to set norms or standards which may serve as yardsticks for measuring performance. These standards or norms are set on the basis of past performance adjusted for changes in future and on the basis of studies conducted.

**2. Comparison with actual :** The actual costs incurred are compared with established standard costs to know the level of achievement. The variations are analysed so as to arrive at the causes which are controllable and uncontrollable.

**3. Corrective action :** Remedial or corrective measures are taken to avoid the recurrence of variations in future and for revision of standards, wherever necessary.

Amongst the techniques used for cost control, the two most popular are budgetary control and standard costing.

#### COST REDUCTION

Cost reduction is often confused with cost control. Cost reduction is much wider in scope and consists of effecting savings in cost by continuous research for improvement in products, methods, procedures and organisational practices. Cost reduction is defined by C.I.M.A. London as *"the achievement of real and permanent reduction in the unit cost of goods manufactured or services rendered without impairing their suitability for use intended."* This definition reveals the following characteristics of cost reduction:

- (i) Cost reduction must be real – say, through increase in productivity, change in product design, improvement in technology, etc.
- (ii) Cost reduction must be permanent — temporary reductions in cost due to windfalls, change in tax rates, changes in market prices, etc., do not come in the purview of cost reduction.
- (iii) Cost reduction must not impair the suitability of products or services for the intended use. In other words, cost reduction should not be at the cost of essential characteristics of the products or services.

The cost reduction is, therefore, the term used for planned and positive approach to the improvement of efficiency. It can be viewed in many ways, such as increasing productivity, elimination of waste, improvement in product design, better technology and techniques, incentive schemes, new layouts and better methods, etc. If the cost reductions are not based on sound reasons, like improved methods, then very quickly the costs will grow back to their original size.

### Cost Control and Cost Reduction — Comparison

Cost control and cost reduction are two effective tools of cost management to improve efficiency. Cost control and cost reduction are two separate phases of cost improvement. Cost reduction begins where cost control ends. The main points of distinction between the two are as follows:

1. **Cost control** is the achievement of pre-determined targets of costs.  
**Cost reduction** is the achievement of the real and permanent reduction in costs.
2. **Cost control** tends to assume a static state of affairs and that standards once set are not challenged.  
**Cost reduction** assumes the existence of concealed potential savings in the standards or pre-determined costs set for cost control and that these standards are always subject to challenge.
3. **Cost control** is concerned with predetermining costs, comparing it with actual costs, analyzing the variances and taking corrective action.  
**Cost reduction** is not concerned with maintenance of performance according to predetermined targets. It is rather concerned with finding out new product designs, methods, etc.
4. **Cost control** is a preventive function as it aims to prevent the costs from exceeding the predetermined targets.  
**Cost reduction** is a corrective function because it challenges the predetermined targets and seeks to improve performance by correcting the targets.
5. **Cost control** is a part of cost accounting function.  
**Cost reduction** may be achieved even when no cost accounting system is in operation.
6. **Cost control** lacks dynamic approach to cost improvement.  
**Cost reduction** is a more dynamic approach to cost improvement and elimination of waste.

### Scope and Areas of Cost Reduction

The scope of cost reduction is so wide that it is not practicable to develop fully the areas in which cost reduction may be applied. Wherever costs are incurred, there is scope for their reduction and the management should not feel that there is no room for cost reduction in any particular area. Effort should, therefore, be made to reduce costs right from the top level to the shop floor level. However, in the following areas, scope of cost reduction is the largest :

**1. Product design.** The design of the product provides the greatest scope for cost reduction. Product design being the first step in production, if cost reduction can be made at design stage, then it is likely that the benefits can be availed to the maximum.

There are two basic points that should be kept in mind while effecting cost reduction in product design :

- (a) The product should perform all the functions for which it is intended, and
- (b) The product should retain its 'esteem' or 'aesthetic' value. This is in the case of many products which have the shape or other characteristic which pleases the eye.

Improvement in product design may result in cost reduction as illustrated below :

- (i) *Material cost*—Change in design of the product may result in saving in material cost. Economical substitution for existing material may also be considered. For example, in manufacturing kitchen utensils, brass may be substituted by cheaper alloys. In curtain rings, metal may be substituted by plastic.
- (ii) *Labour cost*—Improvement in design may result in reduced operating time.
- (iii) *Factory overhead*—Reduced operating time not only helps in saving in labour cost but also in factory overhead.
- (iv) *Packing and transportation*—Compact design of a product results in reduced cost of packing and transportation.
- (v) Cost of tools, jigs and fixtures can be reduced through design improvement.

**2. Organisation.** Cost reduction may also be achieved by improving factory organisation in the form of clear-cut lines of authority and responsibility, well-defined channels of communications, co-ordination and co-operation between various executives, etc.

**3. Production.** A cost reduction programme should make a study of sequence of operations to find out the best one, to use the most suitable machines for the work, to use jigs and fixtures to reduce operating time, to reduce idle time, to reduce scrap by the use of better quality tools, to provide better working conditions conducive to efficiency, etc.

**4. Administration.** Items under this head include savings effected by modifying the range of cash discounts to customers, introducing mechanical and electronic aids to office routine, modifying internal and external communication system, etc.

**5. Marketing.** In this function, costs can be reduced by revising the methods of remuneration of salesmen, re-arrange territorial responsibilities of sales representatives, modifying current methods of advertising, improving product design and production quality so as to reduce after sales service, economising channels of distribution, improving packing, etc.

**6. Finance.** A cost reduction programme should aim at securing capital at economical cost, employing capital to give maximum return and eliminating over and under capitalisation and wasteful use of capital, etc.

### Cost Reduction and Value Analysis

Value analysis is a scientific approach to cost reduction. It aims at cost reduction by increasing the value in a product. In fact, cost reduction may be effected in two ways :

- (a) Cost reduction by economising expenditure and increasing productivity, and
- (b) Cost reduction by improving the use value and esteem value of products. Use value refers to those qualities and characteristics which make a product useful and esteem value refers to those properties which make it attractive and create in it an aesthetic value.

Value analysis attempts to reduce cost by operating on the latter method. Value analysis may thus be described as a systematic analysis and evaluation of the techniques and functions in the various spheres of an organisation with a view to exploring channels of performance improvement, so that the value in the product or service may be bettered. It is a technique which is used to analyse all aspects

of an existing product or service to determine the minimum cost necessary for specific functional requirement. Basically, the idea is to weigh cost against value.

### **Tools and Techniques of Cost Reduction and Cost Control**

Various tools and technique used for cost reduction include the following :

1. Standard costing
2. Budgetary control
3. Inventory control
4. Production planning and control
5. Standardisation and simplification
6. Operational research and statistical techniques
7. Value analysis
8. Automation
9. Design improvement
10. Market research
11. Job evaluation and merit rating
12. Work study
13. Organisation and methods study
14. Quality control.

## **TARGET COSTING**

### **Introduction**

Target costing is a technique of cost management which originated in Japan recently in 1970s. Since then target costing has been widely recognized as a major factor in superior competitive position in Japanese companies. As competition grew more intense and profits weakened, the use of target costing intensified. Now over the years it has become widespread and is extensively used in American and other western companies. Many companies in advanced countries are using target costing for their cost management and enhance their cost competitiveness.

### **Target Costing Vs. Cost-plus Pricing**

Under the traditional approach of pricing the products, the cost is an important factor for determining the selling price. In other words, traditionally price of a product is determined on 'cost-plus' pricing method, i.e. the selling price of a product is set on the basis of total cost plus desired profit. This sounds logical because a company must cover all costs and earn a profit. But it must be accepted that in a competitive market, a company has little influence over the selling prices of its products. Thus a cost plus price may not be acceptable in the market and if it is so then cost-plus pricing approach will prove a recipe for market failure. This view is based on the ground that it is not for the customer to ensure a profit to the manufacturer. In the words of Peter Drucker, 'customers do not see it as their job to ensure manufacturer a profit. The only sound way to price is to start out with what the market is willing to pay.'

In fact, the price of a product has to be determined on the basis of what the market is willing to pay. *Target costing* is a method of determining the cost of a product or service on the basis of competitive price prevailing in the market. In this technique, it is the market price that determines the cost of a product and not the cost that determines the selling price. In simple words, in cost-plus pricing, it is the cost that determines the selling price. But in target costing, it the selling price that determines the cost.

The Japanese philosophy of target costing can be read in the words of Prof. Robin Cooper of Harvard University (USA), who had once said “We tend to build up a model of the product, determine what it is going to cost and then ask whether we can sell it for that. The Japanese turn around. They say, “It’s got to sell for X. Let’s work backwards to make sure we can achieve it”. I’ve never seen this done by a U.S company with the same intensity

### Definition of Target Cost and Target Costing

A target cost is the maximum amount of cost that can be incurred on a product and with it the firm can still earn the required profit margin from that product at a particular selling price. According to CIMA Terminology ‘a target cost is a product cost estimate derived by subtracting a desired profit margin from a competitive market price.’ Target cost is thus an allowable cost for the product or service, given a competitive price, so that the company can earn the desired profit margin. Thus:

$$\text{Target cost} = \text{Competitive market price} - \text{Required profit}$$

Target costing is defined as ‘a cost management tool for determining and realizing a total cost at which a proposed product with specified functionality must be produced to generate the desired profitability at its anticipated selling price in the future.’

In simple words, target costing involves setting a target cost by subtracting the desired profit margin from the competitive market price. For example, if a manufacturer has target a profit of ₹ 25,000 on a new product by producing and selling 50,000 units at a price of ₹ 4 per unit,

Sales 50,000 units @ ₹ 4	₹ 2,00,000
Desired profit	₹ 25,000
Target cost	<u>₹ 1,75,000</u>

The target cost is determined by working from the market price of product to the cost that will allow a company to earn a target profit. It is important that the cost and the price are for the specified product functionality which can be understood from the needs for the customer and his willingness to pay for each function.

Thus target costing is a system where a company determines in advance the cost of the product and the profit margin it wants to achieve. If it cannot manufacture the products at these planned levels, it must cancel its production plan.

In order to reduce cost to a target cost level, companies have to:

- (a) redesign the product or service,
- (b) use advanced cost management techniques to seek higher productivity, and
- (c) use new and advanced technology in the manufacture of goods and services.

### Process of Target Costing

There are a number of steps in the process of target costing. These are briefly described as follows :

1. Define the product, *i.e.*, analyse the product and its functions, identify the customers, study competitive position, etc.
2. Establish a selling price for the product and estimated sales volume from an analysis of the market, and a target profit.
3. Set the target price and cost, *i.e.* set the price that a customer will pay and what should be the target cost by subtracting the profit from the target selling price.

4. Determine the estimated cost for the product.
5. Compare estimate with target.
6. If estimated cost exceeds target cost, repeat cost analysis/value engineering to reduce estimated cost.
7. Make the final decision whether or not to introduce the product once cost estimate is on target.
8. Maintain competitive cost *i.e.*, not only to achieve the target cost but to stay ahead of competitors by using cost reduction methodology on a continuous basis.

## VALUE ENGINEERING AND VALUE ANALYSIS

### Introduction

Value Engineering and Value Analysis are the modern and latest techniques of cost reduction and improving profitability. Before going into the meaning of these techniques, it is better to understand the meaning of the term 'value' as used in this context. The term value may be defined as the ratio of functions of a product to its cost. This means value can be increased by either improving the functions of a product or reducing its cost or both.

There are two elements in the value of a product – (i) use value and (ii) esteem value. Use value relates to use of a product for its functions. Esteem value, on the other hand, pertains to ownership and its appeal to eyes. We can think of many examples from day today life. For example, a watch has more use value if it gives correct time because its basic function is to give time. A watch has higher esteem value if it is designer watch and has gold plated body. Another example can be the difference between a small Maruti Alto car and a luxury BMW brand car and both cars are good but compare their use value and esteem value. Similarly, one can think of simple disposable plastic pen costing ₹ 5 and a branded Parker metallic pen costing ₹ 160 in terms of their use value and esteem value. However, it should be noted that the use value and the price paid for a product are rarely the same, the difference is actually the esteem value.

**Value Engineering** is a systematic method of improving the 'value' in new products and services to be launched. Value engineering is carried out at new product design stage or engineering of the product. It is applied during product development. It is defined as 'a systematic and organized approach to provide the necessary functions in a product at the lowest cost'. It promotes the substitution of materials and methods with less expensive alternatives, without sacrificing functionality so that more functions are performed at a lower cost.

**Value Analysis** is concerned with existing products. In other words, value analysis pertains to products which are already in sale as against value engineering which applies to new products. Value analysis process is used to offer a higher performing product or service to the customer at a minimal cost by substituting an existing product which offers inferior solution. Value Analysis is defined as 'a process of systematic review that is applied to existing product designs in order to compare the function of the product required by a customer to meet their requirements at the lowest cost consistent with the specified performance and reliability needed.'

**Value Analysis Vs. Value Engineering** Value analysis refers to the analysis of an existing product or service while value engineering refers to the same analysis applied to the products or services that are under design and have not been finalised. In other words, value engineering is an early stage process and value analysis is done after the birth of the product *i.e.* an existing product.

The concept of value analysis and value engineering evolved in the 1940s at General Electric Company (USA) during World War II. Due to war, there were shortages of materials, component parts and skilled labour. The Company started looking for substitutes for these and it was found that these substitutes showed equal performance or sometimes improved product functioning and also reduced cost or both.

The following points add to the understanding of value analysis and value engineering:

- (i) The value analysis and value engineering attempt to increase value in products to customers by reducing cost of materials, components, labour, etc and improving product functions.
- (ii) By reducing costs, the revenue and profit from products increase.
- (iii) Value analysis enables a business to take commercial advantage of falling prices, if any, of certain materials, components, technologies, etc. This further helps to reduce costs.
- (iv) Value analysis helps to make improvements in the product in a variety of ways, such as product design, material selection, manufacturing process, assembly, transportation, after-sales customer service, etc.
- (v) With product improvement, the brand value of the product increases. This results in increase in esteem value, thereby making ownership of the product more desirable.
- (vi) The customer are prepared to pay higher price for prestigious and branded products. This further adds to the company profitability.
- (vii) By making a better product as a result of value analysis and other manufacturing techniques, the company gets a competitive advantage.

## VALUE CHAIN ANALYSIS

### Introduction

Value chain analysis is business world's most valuable tool to gain an edge over competitors. It was first introduced in the year 1985 by Michael Porter of Harvard Business School in USA in his book "Competitive Advantage: Creating and Sustaining Superior Performance". It describes the activities that an organization performs and links them to the organizations competitive position.

### Meaning and Definition

In order to understand value chain analysis, one must know what value chain is. The value chain is a full range of activities which a business has to go through to bring a product or service from the stage of conception to the stage of delivery. In other words, a value chain is the whole series of activities that create and build value at every step. The total value delivered by the company is the sum total of the value built up all throughout the company. CIMA London defines value chain as '*a sequence of activities by which, in the perspective of end-user, value is added to (or costs incurred by) the products or services produced by an entity.*' These activities include designing the product, producing the product, marketing the product and then distribution of the same. If you do not add value in some steps of the value chain, your product might be inferior to your competitors. On the other hand, if you add features in the product in other steps of the value chain which are better than competitors, you may create a product which is highly superior to the competitors. The profit margin of the final product is linked directly to the value chain. The more value that is added to the product, the more profit for the company is earned.

### Steps in Value Chain Analysis

There are three steps in value chain analysis :

1. Split business activities into two categories: primary activities and support activities
2. Allocate costs to each activity
3. Identify the activities critical to customer satisfaction and market success. :

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Hammer and Champy in their book *Reengineering the Corporation: A Manifesto for Business Revolution* (1993) have defined BPR as 'the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical, contemporary measures of performance, such as cost, quality, service and speed.'

### Illustration on BPR

A customer calls a company office to complaint why his order has not been executed so far. For this purpose the customer gives all details of placing the order, such as order number, date of ordering, product name and quantity ordered, etc. There comes the reply 'your call is being transferred to accounts department to know the status of your order'. Then customer again explains his problem and details of his order to the accounting department. The accounting department explains that the order has already been invoiced and your call is being transferred to logistic department so that you can know the status of execution of your order. Then the customer has to explain the entire situation again for the third time to the logistic department. The logistic office replies 'please hold the line for a while and will find out the position'. After waiting for some time on the line, there comes the reply, 'sir, your order execution is in the pipeline. It will be executed shortly. I am sorry for the delay in execution as the lineman was on leave for the last two days'. In this type of situation, the customer will definitely reconsider to place a repeat order with the same company.

In the above case, the emphasis is on department functions and each employee feels satisfied with his own work in the sense that he has discharged his responsibility. But the situation is awkward because there is a lack of sense of total responsibility leading to customer dissatisfaction. Under BPR, the company will have to reorganize the processes under order processing team in

such a way that the order processing is electronically recorded step by step and customer has to speak to only one person and know the status of his order.

BPR suggests completely new processes to be implemented on the assumption that current business processes are inappropriate. Such a perspective enables complete redesigning of business processes. The outcome of the BPR may include the following:

1. Employees are given more powers and decision making is made a part employees' job.
2. Several jobs may be combined into one.
3. A single point of contact is provided to customers.
4. All tasks which do not add value are minimized.
5. Steps in the processes are performed in the natural order.
6. Work is performed where it makes most sense.

F. Taylor had suggested as early as in the 1880's that managers use process re-engineering methods to discover the best processes for performing work and that these processes be re-engineered to optimise productivity. In the early 1900's, Henri Fayol, another authority on management, had originated the concept of re-engineering to conduct the undertaking toward its objectives by seeking to derive optimum advantage from all available resources. Hammer and Champy propose that 'BPR can help organizations out of crisis situations by becoming leaner, better able to adapt to market conditions, innovative, efficient, customer focused and profitable in a crisis situation'.

Today BPR is widely accepted by business enterprises and it is achieving dramatic performance improvements. Many world famous companies such as SONY, IBM, WALL MART, HEWLETT PACKARD, GENERAL ELECTRIC, etc. had undergone BPR efforts in downsizing their organization structure.

## EXAMINATION QUESTIONS

### Short Answer Questions

1. What is cost management?
2. What is target costing?
3. What is cost-plus pricing?
4. Define target cost.
5. List the steps in target costing.
6. Give three features of target costing.
7. What is cost reduction?
8. Explain the difference between cost reduction and cost control.
9. Give three features of cost reduction.
10. What is value analysis.
11. What is value chain analysis.
12. What do you mean by business process re-engineering?
13. What is the difference between value analysis and value engineering?
14. What is the difference between value analysis and value chain analysis?
15. Define the term value in value analysis.

**Essay Type Questions**

1. Explain target costing and compare it with cost-plus pricing system.
2. Describe target costing and the steps in the process of target costing.
3. What is the meaning of cost reduction? What are its features?
4. What are the points of distinction between cost reduction and cost control.
5. In a competition market, profit can be sustained or increased mainly by cost control and cost reduction. Discuss and state the areas of cost reduction you would like to explore.
6. "Product design provides the largest scope of cost reduction." *(B.Com. Hons. Delhi)*
7. What is value analysis? In what way, it is different from value engineering?

