PGBA (S4) 02-1

Strategic Management Accounting

SEMESTER - IV

BUSINESS ADMINISTRATION

BLOCK - 1

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MASTER IN BUSINESS ADMINISTRATION

STRATEGIC MANAGEMENT ACCOUNTING

Block 2

DETAILED SYLLABUS

Unit 8: Managing Productivity **Page No. : 127 – 144**

Definition Productivity; Measuring Productivity: Partial and Total; Measuring Changes in Activity Efficiency: Activity Productivity Analysis, process productivity Analysis; Quality and Productivity.

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Measuring Total Business unit performance – The BSC – Financial perspective – customer perspective – internal business process perspective – Learning and Growth perspective. Four perspectives and their sufficiency.

Unit 10: Benchmarking **Page No. : 153 – 173**

Meaning – Benefits of Benchmarking analysis – Types of benchmarking – Benchmarking process – TQM and Benchmarking – Management accounting for benchmarking.

Unit 11: Responsibility centres **Page No. : 174 – 186**

Need for divisionalization, types of responsibility centres. Performance reports, responsibility accounting.

Unit 12: Behavioral aspects **Page No. : 187 – 212**

Segmented performance evaluation. Transfer pricing.

Unit 13: Activity Based Costing (ABC) systems **Page No. : 106 – 120**

Tracing costs from activities to products and services. Activity based management, activity cost drivers. ABC vs traditional costing.

Unit 14: Customer Account Profitability(CAP) analysis **Page No. : 213 – 223**

Meaning and need for CAP analysis. Managing customer profitability, managing relationships – customer costs in service companies.

Unit 15: Product Life Cycle(PLC) costing **Page No. : 224 – 234**

PLC assessment, cost assessment; pricing and evaluation criteria for products at different stages of PLC. Using ABC for analyzing customer profitability.

BLOCK INTRODUCTION:

This is the second block of the course 'Strategic Management Accounting". The Block is divided into 8 units and is primarily a learner oriented Self learning material, as it satisfies the requirements of the learners in the filed of Accounting.

This block comprises of the following seven units:

The first unit of this block gives us a broad idea of Balanced Scorecard

The second unit.gives us an idea on Benchmarking

The third unit is about standard costing.

The fourth unit will help us in understanding the concept of Activity Based Costing system.

The fifth unit of this block explains about Product Lifecycle Costing.

The sixth unit is about Target Costing

The seventh unit is about Competetor Accounting.

Each unit of these blocks includes some along-side boxes to help you know some of the difficult, unseen terms. You may find some boxes marked with: "LET US KNOW". These boxes will provide you with some additional interesting and relevant information. Again, you will get "CHECK YOUR PROGRESS" questions. These have been designed to self-check your progress of study. It will be helpful for you if you solve the problems put in these boxes immediately after you go through the sections of the units and then match your answers with "ANSWERS TO CHECK YOUR PROGRESS" given at the end of each unit. This will help you in making your learning more active and efficient. And, at the end of each section, you will get "CHECK YOUR PROGRESS" questions. These have been designed to self-check your understanding.

The Block is devided into seven units:

Unit 8: Balanced Scorecard

Unit 9: Benchmarking

Unit 10: Standard Costing

Unit 11: Activity Based Costing (ABC) systems

Unit 12: Product Life Cycle(PLC) costing

Unit 13: Target Costing

Unit 14: Competetor Accounting

UNIT 8: BALANCED SCORECARD

UNIT STRUCTURE

8.1 Learning Objectives

8.2 Introduction

8.3 Definition of Balanced Scorecard-

- 8.3.1 Strategy
- 8.3.2 Strategy Maps

8.4 Relevance of Scorecards

8.5 Characteristics of Scorecards

8.6 Model Scorecard

8.7 Number of Scorecards

8.8 Balancing the Balanced Scorecard

8.9 Issues in Balancing Scorecards

8.10 Barriers to Success of Balanced Scorecards

8.11 Ten Commandments for Successful Implementation of BSC

8.12 Let Us Sum Up

8.13 Answers to Check Your Progress

8.14 Further Reading

8.15 Model Questions

8.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- explain the meaning of Balance Scorecards
- explain the role of Balanced Scorecards as an effective tool of planning and control
- state the need for balancing the activities to convert the strategic plan into realistic action plan
- know the various perspectives of an organization's Balanced scorecard
- explain the various issues that impact the preparation and execution of the scorecards

- understand the characteristics of Scorecards

8.2 INTRODUCTION

This unit discusses the concept of Balanced Scorecards. Balanced scorecard (BSC) provides an integrated control system which tries to focus an overall improvement as its bottom line. This helps the management accountant to measure and control the performance of the various activities of the entity more effectively. BSC is closely associated with the other costing tools, such as activity-based costing (ABC) , target costing, value-chain analysis, and standard costing.

In recent years, the BSC has emerged as an important enabler for performance measurement of commercial as well as not-for-profit organizations. It provides an edifice for linking the lag and leads indicators, and comes out with an elite map for achieving the strategy of the organization. It provides futuristic directions and enhances accountability and responsibility. Its importance can be understood from the fact that more than 50% of Fortune 1000 companies and 40% of the major European companies use this approach. Kaplan and Norton (2001) vote for a balanced scorecard with a judicious mix of outcomes and performance drivers

The BSC provides the logical link between the lead and leg indicators based on a cause-effect rationale. It provides a chain of indicators which highlight the smooth flow of actions, deriving its source from the vision and strategies.

8.3 DEFINITION OF BALANCED SCORECARD

The BSC is basically derived from the strategies of the organization. It is the most comprehensive tool of management control to achieve the entities strategic plans. Before preparing the BSC it is desirable to have a strategy map which provides the missing links between the strategy formation and its execution.

The balance scorecard is constructed on a cause-effect relationship wherein each scorecard is closely integrated with another, so that a change

in one performance measure has an impact on another measure. Hence, it is a cycle whereby each scorecard contributes to the other, leading to synergy and integration. This concept is widely becoming popular in both commercial and not-for –profit organizations. It may be difficult to construct and successfully adopt the BSC structure in the early years, but once it is internalized by the departments it proves to be a valuable tool.

STRATEGY

Strategy is the basic platform on which an entity's operations are planned. This is derived from the entity's vision and is the core ideology to create value for all its stakeholders. It is specific to organizations and cannot be standardized. Once it is formulated, the detailed planning process starts. The BSC is the most comprehensive tool of management control to achieve its strategic plans.

In a majority of cases, the real problem was not one of failed strategies, but was more due to bad execution. Nearer home, Kautilya in his Arthashastra emphasizes the need for various resources in a project management plan which resembles the BSC approach.

STRATEGY MAPS

Balanced Scorecards enable organizations to support the implementation of their strategy. An entity in the food processing sector may have a basic strategy of ensuring good prices for the producers (farmers) in order to ensure committed supply of the raw materials. The company is still interested in ensuring adequate returns for the shareholders, enhancing market share, etc. and hence, it must develop a coordinated approach to integrate procurement, production, marketing, finance, and HR functions, to meet its strategy and also run the company successfully. Its strategy to pay higher prices to farmers is to ensure a loyal set of producers who are committed to ensure the company's procurement of raw material. This also enhances their ability to adopt more sophisticated farm-related technology. The company must develop a set of scorecards for its major activities in order to remain profitable. Balanced scorecard enables the organization to do it exactly.

This concept was popularized by Robert.S.Kaplan and David P. Norton (1992) who have published a number of articles in this area. They have basically suggested four scorecards. These are as follows:

a. Financial perspective
b. Internal business processes perspective
c. Customer perspective
d. Learning and growth perspective

Kaplan and Norton have, however, indicated that the above measures are not necessarily sacrosanct and suggest that entities may choose other appropriate measures for meeting their specific requirements. However, the above perspectives are widely used and the authors have proved by virtue of various consultancy assignments that the balanced scorecard approach helps entities to implement their strategies.

8.4 RELEVANCE OF SCORECARDS

The financial performance measures are usually kept at the top of the scorecard as entities are ultimately judged by the financial returns accruing to the shareholders. But this is the result of the cumulative performance of all the functions of the entity. Hence, there is a need to balance the performance of all the functional areas. This implies that the measures should flow from the company's strategy, and must be consistent and understandable. They should have the following basic elements if the balanced scorecard approach is to yield the desired benefits.

1. The company should have a well adopted strategy. If the strategies are vague and keep changing then any performance measure will prove to be ineffective.
2. The internal communication system should be effective and the strategies must be well understood and internalized by all the employees.
3. There must be an effective reporting system with consistent parameters.
4. The work culture of the entity should allow transparency in performance evaluation; otherwise there will be disturb and lack of commitment.

5. Other control measures such as budgeting, standard costing, performance targets, etc. should be tuned to the balanced scorecard approach.
6. Performance measures should be largely controllable by the unit and must be well understood; otherwise this will turn out to be a theoretical exercise.
7. There should not be too many performance measures under any of these scorecards. If the number of measures is too high it could render the exercise more complicated and less effective.

Besides the overall company scorecard, the individual departments can develop their own scorecards that are more specific in nature.



CHECK YOUR PROGRESS

Q 1: Define Balanced Scorecards.

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Q 2: State two relevances of Balanced Scorecard.

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8.5 CHARACTERISTICS OF SCORECARDS

The characteristics of Scorecards can be better understood with the help of various perspectives explained below:

Internal Business Processes Perspective

This perspective focuses on internal operations that further the customers' perspective by creating value for customers and further the financial perspective by increasing shareholder value. This scorecard consists of a number of measures which the company takes to produce goods and provide services that satisfy the customers. It differs from company to company and becomes very relevant in a competitive environment. It could include a number of measures, such as set up time, quality costs, timely delivery, defective units, number of complaints received, time to settle customer

claims, favorable and unfavorable cost variances, age of inventory, timely introduction of new products, market share, etc.

Basically, the above measure falls into two categories:

Efficiency of production or service provision: This consists of various measures pertaining to timely completion, quality, and costs.

New products/services: This consists of number of such products introduced, rate of introduction per quarter, sales of new products, number of units sold, and feedback.

It can be seen that some of the parameters show an upward trend and others show a downward trend in realizing the goal of overall improvement towards achieving the strategic goals. Usually, they are denoted by the symbol + for upward trend and – for the downward trend.

The internal business process perspective comprises three sub processes:

1. **The innovation process:** Creating products, services and processes that will meet the needs of customers,
2. **The operations process:** Producing and delivering existing products and services that will meet the needs of customers.
3. **Post sales Service:** Providing service and support to the customer after the sale of a product of service.

Customer Perspective

This perspective identifies the targeted market segments and measures the company's success in these segments. The success of an enterprise depends on the satisfaction derived by the customers using its products and services. There are several ways of measuring this. Just as for the internal business process perspective, there are positive (+) and negative (-) indicators. The + sign can relate to the following:

1. New customers added
2. Customers retained from earlier periods
3. Product Sales
4. Market share

The + sign refers to a positive trends in the particular perspective. The – sign relates to:

1. Customer complaints

2. Product returns
3. Percentage of customers lost from the previous period

The – sign denotes areas where there is deterioration in the marketing area. It may be noted that the + and – sign are directional in nature and not quantitative. Hence, they have to be supported by the appropriate figures to evaluate performance. Usually, these details are obtained by internal and external approaches. The internal approach consists of statistics relating to the number of customers retained, new customers, the number of new orders, etc. which can be obtained from the company's records. It may have to conduct market surveys, often with help from opinion survey agencies, in order to get reliable data in areas such as customer satisfaction, customer perception of order taking, and the overall satisfaction, results.

Learning and Growth Perspective

This is also referred to as the learning and innovation perspective. Many companies in competitive environments consider this as the base of the pyramid for the growth of the organization. It is obvious that both internal processes and customer perspectives depend upon the quality of products and services along with the quality of the executives and employees. In the current knowledge-based economy, this perspective drives performance to a considerable extent and organizations are placing greater importance on acquiring the right type of processes and human resources. It is somewhat difficult to arrive at very precise performance indicators that can be quantified, for this perspective. However, a number of positive (+) indicators can be used as shown here:

1. Training costs per employee
2. Suggestions per employee
3. Number of patents registered
4. Number of new processes developed
5. Value added per employee
6. Number of training man hours

Similarly negative (-) indicators are as follows:

1. Employee turnover

2. Reduction in training budget
3. Extension of probation

The relevance of this performance perspective is very high also in the service sector. Companies in the information technology, ITES, and BPO sectors are vying with each other to acquire the right quality personnel. In the pharmaceutical sector, higher budgets are provided for the R&D activity. Intellectual property has become a hotly debated topic and at times is an issue of contention between various nations.

Financial Perspective

This has been the most popular performance measure for a long time. This perspective evaluates the Profitability of the strategy. In the commercial world, entities have to deliver value to the owners and therefore, the financial numbers become the widely used indicators of good and bad performance. Even in the case of not-for-profit organizations, such as NGOs, government departments, and charitable organizations, some type of financial indicators are always used. Here also, the positive (+) and negative (-) indicators are applicable. The usual measures are as follows:

1. Net profit
2. Sales growth
3. Gross margin
4. Operating profit
5. Financial ratio
6. Cost variances
7. Earning per share

The popularity of this perspective is also due to the fact that it is precisely quantifiable. There are also legal obligations which make it mandatory to prepare financial statements for the stakeholders, showing the mentioned figures. It is also enables inter-organizational comparisons.

8.6 MODEL SCORECARD

Based on the knowledge regarding scorecards, we can now attempt to compile a BSC for a dairy company. Let us assume that the company is in a very competitive business atmosphere and a new MD has been

appointed and he has convened a meeting of all the departments to discuss the important issues confronting the company. After a month of detailed debates and meetings he has arrived at the following major issues which need to be addressed.

1. The shareholders were not happy with the return on their investments.
2. The main reason for inadequate returns was the relatively low revenue generation compared to other units of the same nature.
3. Customer satisfaction with the regularity of supplies was poor as the products were often not available.
4. Customer satisfaction with the range of products of the company left much to be desired.
5. The main reason for the inadequate supplies was the shortage of milk, particularly during summer months.
6. The percentage of spoiled milk due to storage conditions was higher than the industry average.
7. The market demands new flavours of ice-cream and yogurt, which competitors are offering.
8. The dairy should offer new products more frequently to stay in the market.
9. The solution for increasing milk supply is to educate local farmers to form cooperatives and develop refrigerated chilling centres.
10. Training the young technical staff in dairy technology at company's cost will improve their competence.

The above indicators can be classified under two broad heads, namely, increasing milk supply, and improving the technological aspects. With the given information, a balanced scorecard can be prepared. The plus and minus indicators show the desired directions of growth of the performance measures.

8.7 NUMBER OF SCORECARDS

Although Kaplan and Norton recommended four perspectives in their scorecard model, but they also mentioned that the number and the titles of the perspectives are suggestive, and entities may develop scorecards to

suit their specific requirements. However, it is seen that most of the organizations have adopted the above perspectives, at times with slightly different titles.

A few organizations chose only three perspectives and dropped the financial perspective. The argument for this approach was that the financial targets by themselves may not trigger a chain of action, particularly in creative organizations which are driven by other motivators. Similarly, in not-for-profit and government entities financial perspectives are not considered as significant. Besides, some entities adopt peculiar perspectives which are relevant to their nature of business. Examples are as follows:

Pharmaceutical companies	:	New medicines developed
Mining companies	:	Safety
Community organizations	:	New members enrolled
FMCG	:	Brand promotion

It could be seen that the basic imperative of the balanced scorecard is to develop a vibrant measuring system. The individual scorecards are organization-specific and must be developed in relation to its unique characteristics.



CHECK YOUR PROGRESS

Q 3: Mention the various perspectives involved in BSC.

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Q 4: Mention the three sub-processes involved in internal business processes perspective.

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.....

8.8 BALANCING THE BALANCED SCORECARD

The balanced scorecard integrates the financial and non-financial measures of performance and provides a holistic set of measures to assess

all the areas of performance across the different function. In its absence, managers were assessed only on the basis of financial performance, such as quarterly or annual net profits or ROI. This has a few drawbacks. The emphasis becomes short-term and the financial figures can be tailored to show the desired level of performance called 'window dressing'. The firm's performance as revealed by the financial accounting is the result of integrating and coordinating all the short-term functions. Certain long-term measures such as product innovation and customer satisfaction may not be adequately reflected by the rupee or dollar figures of the earnings. But by using a number of scorecards, the firm can balance the different functions and focus on the weak links to enhance overall performance. This is also a learning process for executives to understand the inter-dependence of each function. Thus, a healthy integration of lag and lead performance measures is achieved.

8.9 ISSUES IN BALANCING BALANCED SCORECARD

The concept of balancing the individual scorecards poses a few issues. It is obvious that each scorecard would require adequate resources to achieve the targets. Most of these can be sorted out by careful planning and interaction between the departments. The concerned executives must be aware of certain inherent issues in balancing the scorecards. They are as follows:

1. Conflict between qualitative and quantitative parameters Certain activities such as research and development, advertising, etc. may not reveal quantifiable results in a linear fashion. This may create certain issues in drafting a BSC, where some of the participants may like to see benefits flowing out in the short run.

2. Balancing financial and non-financial parameters This is inherent in the BSC structure itself. Each indicator, though related to others, may not be amenable to an expression in financial terms. Careful strategy mapping, however, ensures that these indicators are drawn up with measurable relationships.

3. Impact of external environmental factors One of the problems associated with budgeting and other project planning exercises is the unpredictable nature of external forces. This has increased considerably with globalization and growth. To a considerable extent, the concept of flexible budgeting has addressed this problem. Similarly, in the case of BSC, a certain measure of flexibility has to be introduced. This implies that the indicators can effect and also be affected by changes in the other indicators. Besides, due to the competitiveness of the markets certain new indicators may have to be adopted and certain changes in the existing nature of the indicators, and their relative weight age will become imperative. These are however associated with all the planning exercise of organizations in the competitive world.

8.10 BARRIERS TO SUCCESS OF BALANCE SCORECARDS

There are many recorded instances of the successful implementation of balanced scorecards. However, the implementation path is not strewn with rose petals. A good knowledge of the barriers will help to a large extent.

Barriers of implementing scorecards are shown in the following table—

Barriers	**Nature**
Lack of clarity on strategy	Many entities do not have clearly defined strategies. Some of the well-worded strategy statements remain merely management jargons; other are well-articulated desires, unsupported by action. A BSC cannot translate a vaguely conceived strategy.
Lack of cause-and-effect relationship	A BSC's success depends upon a clearly laid down chain of related flow of action. Drawing up this relationship comes with experience. This requires some skills in drafting a BSC and during the early year, the help of consultants will be relevance.
Communication barrier	BSC involves an elite level of coordination between the staff in different departments. This requires a well-developed communication channel. It is stated that less than 5 per cent of the workforce understand the strategy. Even at top levels, conceptual clarity is sometimes missing. Hence, the communication system has to be strengthened.
Work culture	The organization culture should provide for a healthy and transparent system. This is essential for the success of the BSC. Professionally managed entities find it easier to implement scorecard than autocratic or traditional entities.
Resource barrier	Various resources such as technology, manpower, funds, equipment, etc. are required for the implementation of the scorecards. If there is any significant shortage then the activity flow will be seriously hampered.
Incentive system	Usually the BSC is used as a performance measurement tool to motivate the workforce. If the incentives are absent (or worse still, are defectively implemented), then the system will collapse.
Monitoring and feedback	This is often considered as a biggest barrier for BSC implementation. Regular feedback mechanism helps effective monitoring. With the progress in information technology, availability of real time information is made easy.

8.11 TEN COMMANDMENTS

The BSC is developing as a popular measurement tool, but it requires a planned approach to achieve the desired fruits. In organization, the BSC has produced highly satisfactory results due to a scientific and systematic approach. Based on the experience of various successful case studies adopting BSC, the following 10 principles for achieving success can be derived.

1. **Vision, mission, and strategy:** An organization should have a vision-mission statement which is owned and accepted by the entire organization. Based on these pillars, the strategies are formed and communicated down the line. A BSC cannot be finalized without a proper strategy and if attempted, it will be a collection of unrelated indicators. There will be no integration and the exercise is bound to fail.
2. **Stakeholders' support:** A strong commitment to the BSC implementation is required from the top management. It must be cascaded down the line and employees at all levels must own the initiative. The biggest issue is often the decline in the excitement level after the enthusiastic start.
3. **Need for change:** BSC is adopted by progressive entities that have an urge for change. This may be provided by the factors of competition, globalization, and growth. But even in government and not-for-profit organizations, the BSC approach can be used for improving service delivery and quality enhancement criteria.
4. **The Cause-and-effect relationship:** The indicators should be linked by strong relationships and should not be stand- alone actions. In the initial stages of BSC adoption, entities may fail to develop this relationship model and cascade down the line. The learning curve teaches the relationship angle and as the learning improves , the BSC gets firmed up.
5. **The BSC Team:** Successful implementation depends upon a full-time team which is well-versed in the BSC techniques. This team

may be supported by external consultants during the early stages of implementation. Supported by a fully committed CEO, this team can ensure the success of the BSC. It is also important that the members are not frequently changed and that there is a good synergy between the team members, who are drawn from different departments.

6. **Communication:** Since the success of BSC depends upon the performance of all the departments and the units, a clear understanding of the goals as well as the process of BSC is critical for success. This is difficult to achieve in organization where there is no proper work culture. Communication channels also vary and often informal channels work effectively as formal channels. So, BSC team has to play a big role in this area.
7. **Resources:** The direct costs of BSC implementation may not be huge, but resources in the form of employee time, CEO commitment, a fully dedicated team, and authority for ushering in the changes are other non-financial resources that will be required for this exercise.
8. **Data/ information:** A BSC is not an activity that can be performed in isolation and envelopes all functions of the entity. Data inputs are needed from the various departments to identify the major indicators of performance and to draw up the cause-and-effect diagram. Besides, the measurement function also requires real time information. No matter these have become easier due to the spread of IT, external changes like changes in demand, new technologies etc. will have to be sources professionally.
9. **Incentives and rewards:** The balance scorecard provides a new way of measuring performance. It must be supported by rewards for good performance and acknowledgment of merit. Again, in all cases of successful BSC implementation, it is noticed that it has created an open ambience of performance-linked incentives based on a system which is well understood by the entity as a whole. It is also seen that non-financial incentives work better at higher level of hierarchy than financial incentives.

10. Professional Management: All the nine commandments stated above indicate the need of a competent executive who can bring the desired level of transformation through balance scorecard. This requires the need for professional managers at the major levels of strategy execution. An open and transparent management can develop a positive work culture which can have a stabilizing influence in planting a dynamic BSC platform.

These ten principles can provide the beacon of light for BSC implementation in an organized and sustainable way to achieve the desired result. But "management of change" which may be called an invisible hand may be considered as the eleventh commandment. Finally, the sustainability of BSC depends entirely on how well the entity as a whole is geared up for the change management process.



CHECK YOUR PROGRESS

Q 5: Mention three barriers in implementing scorecards.

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Q 6: Write five commandments in successful implementation of BSC.

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8.12 LETS US SUM UP

After going through the unit we have come through the following:

- The various concepts included in Balanced scorecard.
- The various barriers involved in the BSC
- The ten commandments in successful implementation of BSC
- The issues in balancing Scorecard
- The Characteristics of Scorecards

8.13 ANSWERS TO CHECK YOUR PROGRESS

Answer to Q.No.1:

BSC has emerged as an important enabler for performance measurement of commercial as well as not-for-profit organizations. It provides an edifice for linking the lag and leads indicators, and comes out with an elite map for achieving the strategy of the organization.

Answer to Q.No.2:

1. The internal communication system should be effective and the strategies must be well understood and internalized by all the employees.
2. There must be an effective reporting system with consistent parameters.

Answer to Question No.3:

Internal Business Processes Perspective

Customer Perspective

Financial Perspective

Learning and Growth Perspective

Answer to Q.No.4:

1. The innovation process.
2. The operation Process.
3. Post sales services

Answer to Q.No.5:

1. Lack of clarity on strategy
2. Lack of Cause-and effect Relationship
3. Communication Barrier

Answer to Q.No.6:

1. Vision, mission, and strategy
2. Stakeholders Support
3. Communication
4. Incentives and rewards
5. Professional Management



8.14 FURTHER READING

1. Stategic Management Accounting (Theory and Practice) - By V.K.Kumar
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Modern Cost and Management Accounting – By M.Hanif
4. Cost Accounting (Principles and Practice) –By M.N.Arora
5. Management Accounting- By Paresh Shah

8.15 MODEL QUESTIONS

1. Explain the need for balanced scorecard.
2. Explain the basic elements of a balanced scorecard.
3. Describe the components of the customer perspective.
4. Explain the cause-and- effect relationship in a balance scorecard.
5. Narrate the barriers to implementing scorecards.
6. Explain the ten commandments involved in successful implementation of Balanced Scorecards.
7. How can the Balance Scorecard be balanced? Explain
8. What are the Characteristics of Balanced Scorecards?

*** ***** ***

UNIT 9: BENCHMARKING

UNIT STRUCTURE

9.1 Learning Objectives

9.2 Introduction

9.3 Meaning and objectives of Bench marking

9.4 Steps in Benchmarking

9.5 Types of Benchmarking

9.6 Let Us Sum Up

9.7 Answers to Check Your Progress

9.8 Further Reading

9.9 Model Questions

9.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- state the meaning of Benchmarking
- discuss the steps involved in Benchmarking
- discuss the types of Benchmarking
- explain the process of Benchmarking
- discuss the pre-requisite of Benchmarking

9.2 INTRODUCTION

This unit discusses the concept of Benchmarking. Benchmarking is the process of identifying and learning from the best practices anywhere in the world. Bench marking is a powerful tool for continuous improvement in performance. It involves comparing firm's products, services or activities against other best performing organisations, either internal or external to the firm. The main objective is to find out how the product, service or activity can be improved so as to ensure that the improvements are implemented.

The increased global competition calls for special competence of increased cost efficiency for a company for its very survival.

Bench marking is a new technique which will help a company to

achieve this competitive cost efficiency.

The term bench marking has become associated with a growing desire by companies to seek the best available performance, internal or external as a comparator (benchmark) against which to measure their own performance.

Again, Bench marking is the continuous process of measuring the products/ services and business practices of a company against the toughest competitors or industry leaders. It is the search for an industry's best practices that lead to superior performance. Conceptually, benchmark is a standard of excellence or achievement against which other similar things must be measured or judged.

Bench marking performance indicators may include, "Labour Cost per unit of output" in a manufacturing concern or " fee income per dental surgeon" in a dental practice. There may be two types of benchmarking i.e. a. Intra group and b.

Inter group.

In the former case, groups of companies in the same industry agree on bench marks for measuring their respective performance. The processes are benchmarked against each other and improvement task forces are established to identify and report "best practice" to all members of the group so that each participating company can achieve it.

In inter industry bench marking non- competing firms with similar processes are identified and asked to participate in bench marking exercise. The objective is to benefit from experience of the other and establish best practice in their common business process.

9.3 MEANING AND OBJECTIVES OF BENCH MARKING

Benchmarking may be defined as a continuous information sharing process, adopted by an organization internally and externally to identify its strong and weak points against the toughest competitors, to improve the activities carried out and services provided by it.

A bench mark is the best level of performance that can be found inside or outside the organization. The benchmark exercise has five

essential steps-identifying key variables for bench marking, selecting comparative companies, gathering required data, evaluating and interpreting the performance gap and improving the performance to achieve world class operations.

PRE-REQUISITE OF BENCHMARKING

(i) The first pre-requisite is that, the objectives of benchmarking should be clearly defined.

(ii) It is necessary that the senior managers should support bench marking and commit themselves for continuous improvement.

(iii) The scope of the work should be appropriate in the light of the objectives, resources, time and experience of those involved.

(iv) It is necessary that sufficient resources should be made available to complete projects within the required time.

(v) Benchmarking teams should have the right skill and competencies.

(vi) All the stakeholders, staff and others should be kept informed of the reasons of benchmarking.

OBJECTIVES OF BENCHMARKING

Bench marking is a tool for continuous improvement because after identifying a best practice performance, it becomes a target to beat. The objective is to determine how the products, services or activities can be improved and ensuring that such improvements are implemented as well.

It is a technique for continuous improvement in performance. It involves comparing a firm's product, services or activities against other best performing organizations, either internal or external to the firm. It is a performance measure that provides the driving force to establish high performance and means to accomplish these goals.



CHECK YOUR PROGRESS

Q 1: Define Benchmarking.

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Q 2: State two pre-requisites of Benchmarking.

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9.4 STEPS IN BENCHMARKING

The following are the steps in Bench marking:

1. To gather relevant data of participating departments or units.
2. To establish bench marks based on best practices and communicate to the units or departments.
3. To determine actual performance to compare with the bench mark.
4. To analyse the reasons of variances and report them to the management.
5. Review the existing bench mark to set up new targets for continuous improvements.

A bench mark is a target fixed based on the best practice. It may be a financial or a non- financial measure or both. Examples of financial benchmarks are standard cost, target profit, sales revenue, desired cash flow etc. and examples of non-financial benchmarks are customer satisfaction, reduction in machine down-time, target rate of return and target in terms of market share etc.

Again, financial benchmark may be a part of the accounting system, e.g. standard costing and budgetary control including variance analysis.

While establishing benchmarks on total costs relative to volume, a manufacturing company can use the following as benchmarks:

- Internally generated actual costs from the most recent period after making adjustment for expected improvement.
- Internally generated standard costs based on currently attainable standards.
- Externally generated target costs based on the leading competitor's cost analysis.

Companies generally use a combination of financial and non-financial benchmarks rather than depending exclusively on either type. They use different benchmarks depending on the purpose at hand. If the benchmarks are used properly, it helps continuous improvement of performance.



CHECK YOUR PROGRESS

Q 3: State one objective of benchmarking.

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9.5 TYPES OF BENCHMARKING

The benchmarking is a versatile tool that can be applied in variety of ways to meet a range of requirements. The different types of benchmarks have been there over a period of time. Each has its own advantages and disadvantages, and therefore, each is appropriate in certain circumstances then others.

The types of Benchmarking are as follows:

1. Competitive benchmarking
2. Strategic benchmarking
3. Global benchmarking
4. Process Benchmarking
5. Functional Benchmarking or Generic Benchmarking
6. Internal Benchmarking
7. External Benchmarking

1. **Competitive Benchmarking:** It involves the comparison of competitors products, process and business results with own. Actually, Benchmarking partners are drawn from the same sector. So, in order to protect confidentiality it is common for the companies to undertake this type of benchmarking through trade associations or third parties.
2. **Strategic Benchmarking:** It is similar to the process benchmarking in nature but is different in its scope and depth. It involves a systematic process by which a company seeks to improve their overall performance by examining the long-term strategies. It involves comparing high-level aspects such as developing new products and services, core competencies etc.

3. **Global Benchmarking:** It is a benchmarking through which differences in international culture, business processes and trade practices among various companies are bridged and their consequence for business process improvement are understood and thereby utilized. Basically, Globalization and advances in information technology leads to use this type of benchmarking.
4. **Process Benchmarking:** This benchmarking involves the comparison of an organization critical business processes and operations against best practice organization that performs similar work or delivers similar services. For example how do best practice organization process customer's orders? Etc.
5. **Functional Benchmarking:** This type of benchmarking is used when organizations look to benchmark with partners drawn from different business sectors or areas of activity to find ways of improving similar functions or work processes. This sort of benchmarking can lead to innovation and dramatic improvements. It is considered as one of the most important benchmarking.
6. **Internal Benchmarking:** Internal benchmarking involves seeking partners from within the same organization. For example, from business units located in different areas. The main advantage of internal benchmarking is that, to access sensitive data and also information are easier, standardized data is often readily available and usually less time and resources are needed. There may be fewer barriers to implementation as practices may be relatively easier to transfer across the same organization. However real innovation may be lacking and the best in class performance is more likely to be found through external benchmarking.
7. **External Benchmarking:** External benchmarking involves seeking help of outside organizations that are known to be best in class. External benchmarking provides opportunities of learning from those who are at the leading edge, although it must be always remembered that not every best practice solution can be transferred to others. This type of benchmarking may take up more time and resource to ensure the

comparability of data and information, the credibility of the findings and the development of sound recommendations. That is what becomes the disadvantage of the external benchmarking.



CHECK YOUR PROGRESS

Q 4: Mention three types of benchmarking.

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Q 5: Write three code of conduct of benchmarking.

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9.6 LETS US SUM UP

After going through the unit we have come through the following:

- The various steps involved in benchmarking
- The different steps in benchmarking
- The various types of benchmarking
- Objectives of benchmarking
- The pre-requisite of benchmarking



9.7 ANSWERS TO CHECK YOUR PROGRESS

Answer to Q. No.1:

Benchmarking may be defined as a continuous information sharing process, adopted by an organization internally and externally to identify its strong and weak points against the toughest competitors, to improve the activities carried out and services provided by it.

Answer to Q. No.2:

1. The first pre-requisite is that, the objectives of benchmarking should be clearly defined.

2. It is necessary that the senior managers should support bench marking and commit themselves for continuous improvement.

Answer to Q. No.3:

The objective is to determine how the products, services or activities can be improved and ensuring that such improvements are implemented a well.

Answer to Q. No.4:

1. Process Benchmarking.
2. Global Benchmarking.
3. Functional Benchmarking.

Answer to Question No.5:

1. Principle of Legality
2. Principle of Exchange
3. Principle of Confidentiality



9.8 FURTHER READING

1. Stategic Management Accounting (Theory and Practice) - By V.K.Kumar
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Modern Cost and Management Accounting – By M.Hanif
4. Cost Accounting (Principles and Practice) –By M.N.Arora
5. Management Accounting- By Paresh Shah



9.9 MODEL QUESTIONS

1. What is Benchmarking?
2. Explain the steps involved in Benchmarking?
3. Write about the process of benchmarking?
4. Mention the objectives of benchmarking.

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UNIT 10: STANDARD COSTING

UNIT STRUCTURE

10.1 Learning Objectives

10.2 Introduction

10.3 Definition of Standard Costing

10.4 Features of Standard Costing System

10.5 Objectives Advantages, Limitations of Standard Costing

10.6 Importance of Standard Costing

10.7 Pre-requisite for installation of Standard Costing System

10.8 Types of Standard Costing

10.9 Setting Standards

10.10 Differences between Standard Costing and Budgetary Control

10.11 Variance Analysis

10.12 Solved questions

10.13 Let Us Sum Up

10.14 Answers to Check Your Progress

10.15 Further Reading

10.16 Model Questions

10.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- define the terms: standard, standard cost and standard costing.
- elucidate the salient features of a standard costing system.
- distinguish standards costing from budgetary control, historical costing an estimated costing.
- enumerate the advantages and limitations of standard costing.
- know the prerequisites for installation of a standard costing system.

10.2 INTRODUCTION

Standard costing is a technique of using standard costs for the purposes of cost control. It is a system of cost accounting which is designed

to find out how much should be the cost of a product under the existing conditions. The actual cost can be ascertained only when production is undertaken. The predetermined cost is compared to the actual cost and a variance between the two enables the management to take necessary correctives measures. Standard costing is a system of cost accounting which makes use of pre determined standard costs relating to each material, labour and overhead. It may be defined as the preparation and the use of standard costs, their comparison with the actual costs and analysis of variances to their causes and points of incidence. It is the most effective method available for controlling performance and cost

10.3 DEFINITION OF STANDARD, STANDARD COST, STANDARD COSTING

Standard: A standard may be defined as, “a pre-determined measurable quantity set in defined conditions against which actual performance may be compared, usually for an element of work, operation or activity”.

Standard cost: Standard costs are predetermined costs of a product under present or anticipated future conditions. The very term “standard cost” explicitly consists of two terms “standard” and “cost”.

Standard Costing: According to Brown and Howard, “Standard costing is a technique of cost accounting which compares the standard cost of each product or service with the actual cost to determine the efficiency of the operator so that any remedial action may be taken immediately.

According to ICMA, England, “Standard costing is the preparation and use of standard costs, their comparison with actual costs and the analysis of variances to show their causes and points of incidence.”

10.4 FEATURES OF STANDARD COSTING SYSTEM

The following are the features of Standard Costing Systems:

(i) Flow of information: Cost information flows in a straight forward manner in a standard-costing system. From the stage of acquiring of raw materials till the stage of final production (finished goods), each activity is properly accounted for and variances are analyzed

systematically and even such variances are written off against the cost of sales account. Cost information flows smoothly and perfectly under standard-costing system.

(ii) Role of actual costs: Actual costs have no role to play in a standard-costing system. Actual costs are not at all to be taken into account. In this system, no actual product costs are generated. The main trust, in this system, is on the number of products manufactured.

(iii) Performance measurement: A standard-costing system collects analyses and reports the performance by responsibility centres. It acts as a basis for measuring the actual performance. It is a suitable criterion of performance measurement.

(iv) Suitable for repetitive nature of firms: The standard costing system is suitable for firms which produce identical goods in large numbers. For example, manufacturing concerns activities are standardized and repetitive in nature.



CHECK YOUR PROGRESS

Q 1: Define Standard Costing.

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Q 2: State two features of Standard Costing.

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10.5 OBJECTIVES, ADVANTAGES AND LIMITATIONS OF STANDARD COSTING

The following are the objectives of Standard Costing:

(i) To develop formal basis for evaluating performance and efficiency.

(ii) To establish standards for calculating variances.

(iii) To exercise control over all the items of costs with regard to production, administration and selling and distribution

(iv) To help the management to enforce the principle of management by exception at operational level.

(v) To assist in formulation of budgets.

(vi) To help in assigning responsibility for non standard performance in order to correct deficiencies or to capitalize on benefits.

(vii) To providing guidance on possible ways of improving performance.



LET US KNOW

The technique of standard costing may be summarized as follows:

(i) Determination of appropriate standard costs under each element of costs, i.e., material, labour and overhead.

(ii) Comparison of actual costs with the standard costs, the difference between the two being known as variance.

(iii) Analysis of variances for the purpose of ascertainment of reasons of variance.

(iv) Presentation of information to the appropriate levels of management in order that remedial measures may be taken.

ADVANTAGES OF STANDARD COSTING

The Advantages of Standard Costing are as follows:

- **Cost control:** A well-structured standard-costing system would show variance from standard by causes and responsibility centre. This provides management with needed cost-control information. This is an effective tool for the management to exercise cost control and initiate corrective measures, if any adverse variance occurs.
- **Easy identification of source of wastage and loss:** A proper functioning standard-costing system would enable the firm to identify and locate sources of wastages and losses.
- **Cost consciousness:** Standard costing creates a sense of cost consciousness among the workers. They are rewarded and encouraged by way of incentives for any efficiency shown in their work.
- **Revenue decisions and diagnosis:** All revenue decisions and diagnostic analyses involve predicting the future. Standard costs

play a vital role here. A good standard-costing will predict a better indication of future costs than the historical costs.

- **Enhances the morale of employees:** Every worker in an organization will think and act in terms of setting the targets and achieving them. This enhances the morale of the workers.
- **Delegation of authority with responsibility:** Creation of responsibility centres and making the concerned personnel accountable is one of the advantages of standard-costing system.
- **Inventory valuation:** Standard costs serve as a proper basis for inventory valuation. Using historical costs for valuation of inventory will distort the figure of profit if all the finished goods are not sold. But with a standard-costing system, efficiency variances can be written off in the period in which they are incurred. Above all, an inventory can be valued in the absence of actual rates.
- **Simplified procedure:** This system results in reduction of paper work, as less number of records are maintained. This leads to saving in clerical time and expenses.

LIMITATIONS OF STANDARD COSTING

- **Not an easy practice:** Establishment of standard cost is not an easy practice. The installation and operation of a standard-costing system is difficult in practice.
- **Time consuming and costly:** This system requires elaborate procedure and records. Standards established often become rigid. In changing manufacturing and marketing condition, standards need to be revised frequently. This involves time and cost.
- **Not suitable for non-repetitive activities:** This system is suitable for mass and uniform production of a repetitive nature. It is not suitable for those type of industries where production is not uniform and non-repetitive in nature.
- **Post-mortem activity:** Variances are determined and analyzed only after an activity is completed. Only past events have been analyzed. It is like a post-mortem exercise. Only it may aid future managerial decisions as past could not be rectified.

- **Lack of proper control:** Variance analysis with respect to administration, selling and distribution overheads relating to each product cannot be analyzed perfectly. As it is difficult to understand the causes of variance, it would be difficult in such cases to exercise adequate control.
- **Unreliable standards:** Inaccurate and out-of-date standards may create adverse results. Standards established are not reliable at times.
- **Adverse psychological effects:** Standards are usually set at a high level. Non-achievement of targets may cause resentment among the workers. In addition, it will create adverse psychological effects on them.
- **Not suitable to certain industries:** This system may not be suitable for industries dealing with non-standardized heterogeneous products and where production is a prolonged process spreading to more than one accounting period.

10.6 IMPORTANCE OF STANDARD COSTING

Standard costing systems aid in planning operations and gaining insights into the probable impact of managerial decisions on cost levels and profits. Standard costs are used for:

a. Establishing budgets.
b. Controlling Costs, directing and motivating employees and measuring efficiencies.
c. Promoting possible cost reduction.
d. Simplifying costing procedures and expediting cost reports.
e. Assigning costs to materials, work in progress and finished goods inventories.

10.7 PRE-REQUISITE FOR INSTALLATION OF STANDARD COSTING SYSTEM

- **Acceptance by all:** The system should be acceptable to all in the firm, that is, the workers as well as the management. The workers

should be motivated in such a way that they should not resist the installation of standard-costing system. They should be educated in a proper way by explaining its advantages to workers. Top-level personnel too should be made to realize the importance of such system.

- **Efficient staff:** This system requires qualified and trained staff for fixing the standards, measuring the performance, analyzing the variance and reporting to the management.
- **Efficient accounting:** An efficient accounting system is an important and an inevitable requisite for operation of this system. Usage of proper coding system and establishment of cost centres are also essential for a successful functioning of the system. Accounting information also should be proper.
- **Setting of standards:** This is another important pre-requisite for installation of this system. The responsibility of setting standards may be vested with a committee comprising all department heads and cost accountant. Fixing of standards should not be at a high level. It should be achieved by an average worker without much difficulty. They should be fixed judiciously.
- **Size:** This system can be installed in firms which are of a reasonable size. This cannot be introduced in small concerns. It is suitable for industries producing uniform products of repetitive nature in large numbers. It should not be tried to install in other types of industries or jobs.
- **Delegation of authority and responsibility:** This system can be successfully operated if there is proper delegation of authority and responsibility at different responsibility centres. Organization chart should be well structured with a clear demarcation of authority. Hierarchical level should be depicted without any ambiguity.
- **Budgetary control system:** Standard-costing system cannot be operated without a budgetary control system. Budgets fix targets for the period. Standard costs try to achieve them. Hence, budgets

are of much importance for a successful functioning of the standard-costing system.



CHECK YOUR PROGRESS

Q 3: Mention two requisite for installation of standard costing system.

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Q 4: Mention two importance of standard costing.

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10.8 TYPES OF STANDARDS

The important aspect is that what should be the level of standard from the point of attainment?

Whether it should be very difficult to achieve or too easy to achieve? In other words, whether the standards set are too high or too low? Thus, from the standard of attainment, there can be the following type of standards:

a. Ideal Standard: It is a standard which can be attained under the most favourable conditions. These are certain factors, such as material and labour prices, level of performance of employees, highest output with best possible equipment and machinery, highest level of efficiency etc, should be favourable to convert the expected performance as achievable performance.

b. Normal Standard: It is also called average standard. It is attainable during the period of time, having affected by atleast one business cycle. A particular period covering are business cycle is meant for revision of a particular standard. Normal standard may be useful for management in long term planning.

c. Basic Standard: It is established for an unaltered use for an indefinite period. It is possible that indefinite period may be a very long period of time. Basic Standards are rarely revised and they fail to show the fluctuations in the costs and prices which are quite important.

d. Expected Standard: An expected standard can be attained during a future specified period. It also provides an incentive to improve performance and get better of the adverse conditions. These are also helpful in the area of product costing, inventory valuations estimates, analysis, performance evaluation, planning and employee motivation for managerial decision making.

e. Historical standards: This standard tends to be a loose standard because there is a possibility that the average past performance may include inefficiencies, which will be passed on the new standards. However, the utility of these standards is that past performance can be used as a basis for setting of standard in future.

10.9 SETTING STANDARDS

The core point of the standard costing is a technique of setting standards. Setting standard will ensure that the standards are realistic and neither too high nor too low. If very high standards are set, it will be impossible to attain the same and there will be always an adverse variance. This will result in lowering the morale of the employees. On the other hand, if the standards are set too low, they will be attained very easily and the favourable variances will create complacency amongst the employees. Normally, setting up standards is named on the past experience. The standards should be set up in a systematic way so that they are used as a tool for cost control.

Problem in setting Standard:

Problems involved in setting standards are as follows:

a. Incorporate inflation into planned unit costs.
b. Formulation of a labour efficiency standard.
c. Assessment of quality of materials to be used.
d. Decision with regard to appropriate mix of component materials, where some changes in the mix is possible.
e. Estimation of materials prices having seasonal price variations.

10.10 DIFFERENCES BETWEEN STANDARD COSTING AND BUDGETARY CONTROL

	BUDGETARY CONTROL SYSTEM		STANDARD COSTING SYSTEM
1.	Budgetary control system is very broad in nature. Here only the deviation is calculated but not investigated in detail to pin-point the reason.	1.	Standard costing system is technically a more sound system of cost control. Various reasons for deviation from the standard are analysed in detail.
2.	Involvement of accounts and finance departments are more important than any other departments of the organization	2.	Involvement of the engineering and product development departments are very vital for settling different standards
3.	It covers all aspects of the business-manufacturing operations, trading operations, marketing operations etc.	3.	It does not cover all aspects of the business ,e.g., customer care, advertisements etc.
4.	Budgetary control system is concerned with the base of the expenditure at functional level.	4.	Standard costing is more concerned with each element of cost of the department.
5	Budgetary control system can be operated In parts. For eg: budget can be prepared for research and development costs.	5.	Standard costing system cannot be operated only for material cost or labour cost or overhead cost. It should be calculated for all elements of cost of the product.
6.	Budgetary control system helps in control of cost in broader way.	6.	Standard costing system aids in cost reduction.
7.	Budgets are not revised frequently during the accounting period. It is an annual exercise. It is to be prepared in advance of the budget period.	7.	Standards are revised frequently during the accounting period.
8.	All types of organization –big, small, profit seeking and not-for –profit organizations and government prepares annual budget regularly.	8.	Installation and operation of standard costing system is a costly affair. Therefore, small organization cannot afford it.
9.	Scope of budgetary control system is increasing day by day and it is helping the management in future planning.	9.	Scope of standard costing system is narrowing with adoption of advanced manufacturing techniques where chances of variances are almost nil.

10.11 VARIANCE ANALYSIS

A Variance represents a deviation of the actual result from the standard. The term variance is the difference between the standard cost and comparable actual cost incurred during a particular period. Variance may be calculated in relation to profit or sales.

Variance analysis is an exercise which involves efforts to isolate the causes of variances in order to report to management those situations, which can be corrected and controlled by timely action.

It involves an analysis of the actual performance with the standard performance. It is also a process of analyzing. Variance analysis involves

a. Computation of individual variances and
b. Determination of the causes of each variance.

Variance may be favourable or unfavourable depending upon the circumstances. Whether the variance is favourable or unfavourable, is ultimately determined with reference to its impact on profit.

Variance are ascertained for each element of cost for which standards has been established. These variances are further analysed according to their causes so that proper control by the management can be exercised. Variance analysis helps to reveal the controllable and non-controllable variances.

There can be cost variances, profit variances, sales value and operational and planning variances. If the actual is more than the standard, it is called as 'adverse variance' (represented by 'A'). If the actual is less than the standard, it is called as 'favourable variance' (represented by 'F')

CLASSIFICATION OF VARIANCES

The variances may be classified into following categories:

1. Direct Materials variances
2. Direct Labour variances
3. Overheads cost variances
4. Sales or profit variances.

1. Direct Material Variances

Direct material variances are also known as material cost variances. The material cost variances is the difference between the standard cost of materials that should have been incurred for manufacturing the actual output and the cost of materials that has been actually incurred. Material cost variance comprises of: (i) Material price variance, and (ii) Material Usage Variance. Material usage variance may further be sub-divided into material Mix Variance and Material Yield Variance.

(a) Materials Cost Variance: Material cost variance is the difference between standard materials cost and actual material cost. Material cost variance arises due to change in price of materials and variations in use of quantity of materials. Material cost variances is ascertained as such :

Materials cost Variance = Standard Material Cost – Actual Material Cost

Standard Material Cost = Standard Price per unit x Standard quantity of materials

Actual Material Cost = Actual price per unit x Actual quantity of materials

If the standard cost is more than the actual cost, the variance will be favourable, and on the other hand, if the actual cost is more than the standard cost, the variance will be unfavourable or adverse.

(b) Material Price variance: Materials price variance is that part of variance which is due to the standard price specified and actual price paid. Material price variances may arise due to the following reason :

(i) Changes in basic prices of materials.

(ii) Failure to purchase the quantities anticipated at the time when standard were set.

(iii) Failure to secure discount on purchases.

(iv) Failure to make bulk purchases and incurring more on freight, etc.

(v) Failure to purchase materials at proper time.

(vi) Not taking cash discount when setting standards.

Materials price variance is, generally, the responsibility of Purchase Manager but there may be factors beyond his control. Materials price variance is stated as:

Material Price Variance = Actual Quantity (standard price-Actual price)

In this case actual quantity of material used is taken. The price of materials is taken per unit. If the answer is in plus, the variance will be favourable and it will be unfavourable if the result is in negative.

(c) **Material Usage Variance.** The difference between standard quantity and actual quantity is multiplied by standard price of material and the resultant figure will be materials usage variance. This variance may arise due to the following reasons:

(i) Negligence in use of materials.

(ii) More wastage of materials by untrained workers or defective methods of production.

(iii) Loss due to pilferage.

The prompt presentation of materials usage variance will enable corrective measures in time. Inefficiencies can be traced and corrected before large losses have occurred. Materials usage variance is calculated as follows:

Materials Usage Variance = Standard Price (Standard Quantity – Actual Quantity)

Illustration 1

Following is the data of a manufacturing concern. From the figures given below, calculate

(i) Material Cost Variance

(ii) Material Price Variance

(iii) Material Usage Variance.

The standard quality of materials required for producing one ton of output is 40 units. The standard price per unit of material is Rs. 3. During a particular period 90 tons of output was undertaken. The materials required for actual production were 4,000 units. An amount of Rs. 14,000 was spent on purchasing the materials.

Solution:

Standard quantity of material = 90x40= 3,600 units

Standard price per unit = Rs 3

Actual Price per unit = 14,000/4000 = Rs 3.50

i. Material Cost Variance = Std. material cost- Actual material cost

Std. material cost = Std. quantity x Std. Price

= 3600 x 3= Rs 10,800

Material cost variance = 10,800-14,000 = (-) Rs 3,200 unfavourable

ii. Material Price Variance = Actual Qty (Std price per unit- Actual price per unit)

=4,000 (3.00-3.50)

= 4,000 (-0.50) = (-) Rs 2,000 unfavourable

iii. Material usage variance = Std price per unit (Std qty- Actual Qty)

= 3 (3,600- 4,000)

= 3 (-400)= (-) Rs, 1,200 unfavourable.



CHECK YOUR PROGRESS

Q 5: What are the various classification of variances?

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Illustration 2

From the data given below, calculate:

(i) Material cost variance

(ii) Material price variance

(iii) Material usage variance

Products	Standard Qty (Units)	Standard Price (Rs)	Actual Qty (units)	Actual Price (Rs)
A	1,050	2.00	1,100	2.25
B	1,500	3.25	1,400	3.50
C	2,100	3.50	2,000	3.75

(i) Material cost variance = standard material cost — actual material cost = (std. qty. x std. rate)-(actual qty. x actual rate)

Material A =(1.050 x 2) – (1,100 x 2.25) = 2,100-2,475 = - Rs. 375

Material B =(1,500 X 3.25) – (1,400 X 3.50)= 4,875-4,900 = - Rs. 25

Material C =(2,100 X 3.50) – (2,000 X 3.75) = 7,350-7,500 = - Rs. 150

Material cost variance =Rs. 550 Unfavourable - Rs. 550

(ii) Material Price Variance = Actual Quantity (standard price – actual price)

Material A =1,100 (2,00 – 2,25) = 1,100 (-0.25) = - Rs. 275

Material B =1,400 (3.25 – 3.50) = 1,400 (-0.25) = - Rs. 350

Material C =2,000 (3.50 – 3.75) = 2,000 (-0.25) = - Rs. 500

Material Price Variance =Rs. 1,125 Unfavourable -Rs.1125

(iii) Material Usage Variance = Standard Price (Standard Quantity – Actual Quantity)

Material A = 2 (14,050 – 1,100) = 2 (-50) = - Rs. 100

Material B = 3.25 (1,500 – 1,400) = 3.25 (100) = + Rs. 325

Material C = 3.50 (2,100 – 2,000) = 3.50 (100) = + Rs. 350

Material Usage Variance =Rs. 575 Favourable - Rs. 575

Verification:

Material Cost Variance = Material Price Variance + Material Usage Variance

- Rs. 550 = - Rs. 1,125 + Rs. 575
- Rs.550 = - Rs. 550

(d) Material Mix Variance: Material mix variance is that part of material variance which arises due to changes in standard and actual composition of mix. It results from a variation in the material mix used in production. If material mix used in production is of a higher price and larger in quantity than the standard mix, cost of actual material mix will be more. On the other hand, the use of cheaper materials in large proportions will mean lower material cost than the standard.

Material mix variance is the difference between standard price of standard mix and standard price of actual mix. The standard price is used in calculating this variance.

(i) **When Actual Weight and Standard Weight of Mix are Equal**

In this case the formula for calculating mix variance is:

Standard cost of standard mix – standard cost of actual mix

(Standard Price x standard quantity) – (standard price x actual Quantity)

Illustration 3:

Materials	Qty (units) Standard	Price per unit(Rs)	Qty (Units) Actual	Price per unit (Rs)s
A	40	10	50	12
b	60	5	50	8

Solution :

Material Mix Variance = standard unit cost (standard Quantity – Actual Quantity)

Material A = 10 (40 – 50)

=10 (- 10) = Rs. 100 Unfavourable

Material B = 5 (60 – 50)

= 5 (10) Rs. 50 Favourable

Material Mix Variance = Rs. 50 Unfavourable

(ii) **When Actual Weight and Standard Weight of Mix are Different:**

When quantities of actual material mix and standard material mix are different, the formula will be:

(Total weight of Actual mix/Total weight of standard mix) x Standard cost of standard mix – Standard cost of actual mix

2. Direct labour Variances

(a) Labour Cost Variance

(b) Labour Rate of pay or wage Rate Variance

(c) Total Labour Efficiency or Labour Time Variance

(d) Net Time Variance

(e) Idle Time Variance

(f) Labour Mix or Gang composition variance

(a) **Labour Cost variance**: Labour cost Variance is the difference between the standard direct wages specified for the activity and the actual wages paid. Labour cost variance is the function of labour rate of pay and total labour efficiency or labour time variance. It arises due to a change in either wage rate or in time or bother. Labour cost variance is calculated as follows :

Labour Cost Variance	= Standard Labour Cost for Actual Output-Actual Labour Cost
Labour Cost	=(Standard Time for Actual Output x standard wage rate)- (Actual Time x Actual wage rate)

(b) **Labour Rate of Pay or Wage Rate Variance:** It is that part of labour cost variance which arises due to a change in specified wage rate. Labour rate variance arises due to the following reasons .

(i) Change in Basic wage rate or piece-work rate.

(ii) Employing persons of different grades then specified.

(iii) Payment of more overtime than fixed earlier.

(iv) New Workers being paid different rates than the standard rates.

Labour Rate of Pay Variance = Actual time (Standard Rate – Actual Rate)

The variance will be favourable if a actual rate is less than the standard rate and it will be unfavourable or adverse if actual rate is more than the standard rate.

(c) **Total Labour efficiency or Labour time variance:** It is a part of a labour cost variance which arises due to the difference between standard labour hour specified and the actual labour hours paid for including idle time. This variance helps in controlling efficiency of workers. The reasons for this variance are:

(i) Lack of proper supervision

(ii) Defective machinery and equipment.

(iii) Insufficient training and incorrect instruction.

(iv) Increase in labour turnover

(v) Bad Working Conditions.

(vi) Discontentment among Workers due to unsatisfactory personnel relations.

(vii) Use of non-standard material requiring more time to complete work.

(viii) Labour efficiency variance is calculated as follows :

Total labour efficiency Variance = Standard Wage Rate (Standard Time For Actual Output- Actual Time paid)

Illustration 4

Calculate labour variances from the following information:

Gross wages direct (Rs) 28,080

Standard hours produce 8,640

Standard rate per hours 3

Actual hours worked 8,200

(i) Labour Cost variance = Standard Labour Cost – Actual Labour Cost

= (Standard Time x Standard Rate)-(Actual Time x Actual Rate)

= (8,640x3)- {8,200x28,080 / 8,200}

= 25,920-28,080 = Rs. 2,160(Adverse)

(ii) Labour Rate of Pay Variance = Actual Time (Standard Labour Rate-Actual Labour rate)

= 8,200(3-3.44)

= Rs. 3,480(Adverse)

(iii) Labour Efficiency Variance = Standard Labour rate (Standard Time- actual Time)

= 3(8,640-8,200)

= 3(440) = Rs. 1,320 (Favourable)

3. Direct Overhead Variances:

It indicates the difference between the standard overhead cost and the actual overhead cost. In case of direct material and direct labour variances, there is no question of dividing them into fixed and variable as the direct material and direct labour costs are variable. However, in case of overheads, it is necessary to divide them into fixed and variable for computation of variances.

4. **Sales Variances:**

They are divided into four classes:

a. Sales value Variance: If actual sales are more than the budgeted sales the variance will be favourable, otherwise it will be adverse. Sales value variance= Actual value of sales- Budgeted value of sales.

b. Sales Price Variance: It arises due to the difference between standard price and the actual selling price.
Sales Price variance= Actual Quantity (Actual Price – standard Price)

c. Sales Volume Variance: It arises due to the difference between actual quantity of sales- budgeted quantity of sales.
Sales volume variance= Standard price (Actual quantity of sales – standard quantity of sales)

d. Sales Mix Variance: It is the difference of standard value of revised mix and standard value of actual mix.



10.12 LETS US SUM UP

After going through the unit we have come through the following:

- The various features of Standard Costing
- The Advantages and Disadvantages of Standard Costing
- The various requisites of standard costing
- The techniques and various types of Standard Costing
- The importance of Standard Costing



10.13 ANSWERS TO CHECK YOUR PROGRESS

Answer to Question No.1:

Standard costing is the preparation and use of standard costs, their comparison with actual costs and the analysis of variances to show their causes and points of incidence

Answer to Question No.2:

1. Flow of information
2. Role of actual cost

Answer to Question No.3:

1. Acceptance by all.
2. Efficient staff.

Answer to Question No.4:

a. Controlling Costs, directing and motivating employees and measuring efficiencies.
b. Promoting possible Cost Reduction.

Answer to Question No.5:

1. Direct Materials variances
2. Direct Labour variances
3. Overheads cost variances
4. Sales or profit variances.



10.14 FURTHER READING

1. Stategic Management Accounting (Theory and Practice)- By V.K. Kumar.
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Cost and Management Accounting – By M.C. Shukla.
4. Cost Accounting (Principles and Practice) – By M.N. Arora.
5. Management Accounting- By Paresh Shah.

10.15 MODEL QUESTIONS

Fill in the blanks:

(a) Three types of standards are ……
(b) Idle time variance is ……
(c) The technique of standard costing may not be applicable in case of ……

(d) Total labour cost variance …….

(e) Material usage variance = material mix variance + …….

[Ans. (a) current standard, basic standard and normal standard (b) Idle Time x standard Rate (c) Small concerns (d) Rate of pay Variance + labour efficiency variance (e) Yield Variance]

1. What is meant by standard Costing?
2. What are the advantages of standard Costing? Discuss the limitations of standard costing.
3. Distinguish between Standard Costing and Budgetary Control.
4. What is a 'standard cost'? What are the principal advantages and reasons for developing and using standard cost system?
5. How standard casting is related to Budgetary control?
6. What are the different types of Standards? Write a note on setting standards.
7. What are the pre-requisites of Standard costing system?

*** ***** ***

UNIT 11 : ACTIVITY BASED COSTING (ABC)

UNIT STRUCTURE

11.1 Learning Objectives

11.2 Introduction

11.3 Circumstances in which ABC would be needed

11.4 Various Terms used in ABC

11.5 Steps in ABC

11.6 Objectives of ABC

11.7 Activity Cost Drivers

11.8 Advantages and Limitations of ABC

11.9 Different Stages in Activity-Based Costing

11.10 Activity Based Management

11.11 ABC Vs Traditional Costing

11.12 Let Us Sum Up

11.13 Answers to Check Your Progress

11.14 Further Reading

11.15 Model Questions

11.1LEARNING OBJECTIVES

After going through this unit, you will be able to

- explain the concept of Activity- Based Costing
- know the various terms used in ABC
- state the objectives of ABC
- discuss the advantages and limitations of ABC
- outline the Activity Cost Drivers
- know about Activity Based Management
- state the tracing of cost from activites to products and services

11.2 INTRODUCTION

This unit discusses the concept of Activity based costing together with its objectives. The main objective of any costing system is to determine

scientifically the cost of a product or service. For facilitating the calculation, the costs are divided into direct and indirect. Direct costs are the costs which are traceable to the products or services offered. On the other hand, indirect costs which are also called as 'overheads' which is not traceable to the products or services. Charging the direct costs to the products is comparatively a simple procedure. However, the indirect costs are the present problem in charging them to the products and services.

Now in this computer age of advancing technologies and automation, the proportion and importance of overhead in the manufacturing operations is increasing and direct costs are being relegated to the background. Therefore, there is a need for a more sophisticated system of accounting for overhead so that more accurate costs of products and services may be ascertained. It also throws the impact on various circumstances in which ABC would be needed. The various advantages of activity based costing are also discussed in this unit.

In order to overcome the limitations of traditional costing systems, activity based costing has been introduced.

Activity based costing (ABC) is an alternative to traditional way of overhead accounting. It is an upcoming and more refined approach of charging overhead to ascertain more accurate product costs.

It provides a more accurate view of product cost, but companies typically use it as a supplemental costing system. The allocation bases used in activity -based costing differ from those used in traditional costing. Activity- based costing determines every activity associated with producing an item and allocates a cost to the activity. The cost assigned to the activity is then assigned to products that require the activity for production.

11.3 CIRCUMSTANCES IN WHICH ABC WOULD BE NEEDED

The activity based costing is suitable for product costing in the following circumsances:

- More than one product is manufactured.
- Overhead forms a high proportion of total cost.

- Products are not similar.Different products are using different activities and consume different resources.
- Overheads are not depending upon the output of the product but its complexity and diversity of operations.



CHECK YOUR PROGRESS

Q 1: Define Activity Based Costing.

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Q 2: State two circumstances in which ABC would be needed.

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.....

11.4 VARIOUS TERMS USED IN ABC

In order to understand ABC, one should be familiar with the meaning of the following terms;

Activity: An activity may be defined as a particular task or unit of work with a specific purpose. Examples of activities are - placing of a purchase order, setting up of a machine, after sales service, etc.

Cost object: The final stage in Activity based costing is to identify the cost with the final products which can also be called as cost objects. It is an item for which cost measurement is required. For example: a product, a service, projects, a job or a customer etc. are cost objects.

Cost driver: It is a factor that causes a change in the cost of an activity. Cost driver is of two types -resource consumption cost driver and activity consumption cost driver.

Cost pool: The point of focus for the costs relating to a particular activity in an activity-based costing system. For example: in case of a manufacturing organization as regards to stores, cost of classification, cost of issue of stores requisitions, inspection costs, etc can be pooled under the heading ‘stores’. Thus cost pool concept is similar to the concept of cost center.

Resource : A resource is an economic element consumed in performing

activities. For example- salaries, and consumable stores are the resources used in performing manufacturing activities.

11.5 STEP IN ABC

The following are the steps in activity based costing:

1. Identification of the main activities: The major activities are first identified in the organisation. The number of activities in an organisation should be neither too large nor too small. As either too large a number will be costly and will add to the complexity of the system while too small a number will compromise with the accuracy of the cost. Actually, the total cost in the activity should be significant enough to justify to give an activity a separate treatment.
2. Creation of cost pool: it is grouping of individual cost items. A cost pool or cost bucket should be created for each activity .It is like a cost centre around which costs are accumulated.
3. Determination of activity cost drivers: The factors that influence the cost of a particular activity is known as cost drivers. It signifies the factors or events that determine the cost of activity..
4. Calculation of the activity cost driver rate: Just as an overhead absorption rate is calculated in traditional costing system, in ABC a cost driver is calculated as follows:

   $$\text{Activity cost driver rate} = \frac{\text{Total cost of activity}}{\text{Cost drivers}}$$

5. Charging the cost of activities to the products: The cost of activities are traced to products on the basis of demand by products. The cost drivers are used to measure product demand of activities. For eg: The total cost a located to the cost centre for machine set up related costs is Rs 50,000 and that there were 100 set ups during the period. Thus the rate per set up is Rs 50,000/100= Rs 500. If a particular product needs 10 set ups, charge to that product will be Rs 500*10= Rs 5000. If 20 units of the product are produced, cost per unit will be Rs 5000/20 = Rs 250. In this way cost of other

activities also will be charged to product.

11.6 OBJECTIVES OF ABC

The following are the important objectives of activity-based costing:

1. To reduce distortion in product costs often found in traditional overhead accounting.
2. To provide more accurate product costs leading to more accurate product and customer profitability.
3. To help the managers in decision making by accurate allocation of costs and fixing price to products and services.
4. To identify various activities in the production process and further identify the value adding activities.
5. To distribute overheads on the basis of activities through cost driver rate.
6. To identify the opportunities for improvement and reduction of costs.
7. To eliminate non value adding activities.

11.7 ACTIVITY COST DRIVERS

Activity based costing is a type of costing that identifies activities within the business and estimates the resources required to fulfill each activity. An activity cost driver is a factor that affects the costs associated with an activity. ABC allows managers to determine the costs to perform an activity as well as the costs associated with not performing the activity. For example, When a production line has to wait for a certain part to arrive from an external distributor or other manufacturing line, the manager can quickly determine the true cost of waiting for the part. Activity cost drivers attempt to provide a more comprehensive view of the actual costs of an activity, such as a manufacturing process.

In simple words, Activity Cost Driver is any factor that has the effect of changing the level of total cost.

Example of costs and possible cost drivers are given below:

Purchase Costs-No of purchase orders.

Inspection costs-No of Inspections

Set-up Costs- No of Set-ups

Machine Activity-Machine Hours etc.



CHECK YOUR PROGRESS

Q 4: State two objectives of Activity based costing.

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11.8 ADVANTAGES AND LIMITATIONS OF ABC

ABC is being implemented by a growing number of companies around the world. It has primarily developed on account of the limitations of traditional system of charging overhead. It offers the following advantages:

1. **Accurate and realiable:** ABC is a more accurate and reliable system of determination of products costs as it is based on cause and effect relationship is cost incurrence.
2. **Better pricing decisions:** It helps in overcoming the problem of over costing and under costing as a result of which management is able to make more judicious decisions about pricing, product lines and market segments
3. **Control of cost:** ABC produces more meaningful information regarding cost behaviour and enables management to control many fixed overhead by exercising more control over those activities which cause these fixed overhead.
4. **Greater cost efficiency:** ABC helps to identify unnecessary activities so that these may be weeded out and thus achieving greater cost efficiency.
5. **Informative products:** ABC provides more accurate and informative product costs which in turn help the management to take decisions about pricing, product lines, and market segments.
6. ABC can help in distinguishing between profitable and unprofitable products and customers.

7. Allocation of costs: In a service environment, the allocation of costs to service delivery may not be easy. The use of different cost drivers may help in allocation of costs in a better manner.

LIMITATIONS OF ABC

The activity based costing is a very sophisticated and refined system which produces accurate costs. However, it suffers from certain limitations given below:

1. Activity based costing system is time consuming and expensive to develop and implement. It is not suitable for small organisations.
2. Determination of most appropriate cost drivers is difficult.
3. Implementation of ABC in service industry is difficult as the tracing of costs to service delivery may result in too many cost drivers.
4. A limited number of Cost Drivers may not fully explain the cost behaviour of different items in the cost pool.
5. ABC is a complex system and is not only time consuming but also comparatively costly to maintain.
6. Implementation of ABC requires specialized trained professional who are available in limited number.



CHECK YOUR PROGRESS

Q 5: Mention two limitation of Activity Based Costing?

.....

.....

Q 6: Write four advantages of Activity Based Costing?

.....

.....

11.10 DIFFERENT STAGES IN ACTIVITY-BASED COSTING

The following are the different stages in Activity based costing:

1. Identification of various activities within the organisation,

2. Creation of 'cost pool' (cost center) for each major activity.
3. Allocation and apportionment of overhead cost to cost pools.
4. Determination of 'cost driver' for each activity.
5. Computation of cost driver absorption rate.
6. Computation of overhead cost per unit of output by using cost driver absorption rate.

11.11 ACTIVITY BASED MANAGEMENT

The activity based management is a tool of management that involves analyzing and costing activities with the goal of improving efficiency and effectiveness. Though it is closely related to the activity based costing, still it differs from the same in its primary goal. The activity- based costing focuses on activities with the object of measuring the cost of products or services. It tries to compute the cost as accurately as possible. On the other hand, activity based management focuses on managing the activities themselves.

In activity based costing resources are traced to the activities for the purpose of computing the costs while in activity based management, resources are traced to activities for evaluation of the activities themselves. In other words, efforts are made to improve the activities further. Thus, activity based management is a set of actions that management can take, based on information from an activity based costing system, to increase or improve profitability.

The different aspects of activity based management are–

Cost -Driver Analysis: The factors that cause activities to be performed need to be identified in order to manage activity costs. For eg: In a stores department, it may be observed that slow moving and obsolete stock are not disposed of in time, the reason being that the staff working in the stores is not trained properly in this area. Managers have to get involved in order to find out the root cause of the problem and take necessary action.

Activity- Analysis: It identifies value added and non-value added activities. The activity analysis identifies the various activities in the organisation and also the activity centers that should be used in activity based costing system.

Efforts are made to eliminate the non-value adding activities.

Performance Analysis: This analysis involves the identification of appropriate measures to report the performance of activity centers or other organisational units consistent with each unit's goals and objectives. The analysis aims to identify the best ways to measure the performance of factors that are important for organisation to stimulate continuous performance.

Differences between Activity Based Costing and Activity Based Management:

11.12 ABC Vs TRADITIONAL COSTING

In traditional approach, there is lack of cause and effect relationship between the cost allocation bases and indirect cost pools because one or a few cost pools for each department having little homogeneity are used.

In ABC approach, many homogenous indirect cost pools for various activity areas rather than a department are used. There is a cause and effect relationship between the cost allocation bases and the indirect cost pools. The traditional approach usually uses a few pools of indirect costs, so cost allocations are oftenly based on broad averages. The costs of products thus ascertained may be either overcosted or undercosted which may lead in making wrong pricing decision resulting in loss of market share by fixing higher selling prices. ABC is a rational way of assigning indirect

Activity Based Costing	**Activity Based Management**
1. ABC is the operational segment of ABM. 2. The aim of ABC is to generate improved cost data for use in managing a company's activities. 3. It refers to a technique of determining the cost of activities and the cost of output produced by those activities.	1. It is a conceptual aspect i.e. management attitude. 2. ABM is a much broader concept and aims to use information given by ABC, for effective business processes and profitability. 3. It focuses on planning, execution and measurement of activities as a key to competitive advantage.

costs to various activities and pricing decisions taken by the managers will be retained.

Activity based costing may lead to improved decision making such as fixing selling price and pinpointing the areas where cost reduction is possible because it provides detailed information about various activities involved in a product.

Activity based principles can be successfully applied to the art of budgeting. Activity based budgeting is especially useful in case of budgeting of Indirect costs. Important steps in activity based budgeting are as follows:

1. Determining the demand for each individual activity on the basis of budgeting production.
2. Determining the budgeting cost of performing each activity.
3. Ascertaining the actual cost of each activity.
4. Comparing the actual cost with the budgeting cost of each activity, noting down the difference and taking corrective action wherever necessary.



CHECK YOUR PROGRESS

Q 7: State the meaning of Activity Based Management.

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Q 8: Mention the different stages in Activity based costing?

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.....



1.13 LETS US SUM UP

After going through the unit we have come through the following:

- The various objectives of activity based costing.
- The advantages and limitations of the system

- Various stages in Activity based costing
- The different analysis in Activity based management
- Steps in Activity based costing
- The terms used in Activity based costing.



1.14 ANSWERS TO CHECK YOUR PROGRESS

Answer to Question No.1: Activity based costing (ABC) is an alternative to traditional way of overhead accounting. It is an upcoming and more refined approach of charging overhead to ascertain more accurate product costs.

Answer to Question No.2:

- More than one product is manufactured.
- Overhead forms a high proportion of total cost.

Answer to Question No.3: The main objective of any costing system is to determine scientifically the cost of a product or service.

Answer to Question No.4:

1. To reduce distortion in product costs often found in traditional overhead accounting.
2. To provide more accurate product costs leading to more accurate product and customer profitability.

Answer to Question No.5:

1. Activity based costing system is time consuming and expensive to develop and implement. It is not suitable for small organisations.
2. Determination of most appropriate cost drivers is difficult.

Answer to Question No.6:

1. Accurate and reliable.
2. Allocation of costs.
3. Control of cost. And
4. Greater Cost Efficiency.

Answer to Question No.7: The activity based management is a tool of management that involves analyzing and costing activities with the

goal of improving efficiency and effectiveness. Activity based management focuses on managing the activities themselves.

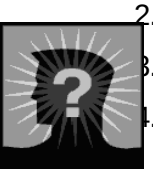
Answer to Question No 8: The following are the different stages in Activity based costing:

1. Identification of various activities within the organisation,
2. Creation of 'cost pool' (cost center0 for each major activity.
3. Allocation and apportionment of overhead cost t cost pools.
4. Determination of 'cost driver' for each activity.
5. Computation of cost driver absorption rate.
6. Computation of overhead cost per unit of output by using cost driver absorption rate.



11.15 FURTHER READING

1. Stategic Management Accounting (Theory and Practice)- By V.K.Kumar
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Modern Cost and Management Accounting – By M.Hanif
4. Cost Accounitng (Principles and Practice) –By M.N.Arora.



11.17 MODEL QUESTIONS

1. Explain the various steps in Activity based costing
2. What the various circumstances in which ABC would be needed?
3. Describe the three analyses to be followed in Activity Based Management.
4. What are the various advantages of Activity Based Costing?
5. Mention the limitations of Activity Based Costing.
6. Point out the differences between Traditional Costing and Activity based costing.
7. Write the difference between Activity Based Costing and Activity Based Management.

8. OBJECTIVE TYPE QUESTIONS (True or False)

1. Traditional method of costing may result in undercosting and overcosting of products.
2. Activity based costing is one of the best tools for refining a costing system.
3. Cost Pool is like a Cost Center.
4. ABC system always helps companies to better price their products.
5. Purchasing of large quantity of materials is a cost driver.

Answers:

TRUE- 1,2,3,4 FALSE- 5

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UNIT 12: PRODUCT LIFE CYCLE COSTING

UNIT STRUCTURE

12.1 Learning Objectives

12.2 Introduction

12.3 Product Life Cycle

- 12.3.1 Stage 1: Introduction Stage
  - 12.3.1.1 Characteristics of Introduction Stage
  - 12.3.1.2 Strategies of Introduction Stage
- 12.3.2 Stage 1: Growth Stage
  - 12.3.2.1 Characteristics of Growth Stage
  - 12.3.2.2 Strategies of Growth Stage
- 12.3.3 Stage 3: Maturity Stage
  - 12.3.3.1 Characteristics of Maturity Stage
  - 12.3.3.2 Strategies f Maturity Stage
- 12.3.4 Stage 4: Decline Stage
  - 12.3.4.1 Characteristics of Decline Stage
  - 12.3.4.2 Strategies of Decline Stage

12.4 Characteristics of Product Life Cycle

12.5 Stages of Product Life Cycle Costing

12.6 Cost Involved in Different Stages in the Product Life Cycle

12.7 Benefits of Product Life Cycle Costing

12.8 Uses of Product Life Cycle

12.9 Lets US Sum Up

12.10 Answers To Check Your Progress

12.11 Further Reading

12.12 Model Questions

12.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- know the importance of Life Cycle Costing
- describe Product Life Cycle Costing

- explain characteristics of Product Life Cycle
- analyze cost involved in different stages of Life Cycle Costing
- discuss the benefits of Life Cycle Costing.

12.2 INTRODUCTION

In this unit you will study about the Product Life Cycle Costing. Before we discuss about Product Life Cycle Costing, let us know about Life Cycle Costing (LCC). LCC involves the costs and revenue over a product life i.e. from introduction of the product to the decline stage. The objective of LCC is to generate profit from the total life of the product. This objective can be a useful tool to analyze which strategies the firm needs to adopt in order to be successful.

12.3 PRODUCT LIFE CYCLE

Every product manufactured under the sky has got a life cycle. However, the product life cycle varies from few days to few years. If we take perishable like dairy products such as milk, yoghurts, cheese, etc.; are perishable within few days or weeks. There are few perishable goods like medicines, bakery items, etc; are perishable within months. If we take an example of automobile, textile, etc, there are perishable within some years. Thus, the management designs a pattern of expenditure, sales volume, profit generation right from generation of new idea of the product to deletion of product. Product life cycle of Tata Indica car is explained in the exhibit 12.1

Exhibit 12.1 Tata Motor Phased out

In 1998 when Tata Motors introduced Tata indica in auto expo in New Delhi, India, there was lot of speculation about this car and people thought that it will beat Maruti Suzuki. When bookings opened over 1,00,000 bookings clocked long before delivery schedule. After two decades of running, it is ending of the road to the Tata Indica. In May, 2018 Tata announced that it will phase of Tata Indica compact cars and its platform mate Indigo eCS.

Indeed Tata Indica was a special car in many ways, both for the Indian market as well as for Tata Motors. It helped Tata Motors to establish in car business and showed the world that the company had capital to develop the car. The car made buzz in the industry and odds were stacked against the car. In 2002, Tata motors became third in the industry.

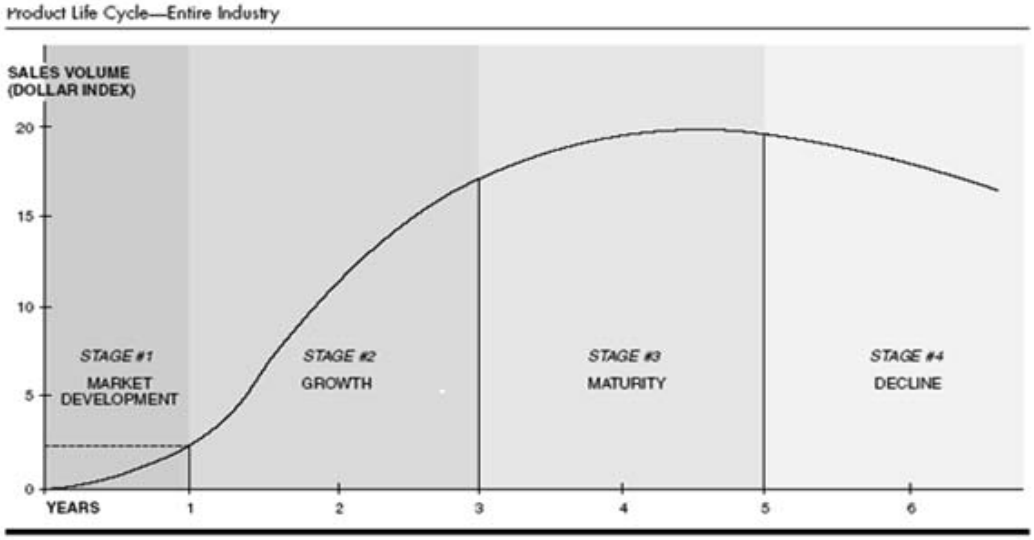
The impact of Indica was such that Maruti and Hyundai changed their strategies to take on the Indica. Hyundai launched Santro and Maruti Suzuki slashed the prices of Maruti 800 because there was no new model until Alto was launched in 2000. What helped Indica were design, pricing and fuell. The competitors faced stiff competition with Indica and therefore the competition was between Maruti Suzuki and Hyundai. The Indica's sales were boosted in tourist taxi segment. Auto experts had an opinion that Indica has come to phase out stage because it dominated 20 years in the industry.

Tata Indica which is indigenous passenger car launched in 1998 has been front runner of Tata Motor's Private Vehicle (PV) segment. With changing market dynamics and evolution of Tata Motor's design it was decided by the company to phase out Tata Indica from product life cycle. However, the company started giving service support to its customers

Source: https://timesofindia.indiatimes.com/business/india-business/tata-motors-phases-out-indica/articleshow/64294959.cms

The product life cycle consist of four stages or phases which is explained in the following figure No.12.1 below

Figure 12.1. Product Life Cycle



12.3.1 Production Stage – Stage 1: In this stage the new product is launched in the market. As the product is novel, there is no or minimal awareness and acceptance of it. In fact there is no competition and profits are nonexistent. The duration of the introduction stage differs from one product to another which is based on various factors.

12.3.1.1 Characteristics of Introduction Stage

The characteristics of introduction state is explained in figure 12.2 below

Figure 12.2: Characteristics of Introduction Stage

Figure 12.2

1. Decision about the product branding, packaging and labelling*:* The Company has to take a decision about how the product should be i.e. how to brand the new product by creating a unique name and image for the new products in consumers mind mainly by means of advertisement campaigns like advertisement in newspapers, TVs, social media etc.; with a consistent theme.

Now coming to, packaging, it ensures the protection of the product from any damage or pilferage. Further, it also helps in product promotion, at the point of purchase. So, a brand can be displayed clearly with the help of package.

The company labels its new products to bring identification. This kind of labeling helps a viewer to differentiate the product from the rest in the shelves of the market.

2. High distribution and promotional expenses*:* At this stage there is high cost involved in distribution of the new product to various distributional channels and also high amount of promotional expenses are involved while promoting the product in the market.

3. Profits are low or negative due to low initial volume. Since the product is new and it is moving slow in the market there is always a possibility that the company's profit is low or negative in the initial stage.

4. Aggressive promotional efforts to increase awareness*:* In initial stage the company makes huge expenditure towards promotion of its product. It employs marketing team to for promoting its product in the market and also spend money for advertisement for increasing the awareness of the product. For example while promoting the 'Jio phone', the Reliance company has made relentless effort to promote the its product so that it all the mobile phone had awareness about the product.

5. Huge efforts to attract various marketing channels. In the initial stage the company makes huge effort to convince and attract various marketing channels like manufacturer to distribution and distribution to the consumer and finally from consumer to the costumer. For example, Toyota manufacturing high end cars sells to its distributor and distributor will sell those cars to the customer. Sometimes the channels of

distribution will be direct from manufacturer to the customer. For example a farmer who sells his/her produce at site or market place.

6. Pricing may be low penetration or high skimming pricing: Depending upon the product to product the companies may opt for low penetration of pricing or high skimming pricing. High skimming pricing is pricing in which the companies sets for high relative price at the initial stage and lowers the price over a period of time. Example: Skimming of pricing usually seen in launching of new mobile phones.

7. Product refinements are not possible: In the initial stage refinement of the product is not only difficult but also impossible because there is no feedback about the product and customers are making the experiment on the new product. Based on the feedback or past mistakes the company is able to refine its product. For example Goods and Service Tax software often refined based on the new updates made by the Government of India.

8. Few competitors produce basic version of products: When a new product enters into market, the competitors usually launch new product in the market with basic features or version. For example we can see in telecommunication industry, when new mobile phone is launched immediately the competitors will launch new product within few months.

9. Focus on buyers who are the most ready to buy: In initial stage of product life cycle the focus is mainly on the customers or buyers who are ready to buy the product. The company makes huge effort to reach these buyers in order to sell their products. For example a new model of two wheeler is launched in the market by an automobile company; the focus of the company is primarily on youth who are the company's ready-made buyers.

12.3.1.2 Strategies involved in introduction stage or stage-1

1. Attracting customers by raising awareness of the product though promotion activities like TV shows, hoarding, pamphlets distribution, newspaper advertisement, etc.
2. Inducing the customers to try and buy the product by giving them free samples, test drives, discounts, offers like 1+1 etc.

3. Strengthening or expanding channel and supply chain by providing proper logistics and Just in Time management
4. Building on the availability and visibility of the product that boost channel intermediaries to support the product by giving discounts, gifts, holiday packages to the channels of distribution when they achieve their targets
5. Setting price in alignment with the competitive realities of the market by keeping the price low or at par with the competitor's price. If the price is more than the competitor's price, then the customers may not be interested in purchasing the product and if the price of product is less than the competitor's price than the competitor's may think the product is of inferior quality. So, the company has to balance the price. For example pricing between Coca Cola and Pepsi is almost the same price.



CHECK YOUR PROGRESS

Q 1: What are the strategies adopted by a company in stage -1 of product life cycle?

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12.3.2 Growth Stage - Stage II: In this stage, sales begin to expand rapidly because of greater awareness by the customers. There will be huge competition in the market. As a result of competition, profit starts declining at the end of the growth stage. The characteristics of growth stage are explained in figure 15. 3 below

12.3.2.1 Characteristics of Growth Stage

The characteristics of growth stage are explained in figure 12. 3 below

Figure 12.3: Characteristics of Growth Stage

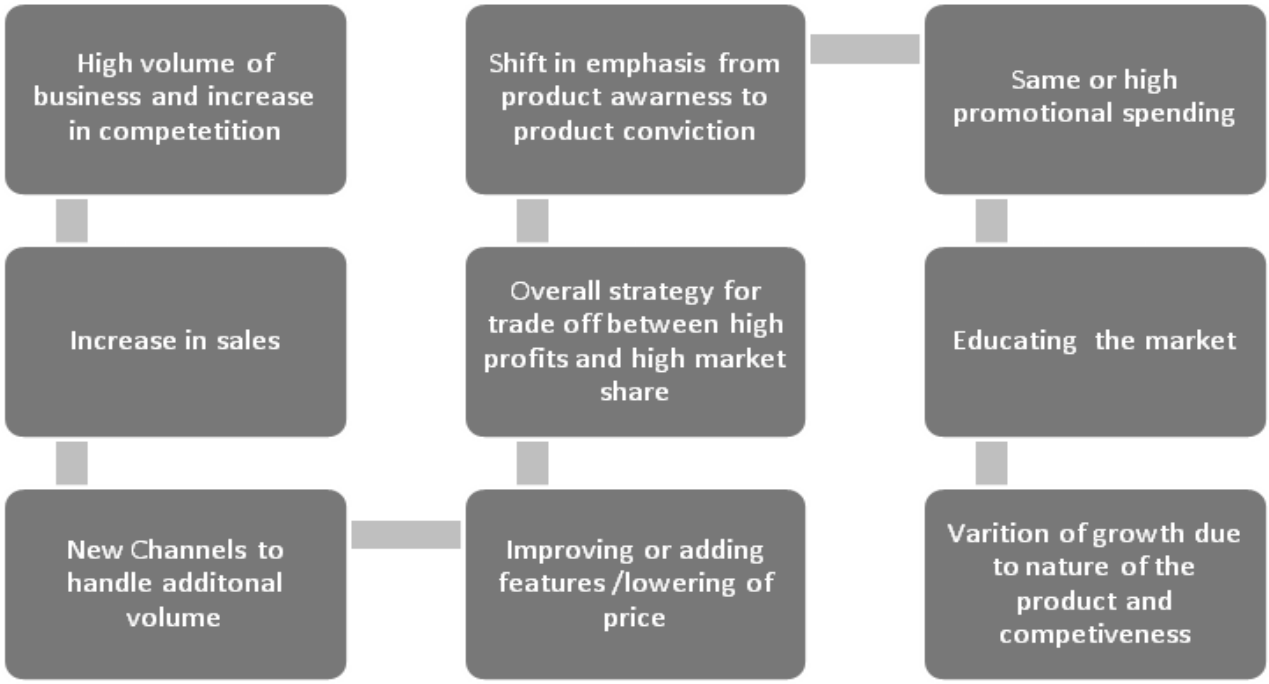


Figure 12.3

1. Highly volume of business and increase in competition: In this stage there is a high volume in business it means there will be huge trading activity of the product in the market. With increase in volume of business there will be also increase in competition and the company has to face cut throat competition in the market

2. Increase in Sales: There will be high increase rate of sales as compared to initial stage. These sales are increased because of promotional activities made by the company during initial stage. There is good awareness about the product in the market place in this growth stage

3. New channels to handle additional volume: As the company reaches the growth stage and there will be huge volumes of trade in demand for the company's product there is a need for new channels to handle the additional volume. Therefore, the company will look into more new distributors or franchises to sell their product.

***4. Improving or adding features or lowering of price*:** At this stage the company slowly increases it profits and depending upon the market requirement, the company may improve or add some more features to the product. For example, in case of mobile company, the company may come

up with new app service which is free of cost. Sometimes in order to beat the competition the company after making sufficient profit or after making break even can reduce or lower the price of the product.

5. Overall strategy for tradeoff between profits and market share: In this stage the company makes overall strategy for balancing between profit and market share. At this stage the company may pay minimal dividends to the shareholders in case the company is public limited company.

6. Shift in emphasis from product awareness to product conviction: In this stage 2 there is a paradigm shift from product awareness to product conviction. In initial stage the company makes brand building for product awareness and in growth stage it focuses on product conviction which means creating the creditability of the product which will lead to trust in the hearts of the customers.

7. Same or high promotional spending: In stage 2 the company may spend the same amount of expenses for promotion or it may spend high depending upon the competition, sales volume, business volume, etc.

8. Educating the market: In this stage the company educates all the potential customers in the market in order to retain them in the business.. The company educates them by informing them about the features of the product and how it is useful for them. This type of education can be done through social media, advertisement, etc. For example, fair & lovely face cream advertises about its product about its expert fairness solution.

9. Variation in growth due to nature of the product and competition. In growth stage there will be a variation in growth of the business due to nature of the product and competition. If the product does have not long lasting nature then there will be decline in the growth. If the product has good features then the product will be increase in in the growth of the company. Sometimes, if company faces cut throat competition, then company has low growth and if the company is monopoly then the growth will be high.

12.3.2.2 Strategies involved in growth stage or stage-2

1. Establish a clear brand identity through promotional campaign. Due to increase in advertisement campaign the company establishes brand identity in the customers mind

2. Maintain control over product quality to assure customer satisfaction. In this stage the company strives hard to maintain the quality of the product so that the customer is satisfied with the features of the product
3. Maximize availability of the product through strong distribution channel. In this stage the company maximizes the availability of the product 24/7 through its distribution channel. In this growth phase, the company faces huge competition from the competitors which makes the company to avail the product at all time. If there is shortage of the product in the market , then customers will prefer the competitors product.
4. Find the ideal balance between price and demand as per price elasticity. In this stage the company will effectively balance the price and demand of the product as per price elasticity i.e.[1] if a small change in price is accompanied by a large change in quantity demand, the product is said to be elastic (or responsive to price changes). On the other hand, a product is deemed inelastic if a large change in price accompanied by a small amount of change in quantity demand.
5. Overall strategy shifts from acquisition to retention of customers, from motivating product trial to generating repeat purchases and building brand loyalty. In this stage the company makes strategy to retain the customers by making them to purchase the product repeatedly by providing discount coupons, gifts, etc.
6. Development of long term relationships with customers and partners. In the maturity stage the company tries to develop relationship with customers, partners, distributors, etc.; in long term perspective. This will help the company to sell the products even at the maturity stage..
7. Value based pricing strategies may be considered. In this stage the company makes value based pricing strategy to overcome the competition and to capture the market.



CHECK YOUR PROGRESS

Q 2: What are the strategies adopted by companies in stage-2 of product life cycle?

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12.3.3 Maturity Stage - Stage III: During the stage of maturity, sales continue to increase but at a slow rate. When sales nose dives, the profit of both the producer and middle men also decrease drastically. This is due to immense price competition and some company extent their product lines with new models. This stage faces difficult challenges.

12.3.3.1 Characteristics of Maturity Stage

The characteristics of maturity stage is given in figure 12.4 below

Figure 12.4: Characteristics of Maturity Stage



Figure 12.4

1. Over capacity of industry: As the company enters into stage 3, the total situation in the market changes. It is a situation where the capacity to produce exceeds the demand. Therefore, there will be excess of supply of the product in the market.

2. Some laggard buyers still enter the market: In maturity stage there will be some companies who enter into market and falls behind. This will increase more competition in the market

3. Customer starts moving towards other products and substitutes: At this stage the customer may think that the competitor is offering fewer prices and more quality and may be interested in changing the brand.

4. Intensified competition: In this stage the company grows leaps and bounds in the market and such growth will counter huge competition in the market.

5. Profit starts decline: Due to high competition in the market and excess production with less sales, the company's profits start declining slowly.

6. Strong market challenges: In this stage the company has to face strong challenges from the market. The challenges include high competition, pricing strategy, customer retention, etc.

7. No new distribution channels to fill: In maturity stage there is no extra sales to be done because the company has already capture the market and there is no entrance for new distribution channels

8. High R & D budget: After this stage-2, the company starts declining and therefore the company has plan budged for Research and Development (R&D) for generation of new product.

15.3.3.2 Strategies involved in maturity stage or stage-3

1. Strong marketing efforts are needed to win over the competitor's business like giving discounts coupons, prizes, etc.
2. Product features may be improved or enhanced to differentiate product from that of competitors. For example the Ram of Samsung Galaxy J7 is 1.5 GB where as Xiamoi Redmi 5 A GB is 2.0
3. Prices may have to be reduced to attract the price sensitive consumer

4. Various sales promotion incentives are necessary for the consumers as well as dealers to maintain interest in the product
5. Distribution becomes more intensive and incentives may be offered to encourage product over competing products

CHECK YOUR PROGRESS

Q 3: What are the strategies adopted by company in stage-3 of product like cycle?

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12.3.3 Decline Stage - Stage IV: Decline in sales volume characterizes this last stage of the product life cycle. The need or demand for product disappears. Availability of better and less substitutes in the market accounts for the arrival of this stage. The decline stage of Maruti 800 is explained in exhibit 15.2 below



xhibit 12.2 Maruti Suzuki stop production of Iconic 800

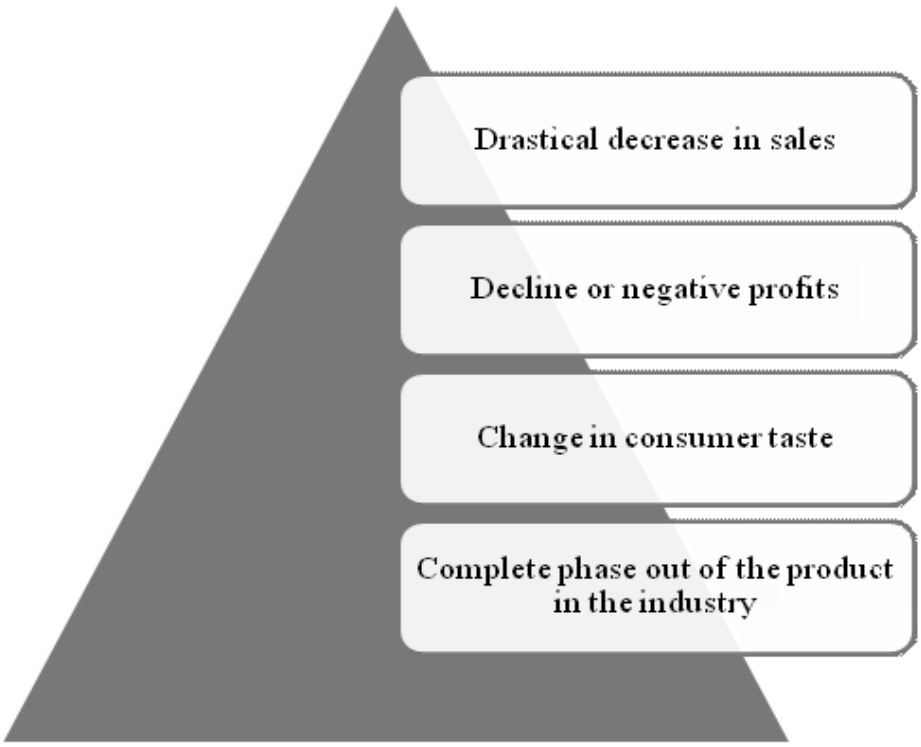
In 2014 Maruti Suzuki India Ltd's Gurgaon plant rolled out the country's last Maruti 800 ending the hatchback's three-decade run on Indian roads after a phase-out that began four years ago. The Maruti 800 stopped its production on 18th January, 2014. The company sold 2.7 million cars of Maruti 800 cars since it was launched in 1983. The company which is largest car manufacturing in India has stopped its Maruti 800 sales in 16 cities including in all metropolitan because it was not viable for the company to upgrade the cars to comply with Bharat Stage (BS) IV emission norms and thereby it began to phase out Maruti 800 in 2010. Due to lost in appeal by the Maruti 800, the buyers migrated to other models such as Alto, Wagon R of Maruti Suzuki and also to other companies like Hyundai, please verity, etc.

Source: https://www.livemint.com/Companies/bUcUvv3llyvnwSi4ZUX5BK/Maruti-Suzuki-stops-production-of-Maruti-800.html

12.3.4.1 Characteristics of Decline Stage

The characteristics of decline stage is explained in figure 12.5 below

Figure 12.5: Characteristics of Decline Stage

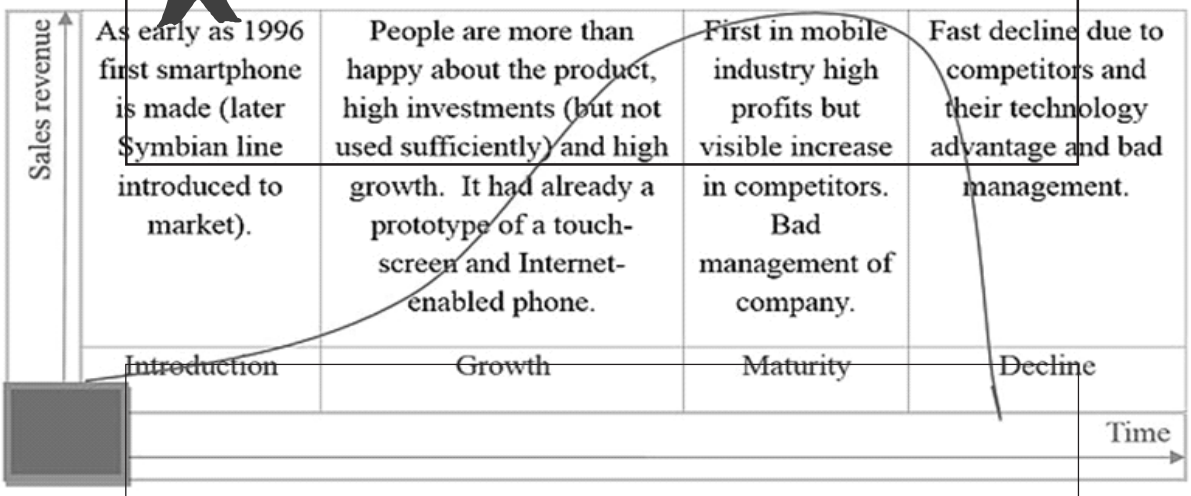


1. Drastically decrease in sales: In this stage the sales of most product forms drop to zero or may remain at low level. There is completely mismatch between demand and supply and new products with new features may have entered the market.

2.Decline or negative profits: Due to drastic decrease in sales the profits eventually will be down and sometimes losses may also occur. This situation will make the company bad to worst

3. Change in consumer taste: Sales decline for number of reasons including technological advances, consumer shift in taste, etc. Upgrade change in technology will always made the existing technology redundant. For example Nokia (Refer figure 15.6 below) move too slowly in the smartphone market, it didn't anticipate competition in the lower end of the market, either. In developing countries like China, companies like ZTE, Huawei and HTC attacked Nokia from the low end

Figure 12.6 Phase out of Nokia company due to outdated technology





CHECK YOUR PROGRESS

Q 4: How consumers change in taste impact the in the country. Before the introduction of Pulsar, the company was popular for its geared scooter known as 'Chetak' . After the introduction of automatic scooters into the Indian market, Bajaj has put an end to its 'Chetak'

As per the industry report it is assumed that Bajaj Auto will bring back the Chetak brand and it is expected to be launched in 2019. The report clearly stated that the new upcoming Bajaj Chetak 125CC scooters

will be priced between Rs.65,000 to Rs.70,000. Bajaj is planning to take over the market by encashing its classic Chetak brand which was popular in Indian automobile industry

The new Bajaj Chetak will come up with new design and will offer a right mix of performance and mileage. The report also states that the upcoming Bajaj Chetak will also designed with 125CC air cooled single cylinder engine that produces around 9.5.hpb that will offer a high mileage

The new Bajaj Chetak will be loaded with features such as a digital instrument cluster with Bluetooth connectivity, USB mobile charging port, alloy wheels, numerous storage spaces, spacious seat and underseat storage and CBS (Combined Braking System). Bajaj might even offer a disc brake at the front.

As per the internal sources of Bajaj company, that the company may launch automatic scooters at the earliest. Bajaj is also focusing on strengthening its position in the global motorcycle market before entering a new segment.

The report also state that Bajaj Auto finally enters into the popular automatic scooter segment facing fierce rivals like Piaggio Vespa, Honda Activa, etc.

Source: https://www.drivespark.com/two-wheelers/2018/bajaj-chetak-scooter-make-comeback-launch-details-revealed-026043.html

4. Complete phase out of the product in the industry: In this stage there will be complete phase out the product from the industry. For example, tape recorder which was prominent in the world 1980-90 was phased out completely from the global market with the introduction of new resolution of digital players.

Strategies involved indecline stage or stage-4

1. The product can be maintained in the market by different ion, keeping low cost for some more time by adding certain new features and finding new uses.

2. The firm can continue to offer the product to its loyal customers (niche segment) successfully
3. The firm can even discontinue the product
4. Use the product as replacement product for launching another new product successfully in the market
5. The various marketing decisions in the decline stage will depend on the fact that, whether it is being revived, or given a new lease life, or left unchanged it is being liquidated
6. The price may be maintained or reduced drastically if liquidated

12.4 CHARACTERISTICS OF PRODUCT LIFE CYCLE (PLC)

a. PLC costing involves tracing of costs and revenues of a product for severalyears throughout its life cycle.
b. PLC costing traces research, design and development costs and also compare total magnitude of each individual product and compare with product revenues
c. Each phase of the PLC will face different threats and opportunities that will require different strategic actions.
d. PLC may be extended with finding of new uses or users or by increasing the consumption of the present users.
e. Profit per unit varies as products move through their life cycle
f. Products require different functional emphasis in each stage-such as R&D emphasis in the development stage and a cost control emphasis in the decline stage
g. Finding new uses or new users or getting the present users to increase their consumption may extend the life of the product

12.5 STAGES OF PRODUCT LIFE CYCLE COSTING

The following are the main stages of Product Life Cycle:

(i) Market Research:

It will establish what product the customer wants, how much he is prepared to pay for it and how much he will buy.

(ii) Specification:

The specification will give details such as required life, maximum permissible maintenance costs, manufacturing costs, required delivery date, expected performance of the product.

(iii) Design:

There should be proper drawings and process schedules.

(iv) Prototype Manufacture:

From the designs a very few quantity of the product will be manufactured. These prototypes can be used to develop the product.

(v) Development:

In initial run testing and also changing is made to meet the requirements. This period of testing and changing is a development. When a product is manufactured for the first time, it seldom meets the requirements of the specification and changes have to be madecontinously until it meets the requirements.

(vi) Tooling:

Tooling for production means building a production line; building equipment, buying the necessary tools and equipment's requiring a very huge initial investment.

(vii) Manufacture:

The manufacture of a product involves the purchase of raw materials and components, the use of labour and manufacturing expenses to make the product.

(viii) Selling: The manufacturer makes strategic planning for selling of the product

(ix) Distribution: After making the sales planning the manufacturer appoints distributors for selling of his product

(x) Product support: It is a service provided by many vendors of various products, primarily electronics, that provides the end-user with a resource for information regarding the product, and help if the product should malfunction.

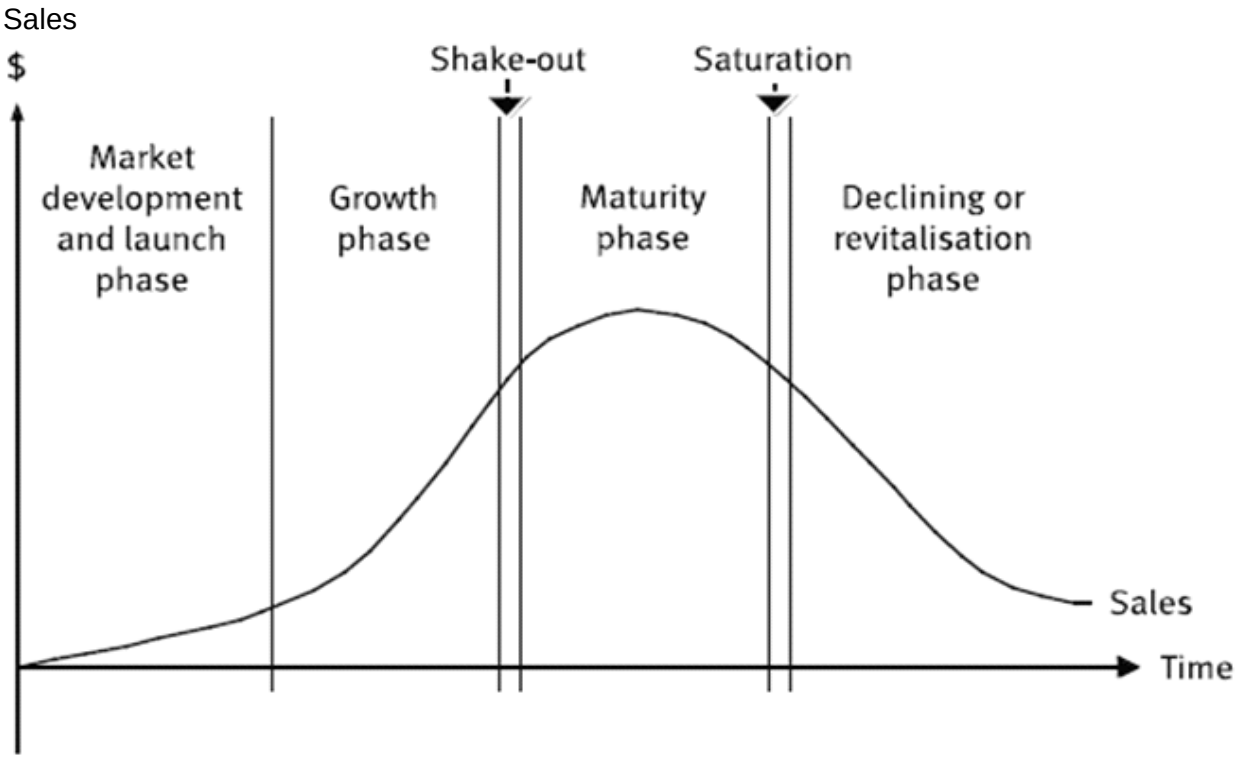
(xi) Decommissioning:

When a manufacturing product comes to an end, the plant used to build the product must be sold or scrapped.

12.6 COST INVOLVED IN DIFFERENT STAGES IN THE PRODUCT LIFE CYCLE:

The cost of involved in different stages of product life cycle is explained in figure 12.7 below

Figure 12.7: Cost involved in different stages of product life cycle



If we observe the above graph the cost involved is much lesser comparative to growth stage. However, if we look into growth and maturity there is substantial increase in the cost. Eventually, the cost tend to decline in revitalization phase due to saturation in the product.

12.7 BENEFITS OF PRODUCT LIFE CYCLE (PLC) COSTING

Following are the benefits of PLC costing:

(i) It will results an earlier action to generate revenue or minimize the costs than otherwise might have considered. There are a numerous factors that need to be managed in order to maximize the returnon a product.

(ii) Better decision will be made for a more accurate and realistic assessment of revenues and costs within the life cycle stage.

(iii) It will basically promote long term rewarding other than short term rewarding.

(iv) It will providean overall framework for considering the total incremental costs over the entirelife span of a product. This will facilitates analysis of the facts of the entire life cycle span to identify and improve the cost efficiency.

LIFE COST PLANNING (LCP)

LCP concerns with the assessment and comparisonof alternatives during the design or acquisition phase. It uses similar techniques as Economic Appraisal in the future i.e., nominal cost are discounted at today's rupee discountedrate.

The application of Discounted Cost Analysis to LCP differs from the Economic Appraisal in the Life Cost Planning generally: It will considers all components of cost within asset options over life of the asset

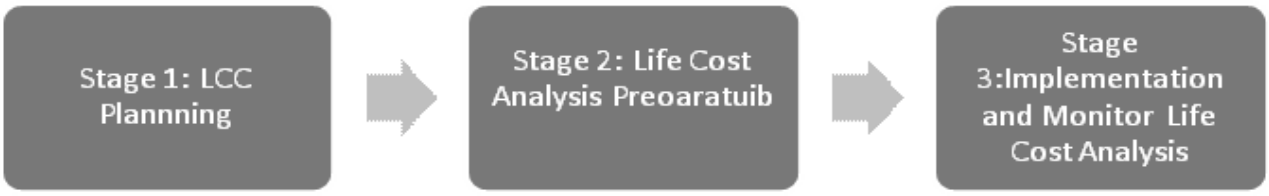
It does not directly consider the benefits or revenue streams that are generally assumed to be equal amongst the options being compared (benefits and revenues are considered in the evaluation of option)

LIFE CYCLE COSTING PROCESS

Life cycle costing consists of three-staged process. The first stage is known as life cost planning stage which includes planning LCC Analysis, Selecting and Developing models of LCC, applying LCC model and finally recording & reviewing the LCC results. The Second Stage is Life Cost Analysis is preparation stage followed by third stage which is known as

Implementation and Monitoring Life Cost Analysis. The process of life cycle costing is explained in figure 12.8

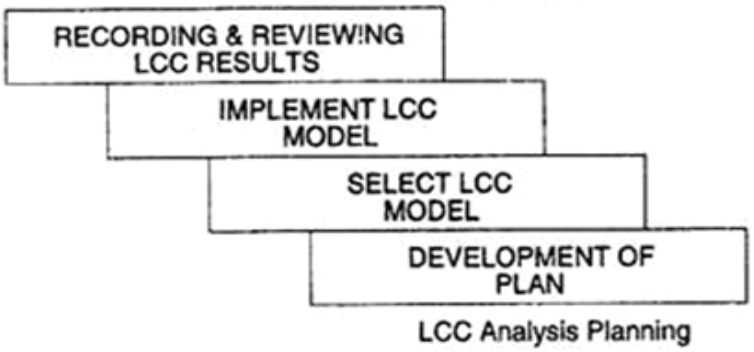
Figure 12.8 Life Cycle Costing Process



Life Cycle Costing Process:

LCC Analysis is a multi-disciplinary activity. An analystwho involves in life cycle costing should be fully familiar with unique cost elements involved in the life cycle of asset, sources of cost data to be collected and financial principles are to be applied.

The analyst should also have clear understanding of methods of assessing the uncertainties associated with the estimation of cost. Number of iteration may have to be required to perform to finally achieve the desired result. All ns of



The LCC process begins with development of a plan, which addresses the purpose, and scope of the analysis.

The plan should:

i. Define the objectives of analysis in terms of outputs required to assist the decision taken by the management

Typical objectives are:

a. To Determine the LCC of an asset in order to assist planning, contracting, budgeting or similar needs.

b. To Evaluate the impact of alternative courses of action on the LCC on an asset (such as approaches of design, asset acquisition, support policies or alternative technologies).

c. To identify the cost elements for which act as cost drives for the LCC for an asset in order to focus on design, development and acquisition or asset support efforts.

ii. To make a detailed schedule with respect to planning of schedule time period for each phase, the operating, technical and maintenance support required for the asset.

iii. To identify any underlying conditions, assumptions, limitations and constraints (such as minimum asset performance, availability requirements or maximum capital cost limitations) that might restrict the range of acceptable options to be evaluate and identify alternative courses of action that are to be evaluated.

iv. To identify alternative courses of action to be evaluated. The list of proposed alternatives that are required to be refined as new options are identified or as existing options are found to violate the problem constraints.

V. oprovideestimation for resources to be required and a reporting of schedule for the analysis to ensure that the LCC results will be available to support the decision-making process for which they are made.

Next step in LCC Analysis planning is the selection or development of an LCC model that will satisfy the various objectives of the analysis. LCC Model is basically an accounting structure which enables the estimation of an asset components cost.

Stage 2: Life Cost Analysis Preparation:

The Life Cost Analysis is important tool, which can be used to control and manage the ongoing costs of an asset or part thereof. It is based on the

LCC Model developed and applied during the Life Cost Planning phase with one important difference: which uses data on actual costs.

The preparation of the Life Cost Analysis involves review and development of the LCC Model as a **"real-time"** or actual cost control mechanism. Estimates of capital costs will be replaced by the actual cost paid. Changes may also be required to breakdown the cost structure and cost elements to reflect the asset components to be monitored and the level of details to be required.

Targets are the operating costs and their frequencies of occurrence arebased on initial cost estimates used in the Life Cost Planning phase. However, these targets may change with time as more accurate data is obtained, from the actual asset operating costs or from the operating cost of similar other asset.

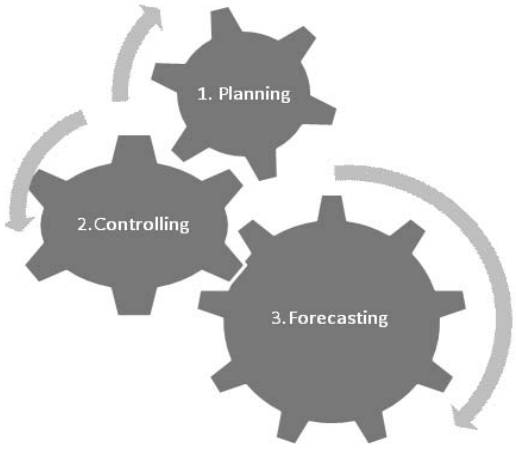
Stage 3: Implementing and Monitoring:

Implementation of the Life Cost Analysis involves the continuous monitoring of the actual performance with standard performance of an asset during its operation and maintenance in order to identify areas in which cost savings can be made and to provide feedback for future life cost planning activities. For example, it may be better to replace an expensive building component with a more efficient solution before the end of its useful life

12.8 USES OF PRODUCT LIFE CYCLE

The uses of product life cycle is explained in figure 12.7 below

Figure 12.7 Uses of Product Life Cycle



1. Planning: The company which into product life cycle plans for facing marketing challenges at all stages and posses major alternative strategies

2.Controlling: The company shall measure performance of the product against similar products launched in the past

3. Forecasting: As a forecasting tool, it is less useful for the company because sales histories of the company shows diverse patterns and the stages vary in duration.



12.9 LET US SUM UP

- LCC involves the costs and revenue over a product life i.e. from introduction of the product to the decline stage.
- The objective of LCC is to generate profit from the total life of the product.
- This objective can be a useful tool to analyze which strategies the firm needs to adopt in order to be successful.
- Thus, in product life cycle costing the management designs a pattern of expenditure, sales volume, profit generation right from generation of new idea of the product to deletion of product.
- The product life cycle consist of four stages viz; introduction stage, growth stage, maturity stage and decline stage
- In introduction stage the product is novel, there is no or minimal awareness and acceptance of it. In fact there is no competition and profits are nonexistent.
- In growth stage, sales begin to expand rapidly because of greater awareness by the customers
- During the stage of maturity, sales continue to increase but at a slow rate.
- Decline in sales volume characterizes this last stage of the product life cycle.
- Planning of life cycle costing consist of market research, specification, design, prototype manufacture, development, tooling,

manufacture, selling, distribution, product support and decomposing.

- The cost involved in product life cycle is more in maturity stage when compare to other stages.
- Planning, controlling and forecasting are uses of life cycle costing

12.10 FURTHER READING

1. S.P. Jain, K.L. Narang, Simmi Agrawal, Cost Accounting Principles and Practice, Kalyani Publication, Delhi, 2016
2. S.P. Jain &K.L.Narang, Cost Accounting, Kalayani Publication, Delhi, 2017
3. The Institute of Chartered Accountants of India, Strategic Cost Management and Performance Evaluation Study Material paper 5, Publication Department on behalf of The Institute of Chartered Accountants of India, August, 2017



12.11 ANSWER TO CHECK IN PROGRESS

Ans to Q.No 1. Depending upon the product to product the companies may opt for low penetration of pricing or high skimming pricing. High skimming pricing is pricing in which the companies sets for high relative price at the initial stage and lowers the price over a period of time.

Ans to Q.No 2. In growth stage there will be a variation in growth of the business due to nature of the product and competition. If the product does have not long lasting nature then there will be decline in the growth. If the product has good features then the product will be increase in in the growth of the company. Sometimes, if company faces cut throat competition, then company has low growth and if the company is monopoly then the growth will be high.

Ans to Q.No 3. In maturity stage there will be some companies who enter into market and falls behind. This will increase more competition in

the market

Ans to Q.No 4. Sales decline for number of reasons including technological advances, consumer shift in taste, etc. Upgrade change in technology will always made the existing technology redundant



12.12 MODEL QUESTIONS

Q1. What is mean by product life cycle?

Q2. What are different stages of product life cycle?

Q3. What are the features of initial stage of product life cycle?

Q4. What are the strategies adopted by the companies during initial stage of product life cycle?

Q5. What are the characteristics features of growth stage of product life cycle?

Q6. What are the strategies adopted during growth stage of product life cycle?

Q7. What are the features of maturity stage of product life cycle?

Q8. What are the strategies adopted during maturity stage of product life cycle?

Q9. What are the features of decline stage of product life cycle?

Q10. What are the strategies adopted during decline stage of product life cycle?

Q11. What are the main stages of product life cycle costing?

Q12. What are the benefits of product life cycle costing?

Q13. What are the uses of product life cycle costing?

(Footnotes)

[1]https://blog.blackcurve.com/what-is-price-elasticity

[2]http://www.accountingnotes.net/cost-accounting/life-cycle-costing/life-cycle-costing-meaning-characteristics-and-everything-else/5783

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UNIT 13: TARGET COSTING

UNIT STRUCTURE

13.1 Learning Objectives

13.2 Introduction

13.3 Features of Target Costing

13.4 Objectives of Target Costing

13.5 Steps in Target Costing

13.6 Advantages of Target Costing

13.7 Limitations of Target Costing

13.8 Techniques of Target Costing

13.9 Impact of Target Costing on Profitability

13.10 Implementation of Target Costing

13.11 Differences between Target and Traditional Costing

13.12 Let Us Sum Up

13.13 Answers to Check Your Progress

13.14 Further Reading

13.15 Model Questions

13.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- understand the meaning of Target Costing
- know the features of Target Costing
- understand the impact of target costing on profitability
- discuss the advantages and limitations of Target Costing
- outline the implementation of Target Costing.

13.2 INTRODUCTION

Target Costing is a system under which a company plans in advance for the product price points, product costs, and margins that it wants to achieve. If it cannot manufacture product at these planned level, then it cancels the product entirely. With target costing, a management team has

a powerful tool for continually monitoring products from the moment they enter the design phase and onward throughout their product life cycles. To attain a consistent profitability, it is considered as one of the important tool. The need has increased to apply the technique of Target Costing.

It was introduces in the year 1960 but which has been widely used by Japanese firms since 1970s as a response to the challenge posed by customer demand for more diversity and shorter product was committed at the design stage. It emphasizes the reduction of cost during the planning and designing stage of the production. Target costing allocates more of the total cost to the development stage, simultaneously reducing cost during the production stage. It aims at profit planning, control costs and manages profit over a product's life cycle.

According to the CIMA official terminology a target cost is "A product cost estimate derived by subtracting a desired profit margin from a competitive market price."

According to Cooper and Chew, "The value of target costing is the ability to bring the challenge of the marketplace back through the chain of production to product designers."

Target Costing= Planning Selling Price – Required Profit.

Again, 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.

Therefore, it can be easily said that, ' Target Costing is a disciplined process 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.

13.3 FEATURES OF TARGET COSTING:

The following are the important features of Target Costing:

a. Integral part of the design and introduction of new products: Target costing is a part of an overall profit management process, rather than simply a tool for cost reduction and cost management.

b. Focus on the customers: Target costing forces firms to be specific about what customers want the prices they are prepared to pay. The process may also involve discussions with customers of different design options, making trade-offs between cost and value.

c. Emphasis on cost reduction at early stages in development: A detailed financial analysis takes place from the outset and engineering changes are made before production begins. Therefore, the initial designers are simplified before manufacture resulting in lower the cost once the design is finalised.

d. Consideration of the whole product life cycle: In order to ensure that the total cost are minimised for both the producer and the customers, successful target costing, examines the full life-cycle cost of the product which includes consideration of the purchase price, operating cost, maintenance and distribution cost.

e. Fair degree of Judgement: It is needed where the allowable cost and the targeted cost differ. As the ideal is to produce at the allowable cost, it is important that the difference is not too great.

f. A team based Set-up: To achieve the objectives, a team based set-up is required that integrates essential disciplines such as marketing, engineering, manufacturing, purchasing and finance.

g. A multidisciplinary process: Target Costing is a multidisciplinary process and it includes value chain analysis, life cycle costing and activity based costing. It involves all the functions in the analysis and decision making.

13.4 OBJECTIVES OF TARGET COSTING:

The objectives of Target Costing are as follows:

a. The fundamental objective of it is to enable management to use proactive cost planning, cost management and cost reduction practices.

b. It can be applied to product modifications or succeeding generations of products.

c. It is primarily used and most effective in the product development and design stage.

d. Target costing is intended to get managers thinking ahead and comprehensive about the cost and other implications of the decisions they make.

e. It is as much a significant business philosophy as it is a process to plan, manage and reduce costs. It emphasizes understanding the markets and focuses on customer requirements in terms of quality, functions and delivery as well as price.

Therefore target costing has three main objectives:

- To lower the costs of new products so that the required profit level can be ensured.
- The new products meet the levels of quality, delivery timing and price required by the market.
- To motivate all company employees to achieve the target profit during new product development by making target costing a companywide profit management activity.



CHECK YOUR PROGRESS

Q 1: Define Target Costing.

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Q 2: State one feature of Target Costing.

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13.5 STEPS IN TARGET COSTING

The following are the main steps in Target Costing:

a. First, determine the target price which the customer will be prepared to pay for the product.

b. Secondly, to deduct the target profit margin from the target price to determine the target cost.

c. Thirdly, Estimate the actual cost of the product.

d. And lastly, if in any case the estimated actual cost exceeds the target cost, then it is necessary to investigate the ways of reducing the actual cost to level of the target cost.

13.6 ADVANTAGES OF TARGET COSTING

1. It ensures proper planning well ahead of actual production and marketing.
2. It can be used by service organisations to look at the impact which new services have on the existing ones.
3. It improves the understanding of the costs of the product and services.
4. It developed specific and real target which ensure satisfactory financial performances.
5. Target Costing ensures proper planning ahead of actual production and marketing.
6. It is multidisciplinary and involves staff from all areas in the cost analysis and encourages them to take responsibility for managing the costs.
7. It ensures a competitive environment.
8. It focuses on customer's demand, their perceived value to the product and price they can pay for the product.
9. It also promotes cohesive team spirit in the organisation, which impels the members to attempt higher level of performance.

13.7 LIMITATIONS OF TARGET COSTING

The main limitations are as follows:

- The design team generally requires a number of designs before it can devise a sufficiently low cost product. It helps the team to meet the target cost and margin criteria and development process needs larger time.
- A large amount of mandatory cost cutting can result in finger pointing

in various parts of the firm. Hence, employee generally resists the implementation of target costing.

- It is not easy to reach a consensus on the proper design, because there are too many opinions regarding design issues from representatives of the design team from different departments.

13.8 TECHNIQUES OF TARGET COSTING

1. **Value analysis:** It is a technique for performance improvement and improves the value in the particular product. It aims at cost reduction; investigate into economic attributes of value for increasing the value in a product. It serves all branches- engineering, manufacturing, procurement, marketing and management.
2. **Value engineering:** It involves the design of a product after gathering input from employees, various departments within a company and offering a different perspective on possible cost minimization tactics. The aim of value engineering is to achieve target cost by identifying improved product design and eliminating unnecessary functions.
3. **Total Quality Management (TQM):** It describes a management approach to long term success through customer satisfaction. In a TQM effort, all members participate in improving processes, products, services and the culture they work.
4. **Material Requirement Planning (MRP):** The basic function of MRP system includes inventory control, bill of material processing and elementary scheduling. It helps organisations to maintain low inventory levels. It is used o plan manufacturing, purchasing and delivering activities.
5. **Kaizen:** This technique focuses on obtaining small incremental cost reduction in the production stage of the product life cycle. Actual costs are compared with the target cost and necessary reduction is ensured in the Kaizen approach as the source of the solution.
6. **Just-in-time:** It ensures coordination and synchronization of all operations and material flows and thus excessive inventory cover is rendered unnecessarily. Just in time drastically reduces

investment as well as total cost of operation.

7. **Activity based Costing and Management:** it is an analytical application that models business processes to determine cost, profitability and drivers. With this solution organisation can make informed decisions that streamline processes, deliver revenue growth and reduce costs across the organisation.

13.9 IMPACT OF TARGET COSTING ON PROFITABILITY

a. Target costing improves profitability in two ways: Firstly, it places a detailed continuing emphasis on product cost throughout the life of every product. Secondly, it improves profitability through precise targeting of correct prices at which the company feels it can field a profitable product.

b. A company's strategy can also have its impact on profitability. If it constantly issues a stream of new products, or if its existing product lines are subject to severe pressures, it must adapt target costing a central part of its strategy so that correct prices are used for products.

c. The cost accountant should continue taking lead role in continuing review of supplier's cost.



CHECK YOUR PROGRESS

Q 3: State two techniques of Target Costing.

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Q 4: Mention one limitation of Target Costing.

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Q 5. State two advantages of Target Costing?

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13.10 IMPLEMENTATION OF TARGET COSTING:

a. **Creating a project chart:** It is always good if it starts with a document approved by senior management, which describes its goals and what it is authorised to do.
b. **Active participation of top management:** There should be someone in corporate hierarchy to support fund sanctioning and soliciting support to other members of the top management.
c. **Funds approval:** In order to complete target costing tasks, it is necessary for the design team that funds should get approved by higher management. There should be formal allocation of money from corporate budget.
d. **Assign a strong team manager:** The target costing programme involves so many people with different background. At times it becomes difficult to bring the group together into smooth functioning; therefore it is necessary a proper manager with leadership qualities should be asked to manage the team.
e. **Full Team participation:** In the interest of the organisation, it is necessary that members of target costing team are fully focused on target costing and they should be relieved of all other responsibilities.
f. **Uses of management tools:** In case of a high cost projects with many features target costing may come out to be a complex effort. To ensure that the project stays on track, the team should use all project management tools.

13.11 DIFFERENCES BETWEEN TARGET AND TRADITIONAL COSTING: TARGET COSTING TRADITIONAL STANDARD COSING

TARGET COSTING	TRADITIONAL STANDARD COSING
1. It is focused on external. 2. A more proactive costing approach to pricing	1. It is focused on internal. 2. Here, general administrative, marketing and distribution cost is

	taken into consideration.
3. It is applied during the planning and design stage of the product's life cycle.	3. It is applied during the production stage of the product's life cycle.
4. This system used in assembly oriented industries (variety, medium to small volume production)	4. This system used in process-oriented industries (continous production)
5. In this method wastage is zero defects.	5. In this method wastage is within the allowed limits.
6. The market place directs the target costing by first setting a selling price, then subtracting target income and finally reaching a cost.	6. It determines cost based on the design of goods, adds a mark-up and establishes a price.



13.12 LETS US SUM UP

After going through the unit we have come through the following:

- The various features of Target Costing
- Various advantages and limitation of Target Costing
- Different Stages of Target Costing
- Impact of Target Costing on profitability
- The implementation of Target Costing



13.13 ANSWERS TO CHECK YOUR PROGRESS

Answer to Question No.1: According to the CIMA official terminology a target cost is "a product cost estimate derived by subtracting a desired profit margin from a competitive market price.

Answer to Question No.2: A team based Set-up: To achieve the objectives,

a team based set-up is required that integrates essential disciplines such as marketing, engineering, manufacturing, purchasing and finance.

Answer to Question No.3:

1. Value analysis.
2. Value Engineering.

Answer to Question No.4: It is not easy to reach a consensus on the proper design, because there are too many opinions regarding design issues from representatives of the design team from different departments.

Answer to Question No.5:

1. Target Costing ensures proper planning ahead of actual production and marketing.
2. It ensures a competitive environment.



13.14 FURTHER READING

1. Stategic Management Accounting (Theory and Practice) - By V.K.Kumar
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Modern Cost and Management Accounting – By M.Hanif
4. Cost Accounting (Principles and Practice) –By M.N.Arora
5. Cost Accounting – By S.P. Jain and K.L. Narang

13.15 MODEL QUESTIONS

1. Define Target Costing.
2. Explain briefly about the objectives of Target Costing.
3. Explain the main features of Target Costing Process.
4. Mention the main advantages of Target Costing.
5. Discuss the impact of Target Costing on Profitability.

6. List some companies that implement Target Costing.
7. What are the stages involved in Target Costing?
8. What are the limitations of Target Costing?
9. How does Target Costing different from Traditional Costing?
10. What is Value Engineering?

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UNIT 14: COMPETITOR ACCOUNTING

UNIT STRUCTURE

14.1 Learning Objectives

14.2 Introduction

14.3 Steps in Competitor Accounting

14.4 Competitor Analysis

14.5 Competitor Analysis Framework

14.6 Advantages of Competitor Analysis and Accounting

14.7 Factors Affecting Industry Competition

14.8 Sources of Competitor's Information

14.9 Competitive Pricing

14.10 Competitive Bid- Sealed Bid Pricing, Winning Bid, Negotiated Bids

14.11 Let Us Sum Up

14.12 Answers to Check Your Progress

14.13 Further Reading

14.14 Model Questions

14.1 LEARNING OBJECTIVES

After going through this unit, you will be able to

- understand the meaning of Competitor Accounting
- know the steps involved in Competitor Accounting
- understand the framework of Competitor Accounting
- discuss the key forces affecting Industry competition
- outline the Sources of Competitor Information
- know about the various steps involved in a Winning Bid.

14.2 INTRODUCTION

This unit discusses the concept of Competitor Accounting. The competitor accounting is a central issue in strategic management accounting. The other name of competitor accounting is competitor focused

accounting. It facilitates for collecting and analyzing accounting information with a competitive focus. The effectiveness of a central instrument of competitor accounting is the assessment of the competitor's cost examined.

Competitors need accounting information mainly for strategic purposes, for example- information on the strengths and weaknesses of their competitors.

To compare the performance with the other entity, the competitors use the information given in the financial statements.

14.3 STEPS IN COMPETITOR ACCOUNTING

The following are the main steps in competitor accounting:

1. Determine the customers and services of the company.
2. Identify current and potential competitors.
3. Collecting basic information on each competitor.
4. Conduct in depth research on each competitor.
5. Conduct a comparative analysis of the competitor.

Product price and quality are the matter of concern in competition. Therefore, Competitor accounting is necessary to be conducted along with competitor analysis to assess the quality and price. Monitoring of competitive position can also be carried out by the companies practicing competitor analysis. The major concerns are comparing the position of the business with that of its competitors especially in regard to quality and price.

It is helpful for a company to conduct best practice benchmarking and compare its performance against the best competitor in the industry. This helps to increase company productivity and growth. Later, it can attain a high standard of performance. It analyzes competitor positions within the industry by assessing and monitoring trends in competitor sales. In addition the companies should conduct industry profitability analysis as it provides a measure for the nature and intensity of competition.



CHECK YOUR PROGRESS

Q 1: Define Competitor Accounting.

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Q 2: Give the steps of Competitor Accounting.

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14.4 COMPETITOR ANALYSIS

In formulating business strategy, managers must consider the strategies of the firm's competitors. In concentrated industries competitor analysis becomes a vital part of strategic planning.

Competitor Analysis has two primary activities:

1. The first is to obtaining information about important competitors.
2. Secondly, using that information to predict competitor behaviour.

In competitor analysis, the knowledge about competitors is usually insufficient, but competitors should be analysed systematically, using organised competitor intelligence gathering to compete a wide array of information so that well informed strategy decisions can be made.

14.5 COMPETITOR ANALYSIS FRAMEWORK

Michael Porter, presented a framework for analyzing competitors. This framework consists of four broad key components which are as follows:

- Competitor's objectives
- Competitor's assumption
- Competitor's strategy
- Competitor's capabilities

Objectives and assumptions are what that drive the competitor, strategy and capabilities are what the competitor is doing or is capable of doing.

The main aim of Competitor Accounting is to understand with which Competitor's to compete and plan action, also to observe how competitors might react to a firm's actions and how to influence competitors behaviour to the firm's own advantage.

- Competitor's Objectives: The Knowledge of a competitor's objectives a better prediction of the competitor's reaction to different competitive moves. For example: a competitor is focused on reaching short-term financial goals might not be willing to spend much money responding to a competitive attack. But such a competitor might favour focussing on the products that hold positions and better can be defended.

  The Competitor's organisational structure provides information to which functions of the company are deemed to be more important. As for example, those functions that report directly to the chief executive officer are likely to be given priority over those that report to a senior vice president.
- Competitor's Assumptions: The assumptions that a competitor's manager hold about their firm and their industry help to define the moves that they will consider. If the industry introduced a new product which failed, the industry executives may assume that there is no market for the product. But such assumptions are not always correct, as new entrants may introduce a similar product to a previously unsuccessful one, because the present firm may not take their threat seriously. Also a competitor's assumptions may be based on a number of factors including beliefs about its competitive position, past experience with a product, regional factors, industry trend and rules of thumb.
- Competitor's Strategy: The two main sources of Competitor's strategy are- first, what the competitor does. Secondly, what a competitor is saying about its strategy is revealed in annual shareholders reports, interview with analyst, and statements by managers, press releases etc. However, these strategy often differs from what the competitor actually is doing and it is evident in where

its cash flows is directed, such as in the following actions like hiring activity, capital investments, promotional campaigns, strategic partnerships, merger and acquisitions and R & D projects.

- Competitor's Resources and capabilities: Competitor's resources and capabilities determine its ability to respond effectively. A competitor's capabilities can be analysed according to its strengths and weaknesses in various functional areas, as it is done in a SWOT analysis. Competitor's strength defines its capabilities. The analysis can be taken to evaluate the competitor's ability to increase its capabilities in certain areas. Finally, the competitive environment is dynamic; the competitor's ability to react swiftly to the change should be evaluated. As some firms may continue for many years in the same direction before adapting whereas, others are able to mobilize and adapt quickly.

14.6 ADVANTAGES OF COMPETITOR ANALYSIS AND ACCOUNTING

It is the central element in business planning and control. There are four key benefits of competitor analysis:

1. Industry benchmarking: Companies compare themselves with similar companies in the same industry to identify their strengths and weaknesses.
2. Learning from competitors: Companies study their similar market experiments to those which they are planning.
3. Positioning: Companies try to identify their competitor's strengths when choosing competition methods, either by cutting the product price to exercise cost leadership or by launching a new product or service to achieve product specialization.
4. Identifying opportunities and threats: It links with the traditional Strengths, Weaknesses, Opportunities, and Threat (SWOT) analysis for handling both business opportunities and threat.

   Competitor Analysis helps decision makers understand who the competitors are and what the market structure is. It also allows

management to identify its competitor's making and selling strategies.

14.7 FACTORS (key forces)AFFECTING INDUSTRY COMPETITION

Companies should consider the following factors that affect industry competition.

- Entry Barriers: How many companies are there in the same industry? How easy is it for a new company to enter the industry? Is there legislation which would permit entry of a new company? Is there sufficient demand for a new entrant?
- Competitive rivalry: How many competitors are there in the industry? How intense is competition in the industry? In Hong Kong for example, there are three major supermarkets: PARKnSHOP, Wellcome and China Resource Vanguard. There are also some other higher or lower classes supermarkets of smaller size. However, if any one of the above major supermarkets uses competitor analysis and accounting, it will only compare itself with the other two, not the various smaller supermarkets.
- Substitute products: What substitutes pose a threat to the company's profitability? Do others competitors offer a similar or alternative product? In recent years young people prefer fast food to dim sum food in Chinese restaurants.
- Supplier power: How much bargaining power do the supplier posses this will be determined by the number of suppliers in the industry, the other companies that they supply products to, together with the individual company's relationship with its suppliers.
- Customer power: How much bargaining power do customers possess? For instance, a high class boutique is not very susceptible to the bargaining power of buyers but on the other hand, an outlet shop is different from the above as the profit margin is lower than that of a high class boutique.



CHECK YOUR PROGRESS

Q 3: State two advantages of competitor analysis.

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LET US KNOW

PROBLEMS WITH COMPETITOR ANALYSIS

It is difficult to collect information on competitors. Companies are reluctant to share information and to quantify the direct financial benefits of competitor analysis. In true sense, companies that undertake competitor analysis clearly, will perform better than those who cannot afford to conduct competitor analysis especially the smaller companies.

14.8 SOURCES OF COMPETITOR INFORMATION

It has been described by Davidson (1997) into three categories:

Recorded Data: It is easily available in published form either internally or externally.

Observable Data: It has to be actively sought and often assembled from several sources.

Opportunistic Data: Its data requires a lot of planning and organisation.

The following lists are the sources of competitor data using Davidson's categorisation:

Recorded Data	**Observable Data**	**Opportunistic Data**
Annual reports and accounts	Price lists	Meetings with suppliers
Press releases	Advertising Campaigns	Trade shows
News papers articles	Promotions	Sales force meetings
Regulatory reports	Patents Application	Recruiting ex-employees
Government Reports	Patent Application	Discussion with shared distributors
Presentation/ Speeches	Parent Application	Social contacts with competitors
Analysts Reports	Tenders	Seminars/ conferences



CHECK YOUR PROGRESS

Q 4: Mention one important source of competitor's strategy.

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14.9 COMPETITIVE PRICING

Competitor's price serves as one of the major important reference point from which they set their price. In some industries, the top companies are in the position of holding price leadership roles where they are often the first in the industry to change price. Smaller companies must then assume a price follower role and react once the big companies adjust their price.

Firms may follow one of the following approaches in order to compete with the prices set by the competitor:

Below competitive Pricing: A marketer attempting to reach objective that require high sales levels may monitor the market to insure their price remains low competitors.

Above Competition pricing: the marketers over here are likely to be perceived as market leaders in terms of product features, brand image that supports a price that is higher than what competitors offer

Parity pricing: A simple method of setting the initial price is to price the product at the same level competitor's price their product.

14.10 COMPETITIVE BID-SEALED BID PRICING, WINNING BID, NEGOTIATED BID

Competitive Bid: Competitive bidding is most often used by government agencies that are required by law to periodically open all contracts to bid and must award business to the lowest bidder. This is to ensure impartiality in the buying decisions. The supplier must attempt to predict how competitors will bid in order to be priced competitively. Competitive bids are also used to establish a market value for product or service. For example, a long term customer of a service business may request competitive bids from other suppliers to find out if the price they pay for their uniquely tailored service is still competitive.

Sealed Bid Pricing: Price quotes solicited by governmental and other public agencies to ensure objective consideration of competitive bids. Interested vendors are formally informed for the request for a bid and must meet a bidding deadline as well as strict bid format requirements. Sealed bids are sometimes opened publicly in the presence of all bidders and the lowest bid is awarded the order.

Winning Bid: Winning proposals, regardless of the product, service or organisation have a number of characteristics in common. The unifying theme is that they all prove the case, demonstrate the wisdom of selecting a particular supplier by providing practical examples and clear evidence of the bidder's superior capabilities.

A good strategy should differentiate your company from the competitors, emphasize your strengths while pointing out

competitor's weaknesses and emphasize features that the customer wants and needs.

Finally, there is only one way to win in a competitive situation – "Provide the evidence that you are the best vendor with the best solution and the least risk at an acceptable price.

Negotiated Bids: In some competitive bidding situations, a subsequent negotiation step may take place as in all bidding situations the customer's acceptance is not gathered by one bids offered. It is found that the customer asks for bids and then singles out the company that submits the most attractive bid not necessarily the lowest for further bargaining. The bidding price the seller would like to charge is sometimes only the starting point for discussions with individual customers.

McCarthy and Perrault narrated that, Negotiated pricing, like simple bid pricing, "is most common in situations where the marketing mix is adjusted for each customer so bargaining may involve the whole marketing mix, not just the price level."



CHECK YOUR PROGRESS

Q 5: Write a note on Competitive Bid.

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Q 6: What is Negotiated Bid?

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14.11 LETS US SUM UP

After going through the unit we have come through the following:

- The various features of Competitive accounting
- The Steps involved in Competitive accounting
- Factors affecting Industry Competition

- Sources of Competitor information
- The advantages of competitor analysis



14.12 ANSWERS TO CHECK YOUR PROGRESS

Answer to Question No.1: Competitor accounting facilitates for collecting and analyzing accounting information with a competitive focus.

Answer to Question No.2:

1. Determine the customers and services of the company.
2. Identity current and potential competitors.

Answer to Question No.3:

1. Industry benchmarking.
2. Learning from Competitors.

Answer to Question No.4:

1. what a competitor is saying about its strategy is revealed in annual shareholders reports

Answer to Question No.5:

Competitive bidding is most often used by government agencies that are required by law to periodically open all contracts to bid and must award business to the lowest bidder.

Answer to Question No.6:

Negotiated Bid is most common in situations where the marketing mix is adjusted for each customer so bargaining may involve the whole marketing mix, not just the price level.



14.13 FURTHER READING

1. Stategic Management Accounting (Theory and Practice) - By V.K.Kumar
2. Cost and Management Accounting- By Shashi K. Gupta and Sharma.
3. Modern Cost and Management Accounting – By M.Hanif

4. Cost Accounting (Principles and Practice) –By M.N.Arora
5. Management Accounting- By Paresh Shah

14.14 MODEL QUESTIONS

1. What is Competitor accounting?
2. Explain the benefits of Competitor analysis and accounting.
3. Write about the process of Competitor Accounting.
4. Explain five key forces affecting industry Competition.
5. What are the sources of Competitor's data?
6. Define Competitor Analysis?
7. Explain the term Competitive Bid.
8. Define Competitor Accounting?
9. Write a few lines on Competitor's Strategy.



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