Graduate/Postgraduate Diploma in Marketing

Intermediate Level

Recommended Study Text

Ayoma Peiris
Bsc. Banking & Finance (Hons), CIMA Pass Finalist

Thiranga De Silva.
ACA, ASCMA

T. Szoumyraj
MBA (Sri.J), FCMA, FSCMA, MBCS, CITP

Nishan C. Perera
MBA(Sri.J), Chartered Marketer (UK), Certified Professional Marketer (Asia Pacific), P.G. Dip.M (UK), MSLIM

Mallik De Silva
ACA, ACMA, LTCL

M & N Solutions (Private) Limited
1st Edition, June 2005

© Copy Rights Reserved.
No part of this text should be reproduced without prior written permission of M & N Solutions (Private) Limited.
Module One
Management Accounting for Marketing Decisions

Chapter 01 – Understanding Management Accounting 03
Chapter 02 – Determination of Costs 15
Chapter 03 – Standard Costing and Variance Analysis 35
Chapter 04 – Marginal Costing and Decision Making 53
Chapter 05 – New Trends in Costing 69
Chapter 06 – Costing Marketing Activities 81
Chapter 07 – Marketing Decisions based on Management Accounting Decisions 99

Module Two
Interpreting Financial Accounts

Chapter 08 – Understanding Financial Accounting 113
Chapter 09 – Reading P&L Accounts, Balance Sheets, Cash Flow 125
Chapter 10 – Ratio Analysis 137
Chapter 11 – Marketing Decisions and its Impact on the P&L and Cash Flow 155

Module Three
Introduction to Financial Management for Marketing Investments

Chapter 12 – Introduction to Financial Management 175
Chapter 13 – Investment Decision Making 189
Chapter 14 – Financial Impact of Marketing Decisions 201
# DETAILED CONTENTS

## Module One
Management Accounting for Marketing Decisions

### Chapter 01 – Understanding Management Accounting

1. What is Management Accounting 03
2. Financial and Management Accounting 04
3. Management Accounting and Cost Accounting 08

### Chapter 02 – Determination of Costs

1. Cost Concepts 15
2. Determination of Costs 21

### Chapter 03 – Standard Costing and Variance Analysis

1. Introduction to Standard Costing 35
2. Setting Standards 37
3. Computation of Variances and Evaluation of Performance 38
4. Costing and Pricing Decisions 46

### Chapter 04 – Marginal Costing and Decision Making

1. Overview of Absorption and Variable Costing 53
2. Introduction to Principles of Marginal Costing 55
3. Break Even Analysis or Cost, Volume, Profit Analysis 62

### Chapter 05 – New Trends in Costing

1. An Overview of the Just In Time System 69
2. Use of ABC costing techniques 73
3. Application of ABC Costing to Marketing Scenarios 79

### Chapter 06 – Costing Marketing Activities

1. Costing of Marketing Activities 81
2. Budgeting and Profit Planning 86

### Chapter 07 – Marketing Decisions based on Management Accounting Decisions

1. Investment decisions based on cost of capital calculations 99
2. Accept or Reject Decisions. 99
3. Make or Buy Decisions 105
4. Addition and Deletion of Products 109
Module Two
Interpreting Financial Accounts

Chapter 08 – Understanding Financial Accounting
1. Nature of Financial Accounting 113
2. Meaning and Purpose of Financial Statements 118
3. Different Types of Financial Statements – An Introduction 119

Chapter 09 – Reading P&L Accounts, Balance Sheets, Cash Flow
1. Reading Profit & Loss Accounts and Balance Sheets 125
2. Reading Cash Flow Statements 130

Chapter 10 – Ratio Analysis
1. Introduction to Ratio Analysis 137
2. Long Term Solvency Ratios (Gearing Ratios) 138
3. Short Term Solvency Ratios (Liquidity Ratios) 141
4. Activity Ratios (Efficiency Ratios) 142
5. Profitability Ratios 144
6. Operating Ratios 145
7. Limitations of Ratio Analysis 147

Chapter 11 – Marketing Decisions and Its Impact on the P&L and Cash Flow
3. Profit Maximization 164

Module Three
Introduction to Financial Management for Marketing Investments

Chapter 12 – Introduction to Financial Management
1. The Finance Function 175
2. Important Functions of a Finance Manager 182

Chapter 13 – Investment Decision Making
1. Introduction to Investment Decision Making 189
2. Expansion of Existing Business and Diversification of New Business 191
3. Investment Evaluation Criteria 192

Chapter 14 – Financial Impact of Marketing Decisions
1. Corporate Strategy Decision 201
2. Specific Strategic Decisions for Individual Products 203
3. Key Exercise 206
Graduate/Postgraduate Diploma in Marketing

Intermediate Level
Finance for Marketing

Recommended Study Text

Module One

Management Accounting for Marketing Decisions
Chapter 1
Understanding Management Accounting

This chapter will cover the following areas.

1. What is Management Accounting
2. Financial and Management Accounting
3. Management Accounting and Cost Accounting

1. What is Management Accounting?

The process of identifying, measuring and communicating economic information to permit informed judgement and decisions by users of the information. In other words management accounting is concerned with providing information which will help decision makers to make good decisions.

1.1 Detailed Analysis of Costs and Revenues

Management accounting primarily analyses the elements in a profit and loss account statement in detail. For example if we take the overheads figure in the profit and loss account, management accounting would use techniques used by cost accounting such as ABC costing principles, to see what are the components of the total overheads figure.

Then how does each overhead component vary with various activities, how have they been absorbed into products and are the bases used for overhead absorption realistic are judged for their compliance with the strategic plans of the company.

1.2 Provision of Data for Internal Use

Managers need data for various decisions they make on behalf of the business and in order to evaluate most importantly the financial viability and to identify various other restrictions to be taken into consideration management accounting provides various tools. For example the limiting factor analysis will enable a production manager to decide if resources are limited the most profitable product mix to be produced if the company is to maximise its contribution.

Another instance is the preparations of budgets where the management is able to forecast their future output levels, purchases to be made or cash position so that they can prepare themselves and take precautions before the situation arise. If it is foreseen if there is a cash shortage in a particular month now itself the company can decide to take an overdraft for that month, postpone purchases of fixed assets or delay payment to creditors or to implement any other suitable strategy.
1.3 Emphasis on Future, Non-Monetary Data and Segments of an Organisation

Management Accounts are forward looking by nature as they are mostly used as a tool for planning decisions within an organisation thus its use of techniques such as budgeting. Accounts by nature is monetary but management accounts give prominence not only to figures, but also for various other non-monetary aspects, such as the skills of labour force, quality of materials used, economic use of limited resources etc through adoption of modern techniques such as Just In Time system. The detailed operation of each segment of an organisation is usually studied by management accounts because most of the time performance measures are set based on the operations of a department.

1.4 Consideration of Relevant and Flexibility of Data

Decisions taken should ideally involve only the costs and revenues related to that decision if it is to be properly distinguished from the outcome of other alternative decisions. Management Accounting uses techniques that always tend to consider all the relevant costs for the decisions especially when using marginal costing principles to accept or reject projects.

Management Accounting uses sensitivity analysis to see the impact on different decisions on the company's resources or contribution. Hence the proper classification of costs into controllable and uncontrollable, short run and long run etc. is essential to know which costs and revenues are flexible and which are not. Techniques such as flexible budgeting where the situations at different activity levels are measured also require management accounting data to be flexible.

1.5 No Governing Body

There is no statutory requirement for a company to prepare Management accounts, and there is no specific format to be followed. As a result management accounts can be prepared in a form which will be useful for decision makers. Therefore management accounts between similar companies cannot be compared, as there would not be much similarity amongst two companies’ management accounts.

2. Financial and Management Accounting

2.1 Comparison of Financial and Management Accounting

Accounting is often divided into two types: financial accounting and management accounting. These two different types of accounting can be compared as follows:
Financial accounting is involved with financial transactions that have already happened and with the preparation and interpretation of financial statements for the benefit of managers, the owners and the external stakeholders of an organisation. Whereas Management accounting is concerned with the provision of information to people within the organisation to help them make better decisions.

a) Financial Accounting

- Historical
  - Records past financial transactions;
  - covers the previous year’s trading;
  - Looks backwards to analyse performance.

- b) Users of Information.
  - Financial statements, prepared mainly for shareholders, suppliers, Finance providers, Tax authorities and other relevant stakeholders.

- c) Statutory Requirements
  - The Companies Act specifies certain accounting information which should be disclosed.
  - The Inland Revenue Act requirements.
  - Sri Lanka Accounting and Auditing Standards Monitoring Board requirements.
  - Any other relevant statute for specific business enterprises. Ex. Banks, Finance Companies, Stock brokers etc.

- A ‘True and Fair’ View
  - In accordance with Sri Lanka Accounting Standards financial accounting is required to present a ‘true and fair’ view of the financial affairs of the business.

- Timing
  - Generally prepared annually. Note: In Finance companies and Banks the financial statements should be published quarterly. Further if it is specified in a relevant statute or any relevant agreement under which a company has to comply with then again the financial statements has to be submitted on or before the specified due date. Non compliance with the timing sometimes leads to penalty charges and cancellation of agreements or licences etc.

b) Management Accounting

- Current information and projections.
  - Mainly prepared using current data and provides information for day to day decision making, budgeting, new investments etc.
• **Users of Information**
  
  Available only to managers, directors, and owners. However management accounts may sometimes be made available to finance providers such as banks.

• **Statutory Requirements**
  
  Management accounts are not governed under any statute and no proper format required. The content of reports and the principles used can be suited to the activities of the business and the requirements of its managers.

• **Influences in Changing Managerial Decisions.**
  
  The main requirement of management accounting is to produce information that will enable the business to conduct its activities more effectively and efficiently. A decision made for the future can be changed based on management report data.

• **Timing**
  
  Management accounting information is prepared as frequently as circumstances demand; speed is often vital as information may go out-of-date very quick. The foundation to Management and Financial accounting is laid in the cost accounting system. Both systems are useful in decision making.

Please see the summary of financial and management accounting in the next page.

2.2 **Role of Financial and Management Accountants**

**Financial accountant** mainly concerned with external reporting. **Management accountant** mainly concerned with internal reporting. However, in medium-sized businesses, the two roles are often combined and the work undertaken by one accountant.

a) **Financial Accountant**

The function of the financial accountant is very much concerned with financial transactions. The financial accountant extracts information from the accounting records in order to provide a method of control, for instance over customers who buy on credit, suppliers and other outstanding bills, and cash and bank balances. The role of a financial accountant also requires the preparation of year-end financial statements, and requires negotiation skills with the Inland Revenue on tax matters for the business. Compliance with the Accounting Standards, Companies Act, and with other relevant statutory and other requirements must be ensured.
Summary of Financial and Management Accounting

<table>
<thead>
<tr>
<th>Financial accounts</th>
<th>Management accounts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial accounts detail the performance of an organisation over a defined period and the state of affairs at the end of that period.</td>
<td>Management accounts are used to aid management record, plan and control the organisation’s activities and to help the decision-making process.</td>
</tr>
<tr>
<td>Limited companies must, by law, prepare financial accounts.</td>
<td>There is no legal requirement to prepare management accounts.</td>
</tr>
<tr>
<td>The format of published financial accounts is determined by law (mainly the Companies Acts), by Statements of Standard Accounting Practice and by Financial Reporting Standards. In principle the accounts of different organisations can therefore be easily compared.</td>
<td>The format of management accounts is entirely at management discretion: no strict rules govern the way they are prepared or presented. Each organisation can devise its own management accounting system and format of reports.</td>
</tr>
<tr>
<td>Financial accounts concentrate on the business as a whole, aggregating revenues and costs from different operations, and are an end in themselves.</td>
<td>Management accounts can focus on specific areas of an organisation’s activities. Information may be produced to aid a decision rather than to be an end product of a decision.</td>
</tr>
<tr>
<td>Most financial accounting information is of a monetary nature.</td>
<td>Management accounts incorporate non-monetary measures. Management may need to know, for example, tonnes of aluminium produced, monthly machine hours, or miles travelled by sales representatives.</td>
</tr>
<tr>
<td>Financial accounts present an essentially historical picture of past operations.</td>
<td>Management accounts are both a historical record and a future planning tool.</td>
</tr>
</tbody>
</table>

b) Management Accountant

The role of management accountant can be summarised under following categories.

Planning: In the planning process he helps to formulate future plans by assisting in deciding what products to sell, at what price, in what market segments and in evaluating capital expenditure decisions. He establishes budget procedures and coordinates the short term plans from all sections of the business. Management accountant has to prepare the master budget by amalgamating various sub plans and present it for top management approval.

Controlling: Management accountant will assist in the control process by comparing the actual performance with the planned performance and thereby providing performance reports in each responsibility centre. He controls the process by drawing the respective manager’s attention to the variances identified. In other words he identifies the problem and suggests the relevant actions to be taken promptly. He will report to the top management on specific areas where the plans have not been achieved.
Organizing: He ensures that the company has a proper organisation structure and a proper internal reporting system.

Communication: Management accountant helps the communication function of a company by maintaining an effective communication and reporting system. For example the budget communicates the plan to each departmental manager who is responsible, so that they are clearly aware of what is expected of them during the budget period.

Motivation: Budgets and performance reports produced by the management accountant have an important influence on the motivation of the personnel in the organisation. Performance reports are intended to motivate desirable individual performances by communicating to employees in relation to targets set. Usually these targets to be achieved are linked to the bonus system.

3. Management Accounting and Cost Accounting

Management Accounting is the process of identification, measurement, accumulation, analysis, preparation, interpretation and communication of information used by management to plan evaluate and control within an entity and to assure appropriate use of resources.

Cost Accounting on the other hand is the establishment of budgets, standard costs and actual costs of operations, processes, activities or products, analysis of variances, profitability or the social use of funds.

In an organisation which produces a wide range of products or jobs, it is necessary for stock valuation purposes to charge the cost to each individual product or job which will provide information for financial accounting reports. Cost accounting was developed to provide this useful information.

During the 1950’s emphasis shifted from external users to internal users of cost accounting data; which resulted the cost data being used by the management in a different way from that which was used for financial accounting. This shift in emphasis led to the emergence of management accounting.

There are similarities between the objectives of both management and cost accounting and in practice thee is no true dividing line. In general management accounting is wider in scope and uses more advanced techniques such as discounting factors, network analysis, sensitivity analysis etc. However a fundamental requirement for management accounting is the existence of a sound costing system to provide basic data.

Both management accounting and cost accounting are mainly concerned with the provision of information for internal planning, control and decision making purposes with considerable emphasis on the costs of functions, activities, processes and products.
3.1 Benefits of Cost Accounting

- Application of accounting principles and costing principles to day to day operations of a business.
- Analysis of savings and excesses as compared with previous experience or with standards.
- Provision of useful information to take decisions such as identification of profitable and unprofitable products, valuation of stocks, budgeting and variance analysis for planning and control etc.

Activity
Discuss what other information a cost accounting system will provide in a company which is engaged in marketing and distribution of milk powder.

Case Article – Management Accounting

Management accounting is concerned with the provision and use of accounting information to managers within organizations, to assist management making decisions and managerial control functions. Unlike financial accountancy information (which, for the most part, is public information), management accounting information is used within an organization and is usually confidential. Contemporary managerial accounting systems are focusing more on the activities that occur at all levels of the organization.

In the late 1980s, accounting practitioners and educators were heavily criticized on the grounds that management accounting practices (and, even more so, the curriculum taught to accounting students) had changed little over the preceding 60 years, despite radical changes in the business environment. Professional accounting institutes, perhaps fearing that management accountants would increasingly be seen as superfluous in business organizations, subsequently devoted considerable resources to the development of a more innovative skills set for management accountants.

The distinction between ‘traditional’ and ‘innovative’ management accounting practices can be illustrated by reference to cost control techniques. Traditionally, management accountants’ principal technique was variance analysis, which is a systematic approach to the comparison of the actual and budgeted costs of the raw materials and labor used during a production period. While some form of variance analysis is still used by most manufacturing firms, it nowadays tends to be used in conjunction with innovative techniques such as life cycle cost analysis and activity-based costing, which are designed with specific aspects of the modern business environment in mind. Lifecycle costing
recognizes that managers’ ability to influence the cost of manufacturing a product is at its greatest when the product is still at the design stage of its product lifecycle (i.e., before the design has been finalised and production commenced), since small changes to the product design may lead to significant savings in the cost of manufacturing the product. Activity-based costing (ABC) recognizes that, in modern factories, most manufacturing costs are determined by the amount of ‘activities’ (e.g., the number of production runs per month, and the amount of production equipment idle time) and that the key to effective cost control is therefore optimizing the efficiency of these activities.

Activity-based accounting is also known as Cause and Effect accounting. Both lifecycle costing and activity-based costing recognize that, in the typical modern factory, the avoidance of disruptive events (such as machine breakdowns and quality control failures) is of far greater importance than (for example) reducing the costs of raw materials. Activity-based costing also deemphasizes direct labor as a cost driver and concentrates instead on activities that drive costs, such as the provision of a service or the production of a product component.

An alternative view of management accounting is that it is not a neutral or benign influence in organizations, but is instead a mechanism for management control through surveillance. This view locates management accounting specifically in the context of management control theory.

**Article Review - Interface between Strategic Management Accounting & Marketing by Meena Bhatia**

**Change** has become a ubiquitous phenomenon. Indeed, the intensity and speed of changes in the market place is rendering everybody amazed. Though organizations, their competencies and product portfolios are expanding and going global, their profit margins are shrinking, competition is intensifying and life is becoming more and more complex and tougher day by day. Markets have become merciless without any respect for the long-standing and accumulated expertise. Amidst this, market participants are effectively left with two choices – either change or perish. Apparently, nothing but change is stable in the world, which interestingly offers both - opportunities and challenges. Changes in environment have resulted in various new techniques/approaches to existing techniques. One of these new techniques, named strategic management accounting has shown close links between management accounting and the functional strategies of marketing.

**Traditional management accounting** - Management accounting is basically an information system. The provision of information required by management in the formulation of policies, planning and controlling the activities of their corporation, and selecting the appropriate course of action from the available opportunities. Traditional management accounting had various limitations that are overcome by SMA. Traditional management accounting works only under stable environment in national boundaries.
and emphasizes on tangibles & quantity. It focuses more on financial accounting. Moreover it has a short-term perspective.

**Strategic management accounting** - Today’s business environment has become far more challenging and demanding for organisations because of global competition, rapid innovation & increasingly demanding customers. Accordingly companies now demand better management accounting information, e.g. quality of products, customer satisfaction, and customer retention. Management accounting, which is relatively a new concept, takes account of this. K Simmonds pioneered the term Strategic Management Accounting. SMA as defined by K Simmonds “is the provision and analysis of management accounting data about a business and its competitors, which are of use in the development, and monitoring of the strategy of that business”. As one can interpret from the definition, SMA is Management Accounting that is focused externally, on the final goods market, and is concerned with products, customers and competitors. Management accounting has been traditionally used to deal with past data and existing activities. SMA being concerned with Products, customers and competitors/markets shows close links with marketing. Bromwich and Bhimani offer the following definition of SMA “the provision and analysis of financial information on the firm’s product markets and competitor’s costs and cost structure and the monitoring of the enterprise’s strategies and those of its competitors in these markets over a number of periods.”

As we can see in exhibit 1, management accounting & marketing management go hand in hand. In a modern competitive environment, a critical area of business strategy is marketing. Strategic decisions are basically long term in nature, complex, match activities with environment and capacity, and have a significant effect on the organization. Strategic Management Accounting emphasizes on information about competitors, strategic positioning and on gaining competitive advantage. This means that the required information system cannot be internally focused, in either content or emphasis.

The customers determine what is important in any industry, as a statement says ‘YOUR CUSTOMER’S PERCEPTION IS YOUR REALITY’. Porter explicates three ways in which firms can attain a competitive advantage: low cost, differentiation or a focus strategy. Competitive advantage cannot be assessed without carefully assessing the attributes of the potential intangible asset from the perspective of the customer. It must also be assessed in the context of the alternative goods and services offered by existing and potential competitors. Clear customer focus and orientation and an appropriate level of competitor financial analysis are essential elements of a good strategic management accounting system. Customer is centre to any business strategy. Bromwich has attempted to develop Strategic Management Accounting to consider the benefits that products offer to customers, how these contribute to sustainable competitive advantage. Bromwich sought to compare the relative cost of product attributes or characteristics with what the customer is willing to pay for them.
Financial returns from sustainable competitive advantage is the main focus of strategic management accounting, as it represents the financial justification for all the efforts and investment in the strategic management of the organization.

**Techniques of strategic management accounting** - For strategic management accounting to be successful, it is mandatory that management accountants and marketing managers must work together in the pursuit of the same business objectives. Strategic management accounting includes various techniques and approaches, which clearly shows the interface between management accounting & marketing. Among these are

- Product Attribute Costing
- Target Costing
- Life Cycle Costing
- Competitor Analysis
- Customer Profitability Analysis
- Balanced Scorecard

**Product Attribute Costing** - It is the characteristics of the product for which customers actually pay. Management accountants can play an important role here in costing the characteristics provided and in monitoring and reporting on these costs regularly. Product attributes enable management accounting to show up the link between the mix of attributes offered and the mix of resources to be employed. Management accountants also need to be involved in determining the cost of any package of attributes at a competitive level. Product attribute costing is a customer-oriented technique and uses cost information, it shows clear interface between marketing & management accounting.

**Target costing** – It involves determining the price which customers will be prepared to pay and then deducting target profit margin from the target price. Result will be the target cost which will be compared with the actual cost. Management needs to
investigate ways of driving down the actual cost to the target cost. This reinforces the interface between marketing & management accounting.

**Lifecycle costing** - Organization makes profit only during the sales phase, but it incurs cost at product planning & design phase, manufacturing and sales phase and post sales service phase. Lifecycle costing traces costs and revenues on a product-by-product basis over several calendar periods throughout its lifecycle. This helps management to understand the cost consequences of developing and making a product & to identify areas in which cost reduction efforts are likely to be most effective. It gives important information on product reduction too. In Lifecycle costing, cost is estimated & accumulated over a product’s entire lifecycle wherein marketing department has got a major role to play. Marketing manager can tell at which phase the product is and with inputs from management accountant costing of all the phases can be carried out.

**Competitive information** - We all know how important is the information regarding the competitor for any organization. Competitive information is available through public sources, such as annual reports, press, official institutions, and statistics as well as informal sources, e.g. sales personnel, customers, other competitors and suppliers, industry specialists, consultants, trade centers, competitors’ old employees etc. Marketing effort goes waste if this information is not analyzed & interpreted well. This calls for inputs from management accountant & marketing people.

**Customer profitability analysis** – It is yet another technique which shows a clear interface between marketing & management accounting. It involves the application of an activity-based costing approach (management accounting technique) to customers to identify customer-wise cost & profitability. Activity based costing is useful in segmental profitability analyses as well.

**Balanced scorecard** - It is strategic management technique for communicating and evaluating the achievement of the mission and strategy of the organization. Performance is measured on the basis of four perspectives i.e. customer perspective, the financial perspective, the internal processes perspective and the learning and growth perspective. Customer being one of the perspectives, it surely requires inputs from marketing management. Financial perspective basically talks about profit or income as a measure for measuring financial objective of a business unit. To achieve the financial objective it is mandatory to give importance to customer perspective.

Management accountants’ role is becoming more **integrated, interdisciplinary and outward** in focus. Focus is not only financial but also non-financial information. Simmonds, who coined the term strategic management accounting, proposed it as a natural response to competitive environment. Simmonds’ view of SMA is that it helps firms attain competitive advantage by measuring and monitoring competitor’s relative levels and trends in costs, prices, market share, cash flow and financial structure.
Chapter 2
Determination of Costs

This chapter will cover the following areas.

1. Cost Concepts
2. Determination of Costs

1. Cost Concepts

The first step in controlling costs in any business is achieving a good understanding of the types of costs incurred. At the most basic level, a cost may be defined as the sacrifice made, usually measured by the resources given up, to achieve a particular purpose. Cost can have a different meaning depending on the context in which it is used. Cost data classified and recorded a particular way for one purpose may be inappropriate for another use. An important step in understanding the cost behaviour in any organization is effectively identifying the cost drivers that determine the organization’s costs. A cost driver is an activity or event causing costs. Cost drivers vary widely among different firms and industries.

Example: A hospital responded to cost-reduction pressures by inducing physicians to reduce patient length-of-stay (LOS). The program resulted in a decline in average LOS; however, the program did not result in a decline in patient costs. A subsequent cost-driver analysis indicated that the number of medical procedures is a more appropriate cost driver than patient LOS. Cost units – a cost unit is anything which is possible to ascertain the cost. The cost unit selected in each situation will depend on number of factors, including the purpose for which it is ascertained.

E.g.: | Industry sector         | Cost unit          |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional services</td>
<td>Chargeable hour</td>
</tr>
<tr>
<td>Education</td>
<td>Enrolled student</td>
</tr>
<tr>
<td>Electricity</td>
<td>Kilowatt- hour</td>
</tr>
<tr>
<td>Brick manufacturing</td>
<td>1000 bricks (i.e. Batch wise )</td>
</tr>
</tbody>
</table>

1.1 Product Costs and Period Costs

Product costs: Costs assigned to goods purchased or manufactured for resale is a product cost, i.e. costs which can be directly related to the product (or service) provided by the firm.
**Period Costs:** Are those costs which are not included in the stock valuation and as a result are treated as expenses in the period in which they are incurred.

Example 1: In a manufacturing organisation the product cost includes three elements, i.e. direct material, direct labour and manufacturing overhead. Non-manufacturing costs are regarded as period costs.

Example 2: In a buying and selling organisation cost of goods purchased is regarded as product cost and all other costs such as administration, selling and distribution expenses are considered as period costs.

Both, product and period costs are ultimately classified as expenses. The difference is in the point in which they are so classified. Period costs not assigned to specific goods: All costs that are not product costs are period costs, i.e. costs associated with the passage of time; not readily traceable to the product (service). These costs are identified and recognized in the period when incurred rather than with units of production. All research and development, selling and administrative costs are treated as period costs.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>What would typically be some period costs and product costs of our national airline Sri Lankan Airlines.</td>
</tr>
</tbody>
</table>

**1.2 Common Cost/Joint Cost**

Joint costs (or joint-process costs) are costs that arise from the common set of inputs. These are the costs that must be allocated among the joint products. Joint products arise due to the inherent nature of production in process; it follows that none of the products can be produced separately. The various products in the process becomes identifiable at a point known as the “split – off point”. Up to this point all costs are joint costs. Any cost incurred subsequent to the split – off point, can be identified with specific products and they are known as subsequent or additional processing costs.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the oil refinery process what would be considered as common /joint costs</td>
</tr>
</tbody>
</table>

**1.3 Short Run and Long Run Cost**

Short run costs are actually revenue expenditure which includes day to day or rather frequent cost items which are written off in the profit and loss in the period which they were incurred. Long run costs are actually capital expenditure and are written off over long periods of time and they are usually one off costs.
1.4 Past and Future cost

Past cost: These are costs which have been already incurred by a company.

Future cost: These are costs which need to be incurred in the future. This will be explained in detail under relevant costs.

The analysis of past cost behaviour may be of help in predicting future cost behaviour, but care should be taken with any extrapolation into the future.

1.5 Replacement and Historical Cost

Replacement cost: The amount it would cost to replace an asset at current prices.

Historical cost: this is the book value at which an asset, liability or any other financial transaction is recorded initially in the books of accounts.

1.6 Escapable and Unavoidable Cost

Escapable Costs are costs that can be avoided in the short run whilst unavoidable costs are committed costs that cannot be avoided in the long run usually. Advertising expenditure can be classified as escapable costs which are within a company’s control. An example for an unavoidable cost would be the rent cost where a company would have already entered into a contract.
1.7 Controllable and Uncontrollable Costs

The identification of the ability or inability of a particular manager to control a cost driver is important in cost control. A cost that a specific manager can substantially influence is a controllable cost.

**Example:** Travel costs constitute one of the largest manageable corporate expenses. Companies try to control travel costs by periodic evaluation of travel policies and negotiating deals with vendors or by implementing new technology such as video conferencing.

Costs that a specific manager cannot influence are uncontrollable costs.

**Short-term and long-term difference:** Some costs are controllable in the long run but not in the short run.

**Example:** A building with a ten-year lease is not controllable in the short term (once the lease is signed). The payments must be made until the lease expires. These costs are controllable at the time the lease is negotiated. Thus in the long-run, these costs are controllable.

1.8 Sunk Cost

These costs are the cost of resources already acquired where the total cost will be unaffected by the choice between various alternatives. This term is used to describe costs which are not relevant for decision making because either they are not future cash flows or they are costs which will be incurred anyway regardless of the decision that is taken.

Example: Development cost already incurred – suppose that Company ‘X’ a mobile phone company has already spent Rs. 550,000/- in developing a new service for customers. According to a recent survey, Company’s marketing department has found that the service will not gain customer acceptance and could be a commercial failure.

1.9 Relevant and Irrelevant Costs

**Relevant cost:** A relevant cost is a future cash flow arising as a result of the decision under review. These are future cost, cash flows, incremental cost and opportunity costs.

Example: A ltd. A marketing services company has received an assignment to distribute leaflets to students in various schools. They are faced with the choice of making the journey by petrol car or by diesel van which are owned by the company.

The vehicle taxes and the insurance costs of the vehicles are not relevant as they will remain the same whatever the decision made. However the fuel cost will differ depending on the vehicle chosen which is a relevant cost.
Irrelevant cost: are costs which will not be affected by the decision. E.g. Sunk cost, committed cost, depreciation

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A company wants to accept a special project to manufacture 500 units of product 'DI' and it is trying to estimate the manufacturing cost of 'DI'. The materials required for 'DI' (i.e. 100 kg of material X) are already in stock if not used for this project it will have to be sold as scrap at Rs.10/kg. The product 'DI' needs both skilled and unskilled labour. Skilled Labour is short in supply and therefore they will have to be transferred from another project, which earns a contribution of Rs.25 per skilled labour hour. Unskilled Labour is paid a flat rate of Rs.100/day and currently there are 600 hours of idle unskilled labour hours. Each 'DI' requires one hour of unskilled labour and half an hour of skilled labour. Variable overheads are Rs.5/unit and fixed overheads are estimated to be Rs.10,000 for the period.</td>
</tr>
</tbody>
</table>

Calculate the relevant cost of product 'DI'.

1.10 Opportunity and Incremental Costs

Incremental costs: This is also known as differential cost. Incremental cost is the additional cost which arises from the production or sale of a group of additional units. If a fixed cost change, as a result of a decision the increase in costs represents an incremental cost. Increase in salaries of sales staff is therefore an incremental cost.

Opportunity cost: Is the cost which measures the revenue which is lost or sacrificed, when the choice of one action requires an alternative course of action to be given up. If there is no alternative, then the opportunity cost is zero. Opportunity cost applies to the use of scarce resources. (I.e. material, labour, machine hours, cash etc.)

Example: Zigma ltd. Who is engaged in distribution of product A has got the opportunity to market a new product B. product B gives a margin which is double when compared to product A. However, due to unavailability of distribution personnel if product B is marketed, it is expected that marketing of product A will have to be stopped by 50%.

<table>
<thead>
<tr>
<th>Product A</th>
<th>Product B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales commission per unit</td>
<td>Rs. 100.00</td>
</tr>
<tr>
<td>No : of units distributed per day</td>
<td>500</td>
</tr>
</tbody>
</table>

If product B is accepted zigma ltd. Will have to forego the distribution commission of 250 units of product A i.e. Rs. 25,000.00 Therefore when evaluating the new product distribution, along with the commission income of Rs. 80,000.00 from product B, the opportunity cost of Rs. 25,000.00 also has to be considered.
1.11 Conversion Costs and Committed Costs

*Conversion cost:* This is the term used to describe the cost of converting purchased material into finished goods or semi-finished goods, i.e. total production cost minus the initial material input cost. (Sum of additional direct material, direct wages, direct expenses and absorbed production overhead)

*Committed costs:* Is a future cash outflow which would be incurred anyway whatever decision is taken now about alternative opportunities. A company could have committed costs on contracts already entered into and which cannot be easily terminated.

1.12 Shutdown and Abandonment Costs

Shutdown and Abandonment costs are costs associated with disposal of a business or a part of it such as compensation for workers, cost of disposing plant and machinery etc.

1.13 Notional Cost

These are costs that do not involve a cash inflow or outflow now or in the future for example depreciation.

1.14 Fixed and Variable Cost

*Fixed Costs:* A cost which is incurred for a period, within certain output and turnover limits, tends to be unaffected by fluctuations in the level of activity. E.g.: Rent and rates, depreciation, Research and development cost, Executive salaries, Insurance.

*Variable cost:* A cost which tends to vary with the level of activity. E.g.: sales commission, raw material, royalty payments, production wages, carriage and packing costs.

*Example:* A college student pays Rs.700 per month to rent a two-bedroom apartment. The student can advertise for roommates to split the rent and monthly expenses. The monthly rent will be a **fixed cost**. The fixed cost per individual will decline, but the total cost remains unchanged (Rs.700). The costs for other monthly expenses, such as food, will vary based upon the number of people consuming the food. Thus, food would be a **variable cost**.

A distinction is often made between "Direct" variable costs and "Indirect" variable costs.

*Direct* variable costs are those which can be directly attributable to the production of a particular product or service and allocated to a particular cost centre. E.g.: Raw materials wages cost of production of line workers.

*Indirect* variable costs cannot be directly attributable to production but they do vary with output. These include depreciation (where it is calculated related to output - e.g. machine hours), maintenance and certain labour costs.
**Direct and Indirect Costs**: An important object of a *cost management system* is to trace as many costs as possible directly to the activities causing them. This can often be the most effective method of cost control. A cost traced to a specific department is a direct cost of that department. A cost that cannot be applied to specific department is an *indirect cost*. The categorizing of costs as either direct or indirect often depends on the department under consideration.

**Example**: A controller’s salary would be an indirect cost of managing the organization; however, the controller’s salary would be a direct cost of the accounting department.

**Semi-Variable Costs**

Whilst the distinction between fixed and variable costs is a convenient way of categorising business costs, in reality there are some costs which are fixed in nature but which increase when output reaches certain levels. These are largely related to the overall "scale" and/or complexity of the business. For example, when a business has relatively low levels of output or sales, it may not require costs associated with functions such as human resource management or a fully-resourced finance department. However, as the scale of the business grows (e.g. output, number people employed, number and complexity of transactions) then more resources are required. If production rises suddenly then some short-term increase in warehousing and/or transport may be required. In these circumstances, we say that part of the cost is variable and part fixed.

2. Determination of Costs

Costs can be classified into various categories based on various factors i.e.

2.1 Based on Financial Nature

2.2 In relation to the product

2.3 Based on Function

2.4 Based on cost behaviour

The above methods are discussed in detail below.

2.1 Depending on Financial Nature

a) **Financial Costs**

   These are costs which have a specific monetary value despite the fact whether they are cash transactions or not.

   E.g. operating expenses, interest expenses

b) **Non-Financial Costs**

   These are costs which cannot be measured by a specific monetary value and are qualitative in nature. These costs though cannot be measured accurately monetarily
immediately they could evenly be a cost through reduction of sales quantity demanded and increase in expenses due to inefficiency or poor maintenance of relationships.

E.g. Low morale of employees, customer dissatisfaction, poor supplier relations

2.2 In relation to the Product

a) Direct Costs or Traceable Costs

These are costs which can be directly identified with a job, batch, product or service. Direct costs include Direct Material costs, Direct Labour costs and Direct Expenses such as royalty payments.

Direct material: Raw materials used in a product, bought in parts and assembled into the product.

Direct labour or direct wages cost: The remuneration paid to production workers for work done directly related to the production or the salaries directly attributable to a saleable service. (e.g. audit clerk’s salary in an audit firm)

Direct expenses: expenses incurred specifically for a particular product, job, batch or service. E.g.: Royalties paid per unit, plant and tool hire charges for a particular job.

The total of direct cost is known as the “prime cost”

I.e. Direct material + Direct labour + Direct expenses = Prime cost

b) Indirect Costs or Common Costs

These costs cannot be attributed for every unit produced. Indirect costs include indirect material costs, indirect labour costs and indirect expenses, collectively known as overheads.

Examples of indirect costs in a production area.

Indirect material: Lubricating oil, consumable materials, maintenance material, and spare parts for machinery.

Indirect labour: Factory supervision, Maintenance wages etc.

Indirect expenses: Rent and rates for the factory, plant insurance

The total cost build up can be shown as follows. Prime cost + Overheads = Total cost

To understand how overheads are derived, three further definitions are required which are as follows.
• Cost centre: A production or service location, function, activity or item of equipment whose cost may be attributed to cost units.

• Cost allocation: The part of cost which has to be charged as a specific cost to a cost centre or cost unit.

• Cost apportionment: the part of cost attribution which has to be shared between two or more cost centres has to be split according to an agreed basis. This basis varies from cost to cost. The basis selected should produce a fair equitable share of the common cost for the relevant cost centres.

Some examples are shown below.

<table>
<thead>
<tr>
<th>Basis</th>
<th>Cost which may be apportioned on the said basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor area</td>
<td>Rates, rent, cleaning, heating, building depreciation, lighting</td>
</tr>
<tr>
<td>Volume or space occupied</td>
<td>Building depreciation, lighting, heating</td>
</tr>
<tr>
<td>Number of employees in each cost centre</td>
<td>Welfare, general administration, canteen cost, safety cost</td>
</tr>
<tr>
<td>Stores requisitions</td>
<td>Store keeping</td>
</tr>
<tr>
<td>Weight of materials</td>
<td>Store keeping, weight of materials</td>
</tr>
</tbody>
</table>

2.3 According to Function

a) Production or manufacturing cost

All costs incurred in the production function such as material purchases, machinery cost are included under this.

b) Administration cost

The costs incurred by the administration department of a company. E.g.: stationery costs, rent

c) Selling and Distribution cost

All costs relating to sales and distribution both internally and externally are included in this. E.g.: advertising and other promotion techniques cost, distribution expenses

d) Research and Development Cost

All costs relating to research carried out to introduce new products and improve existing products are referred to as research and development costs.
2.4 Based on Cost Behaviour

a) Variable Cost

These are costs that directly vary with output. Consequently, total variable cost is linear and unit variable cost is constant.

b) Fixed Cost

These are costs that remain constant over wide range of activity for a specified time period. Total fixed cost is constant for levels of activity whereas unit fixed cost decrease proportionately with increased level of activity.

E.g.

<table>
<thead>
<tr>
<th>Units produced</th>
<th>Fixed cost per unit (Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>10,000</td>
</tr>
<tr>
<td>10</td>
<td>1,000</td>
</tr>
<tr>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>1000</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: Total fixed costs are assumed to be unchanged in response to changes in the level of activity, but they may change in response to other factors. For example, a constant time period is assumed but if the time is extended the total fixed cost may change. Another assumption is that price levels will remain unchanged. If prices increase then total fixed cost will also increase.

c) Semi – Variable Cost

Costs that have both a fixed element and a variable element are known as a semi – variable cost. For example a telephone bill cost is semi variable as there is a rental which is fixed and the call charges are variable depending on the number of calls taken.

d) Stepped Fixed Cost

These are costs that remain constant for a given activity level but once the activity level is exceeded the cost increase and remain constant until the activity is exceeded again.

2.5 Techniques of Cost Prediction

a) High – Low Method

In this method cost structures at two different activity levels i.e. the highest and lowest activity levels are taken to estimate the variable and the fixed cost.
E.g. X Ltd produces a product in two separate batches i.e. in batches of 1000 units and in batches of 2000 units. The total cost of manufacture for the two batches are Rs.10,000 and Rs.40,000 respectively.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td>50,000</td>
</tr>
<tr>
<td>2000</td>
<td>70,000</td>
</tr>
</tbody>
</table>

Difference 1,000 20,000

Variable Cost/unit = Rs.20,000/1,000 units = Rs.20 each

Therefore Fixed Cost = Rs.70,000 – (2000 units x Rs.20/unit)

= Rs.30,000

The problem with this method is that it uses historic data and only considers the highest and the lowest activity levels and ignores the variations in other activity levels.

b) Scatter Graph Method

Similar to the high low method scatter graph method plots all the data available for different activity levels and then draw what is termed as a ‘Line of best fit’ which will show the variable cost per unit of output. The fixed cost is read off the scatter graph as the point where the line of best fit crosses the y axis.

Line of best fit is a line which passes through the plotted points to equalise the number of points on each sided and the aggregate distance from the line.

E.g. M Ltd produces product XYZ which has the following cost schedule.

<table>
<thead>
<tr>
<th>Volume</th>
<th>Total Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>30,000</td>
</tr>
<tr>
<td>1000</td>
<td>50,000</td>
</tr>
<tr>
<td>2000</td>
<td>70,000</td>
</tr>
<tr>
<td>3000</td>
<td>90,000</td>
</tr>
<tr>
<td>4000</td>
<td>110,000</td>
</tr>
<tr>
<td>5000</td>
<td>130,000</td>
</tr>
</tbody>
</table>

From the above graph it can be observed that Rs.30,000 i.e. where the activity level is zero. The fixed cost and the variable cost can be read off as the difference between the total costs of two activity levels i.e. the gradient of the line.
c) Least Squares or Linear Regression Method

This is a statistical method for estimating the line of best fit, given a series of data as in the above example for scatter diagram. This is based on the concept of drawing the line that minimises the sum of the squares of the deviations of the line from the observed data hence it is also called the Least Squares Method. The regression line of Y on X is used where Y denotes the total cost and X denotes the level of output.

The regression line usually takes the format of a straight line and therefore its equation is given by, \( y = a + bx \).

Where ‘a’ is the fixed cost and ‘b’ is the variable cost per unit of output. Y equals cost.

There are two formulas for calculating ‘a’ and ‘b’ values.

\[
a = \overline{y} - b \overline{x}
\]

where \( \overline{y} = \) average of all values in the y axis

\( \overline{x} = \) average of all values in the x axis

\[
b = \frac{\text{Covariance (XY)}}{\text{Variance X}} = \frac{n \sum XY - (\sum X)(\sum Y)}{n \sum X^2 - (\sum X)^2}
\]

Where \( \sum XY = \) Sum of the multiples of the corresponding values in X and Y axis.

\( \sum X = \) Sum of all X axis values

\( \sum Y = \) Sum of all Y axis values

\( \sum X^2 = \) Sum of the squares of all X axis values

\( n = \) number of pieces of data

E.g. B Ltd has the following production volumes and their respective costs are as follows.

<table>
<thead>
<tr>
<th>Volume (Units)</th>
<th>Total Cost (Rs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400</td>
<td>1050</td>
</tr>
<tr>
<td>600</td>
<td>1700</td>
</tr>
<tr>
<td>550</td>
<td>1600</td>
</tr>
<tr>
<td>800</td>
<td>2100</td>
</tr>
<tr>
<td>750</td>
<td>2000</td>
</tr>
<tr>
<td>900</td>
<td>2300</td>
</tr>
</tbody>
</table>
Volume
(X)  X²  Cost (Y)  XY

400  160,000  1,050  420,000
600  360,000  1,700  1,020,000
550  302,500  1,600  880,000
800  640,000  2,100  1,680,000
750  562,500  2,000  1,500,000
900  810,000  2,300  2,070,000

\[
\begin{array}{llll}
4,000 & 2,835,000 & 10,750 & 7,570,000
\end{array}
\]

\[
\bar{x} = \frac{4000}{6} = 666.67 \quad \bar{y} = \frac{10750}{6} = 1,791.67
\]

\[
b = \frac{(6 \times 7,570,000) - (4,000)(10,750)}{6 \times 2,835,000 - (4,000)^2} = \frac{2,420,000 - 101,000,000}{2.4} = 2.4
\]

\[
a = 1,791.67 - 2.4(666.67) = 191.7
\]

Hence the fixed cost is Rs.191.70 and the variable cost per unit of output is Rs.2.40.

When we are trying to find the cost using past data as shown above, a common problem is the effect of inflation on the costs. To get the real underlying cost characteristics, the effects of inflation must be allowed for.

### Exercise

Following are the production and cost data which have been recorded over two years.

<table>
<thead>
<tr>
<th>Production</th>
<th>Last year</th>
<th>Current year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>50,000 units</td>
<td>54,000 units</td>
</tr>
<tr>
<td>Total costs</td>
<td>Rs. 1,700,000</td>
<td>Rs. 1,835,400</td>
</tr>
</tbody>
</table>

Between last year and the current year the inflation rate is 5%.

Required:
Calculate the real fixed and variable cost. Estimate what the total cost will be next year if it is expected the rate of inflation on cost to be 4% and output level is 56,000 units.
Solution

Eliminate the inflation effects from data supplied.

Current year cost in real terms = \( \frac{\text{Current year actual cost}}{\text{Inflation rate} + 1} \)
\( = \frac{1,835,400}{1.05} \)
\( = 1,748,000 \)

Find the fixed / variable cost from the real cost and production differences.

<table>
<thead>
<tr>
<th>Production units</th>
<th>Costs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current year</td>
<td>54,000</td>
</tr>
<tr>
<td>Last year</td>
<td>50,000</td>
</tr>
<tr>
<td>Difference</td>
<td>4,000</td>
</tr>
<tr>
<td>Therefore real variable cost per unit = ( \frac{\text{Rs. } 48,000}{4,000} = \text{Rs. 12/-} )</td>
<td></td>
</tr>
<tr>
<td>Real fixed cost  = Rs. 1,748,000 - (54,000*12) = Rs. 1,100,000</td>
<td></td>
</tr>
</tbody>
</table>

Therefore the actual cost in the current year is made up as follows.
\( \text{(Rs. 1.1 Mn *1.05)} = (\text{Rs } 54,000*12*1.05) = \text{Rs. 1,835,400} \)

Cost estimate for the next year
\( \text{(Rs. 1.1mn *1.05*1.04) + (56,000*12*1.05*1.04)} = \text{Rs. 1,935,024} \)

Case Example - Costing and Pricing Information Services

When approaching the topic of pricing information services, there is a question to bear in mind: if mighty Dialog hasn't found a sensible way of charging for information after over 25 years, what hope is there for a lone information professional? This is overstating the case a little, but it is sometimes reassuring to be reminded that no-one finds pricing information services a straightforward activity. Marketing textbooks tell us that marketing services can be a challenge, and a brief trawl of the Library and Information Science literature shows that LIS researchers have been debating ways of determining the value of information for decades (and value is extremely relevant to price!)

Nevertheless, it is possible to take control on the pricing issue, and use price creatively as part of the mix in marketing your service.

Pricing as Part of the Mix

In marketing terms, pricing is viewed as part of the marketing mix, along with Promotion, Place (distribution), Product (i.e. the product/service you are offering) and (for services) People and Process. Marketing textbooks all stress that it is important to see price in this context, rather than in isolation. If clients are not using a service, you could consider altering the service and the way it is provided, reviewing the way that the staff are handling the service, promoting the service more effectively, - or altering the price. However, if you assume that people are not using a service because it is too expensive, and then put the price down, you could be making a mistake.
Philip Kotler, a marketing guru who has written extensively about marketing of services and marketing in non-profit organisations, has redefined the 'P's' of the Marketing Mix as 'C's'. In this new system, 'Price' becomes 'Cost to the user'. This is a useful reminder that a user will look at all the time, money and energy they have expended in order to use the service, not just the part you charge for. Therefore, users might be willing to pay extra for a service that delivered information directly to their door, because the overall cost to them is lower, rather than paying less and having to collect the information themselves. (This is a problem that online services have been struggling with: it took them a while to realise that the user included telecommunications and hardware etc. in the 'cost of online' - not just the host's connect and hit charges). If you are starting out, or feel that a change in strategy is needed, it is important to get feedback from users and potential users, rather than jumping to conclusions. However, when drawing up questionnaires or handling focus groups, the question of price has to be approached carefully. On the one hand, a number of information brokers have commented that what people say they are prepared to pay in theory (i.e. when answering a pre-service questionnaire), does not tally with what they are prepared to pay in practice. In addition, users may prefer to say 'I didn't use the service again because it was too expensive' rather than giving the real reason (e.g. 'I didn't use it again because the person doing my search used a lot of jargon and didn't explain why she didn't find much') because the 'price' answer is less likely to be probed and challenged. Therefore, you may not want to ask directly how much people are willing to pay for a service: it may be more useful to find out which services are valued most, and to analyse user needs and usage patterns, in order to identify what people would be willing to pay most for.

**Knowing Your Objectives**

Your pricing strategy needs to fit in with the overall mission of your organisation, and reflect your financial objectives: it will be part of your marketing or business plan. The usual advice about goals and mission applies: if your staff does not 'own' the objectives, then they may not work to support them. I know of one information service where reference staff (who disagreed with the policy of introducing charges for some types of enquiry) was advising users about ways to get round the charges and obtain the information for free.

The diagram below illustrates the process of deciding on pricing strategies.

**Marketing objectives**

- Pricing Objectives
  - Examination of determinants - e.g. costs, demand, competition
  - Decision on the role that pricing will play in the marketing mix
  - Development, and evaluation of the effect of, pricing strategies
At each stage, results of research may mean returning to, and revising, decisions made at an earlier stage.

**Knowing your Costs**

In order to be able to price something, you need to know how much it costs. This means having Management Information Systems (MIS) which provide information on the separate services you provide. As well as different types of service, you are likely to want to track use by different individuals or groups of people. If you have set up your own business, this is something you can determine for yourself (possibly in conjunction with your accountant, and bearing in mind what is and is not tax-deductable). Even if you have your own business, though, you are likely to need more management information than is necessary for accounting purposes, in order to track performance of different parts of the service and different client groups.

If you work as part of an organisation, it is important to know what they mean by cost recovery: does this mean direct costs only, or all costs including overheads such as accommodation, heating and superannuation? Different organisations allocate overheads in different ways. A bluffer's knowledge of accounting terms and MIS jargon will be very useful.

A common way of distinguishing costs is to look at whether they are **fixed** or **variable** costs, and whether they are **direct costs** or **overheads**. Fixed costs are those which are the same whatever the usage (e.g. a journal subscription, photocopier rental): they may also involve an up-front commitment. Variable costs are those which vary according to usage (e.g. online searches, photocopy paper costs). In organisations which are worried about cash flow, there may be a preference for incurring variable costs (less risk of paying for something you do not use).

Direct costs are those which can be associated directly with the service (e.g. a journal or piece of equipment bought specifically for use in one service) and overheads are costs which benefit a range of services (e.g. the cost of heating and lighting university buildings). A salaried employee employed on a specific service might be seen as a fixed, direct cost. An online search carried out for the same service would be a variable direct cost.

A number of fee-based services have found that they need to keep more detailed records than their organisation's MIS is able to provide. If you work in the sort of organisation where objectives may be changed without warning, then it is useful to have costing data to hand which will enable you to work out quickly, for example, the effect of having to include accommodation costs for the first time, or split costs differently between internal clients.
Case Example - Using cost analysis to support cost classifications in programmes.

Cost analysis of a program has several purposes. They could be to assess the financial feasibility of the program, to monitor the performance of centres, to assess the program's cost-effectiveness, and to raise funds. For any cost analysis a clear cost classification will be useful for an organisation.

Assessing feasibility

Financial feasibility is an essential criterion for funding a project. A good cost classification by subcomponents provides the basic framework for a detailed "costing of the project". This exercise may lead to a conclusion that the original goals were overambitious, forcing a reconsideration of the size of the project, the size or richness of its components, or perhaps the modes of service delivery. The purpose of the exercise is to align goals, means, and financing in a viable proposal.

Monitoring performance

In systems composed of many centres or units operating similar programs but under different conditions, it is important to know where unit costs vary substantially from the norm, and why. Are different components being used? Are components being used in different proportions? Is the scale of operations different? Are the prices paid for the components different? And regardless of the reason for the substantially different unit costs, are the differences in cost associated with differences in child development outcomes?

In addition to comparing unit costs across centres, it is also useful to track these costs over time for each centre and group of establishments. A significant rise in unit costs should prompt an investigation of the causes and corrective action whenever possible, while a decline in costs might signify efficiency improvements that could be adopted in other centres. When unit costs change as a result of unavoidable changes in the prices of components, the analysis will still be valuable for improving budgetary forecasting and financial planning.

Relating Costs to benefits

While the analysis of cost alone has many uses, a comparison of costs and benefits is required when considering a new project, deciding whether to expand an existing one or to introduce efficiency improvements, and choosing the modes of provision. Determining costs is relatively easy; the major stumbling block is often defining and measuring the benefits, or effects, of the program.
### Practice Questions – Cost Classification

A company manufactures and retails clothing. You are required to write the correct cost classification for each of those costs below in the space provided. Each cost is intended to belong to one of the following.

1. Direct materials
2. Direct labour
3. Direct expenses
4. Indirect production overhead
5. Research and development cost
6. Selling and distribution cost
7. Administration cost
8. Finance cost

| 1. Lubrication for sewing machines |
| 2. Floppy disks for general office computer |
| 3. Maintenance contract on general office photocopy machine |
| 4. Telephone rental plus metered calls |
| 5. Interest on bank overdraft |
| 6. Performing rights society charges for music broadcast throughout the factory. |
| 7. Market research undertaken prior to a new product launch |
| 8. Wages of security guards for factory. |
| 9. Carriage on purchases of basic raw material |
| 10. Royalty payable on product XY produced |
| 11. Road fund license for delivery vehicles |
| 12. Parcels sent to customers |
| 13. Cost of advertising products on television |
| 14. Audit fees |
| 15. Chief accountant’s salary |
| 16. Wages of cutting department |
| 17. Cost of painting advertising slogans on delivery vans |
| 18. Wages of store keepers in materials store |
| 19. Wages of fork lift truck drivers |
| 20. Developing a new product in the laboratory |
## Solutions

<table>
<thead>
<tr>
<th>Item</th>
<th>Classification</th>
<th>Item</th>
<th>Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>4</td>
<td>11.</td>
<td>6</td>
</tr>
<tr>
<td>2.</td>
<td>7</td>
<td>12.</td>
<td>6</td>
</tr>
<tr>
<td>3.</td>
<td>7</td>
<td>13.</td>
<td>6</td>
</tr>
<tr>
<td>4.</td>
<td>7</td>
<td>14.</td>
<td>7</td>
</tr>
<tr>
<td>5.</td>
<td>8</td>
<td>15.</td>
<td>7</td>
</tr>
<tr>
<td>6.</td>
<td>4</td>
<td>16.</td>
<td>2</td>
</tr>
<tr>
<td>7.</td>
<td>6</td>
<td>17.</td>
<td>6</td>
</tr>
<tr>
<td>8.</td>
<td>4</td>
<td>18.</td>
<td>4</td>
</tr>
<tr>
<td>9.</td>
<td>4</td>
<td>19.</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>3</td>
<td>20.</td>
<td>5</td>
</tr>
</tbody>
</table>

♫ My Short Notes

---

*Chapter 02 – Determination of Costs*
My Short Notes
Chapter 3
Standard Costing and Variance Analysis

This chapter will cover the following areas:
1. Introduction to Standard Costing
2. Setting Standards
3. Computation of Variances and Evaluation of Performance
4. Costing and Pricing Decisions

1. Introduction to Standard Costing

Standard costing is a technique which establishes predetermined estimates of the costs of products and services and then compares these predetermined costs with actual costs as they are incurred. The predetermined costs are known as standard costs and the difference between the standard cost and the actual cost is known as a variance. The process by which the total difference between actual cost and standard cost is broken down into its different elements is known as variance analysis.

Example of a Standard Cost Card of a product is shown below.

<table>
<thead>
<tr>
<th>Raw Materials - A</th>
<th>5 kg @ Rs.50/kg</th>
<th>Rs.250</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-B 10kg @ Rs.45/kg</td>
<td>Rs.450</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>5hrs @ Rs.60/hr</td>
<td>Rs.300</td>
</tr>
<tr>
<td>Variable Overhead</td>
<td>5hrs @ Rs.30/hr</td>
<td>Rs.150</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>Rs.1150</strong></td>
</tr>
</tbody>
</table>

1.1 Advantages of a Standard Costing System

a. They facilitate management planning.

b. They promote greater economy by making employees more "cost conscious."

c. They are useful in setting selling prices.

d. They contribute to management control by providing a basis for the evaluation of cost control.

e. They are useful in highlighting variances in management by exception.
1.2 Disadvantages of a Standard Costing System

a. It may be expensive and time consuming to install a standard costing system throughout the entire company.

b. In rapidly changing methods, rates and prices standards become out of date and thus lose their control and motivational effects.

c. Standard costing concentrates on a narrow range of financial factors. Many other factors are important to consider in setting standards such as; quality, lead times, customer satisfaction, economic and political conditions.

d. Where a JIT principles are adopted standard costing will become less useful in modern factories.

1.3 Types of Cost Standards.

Standards are normally classified into three broad categories.

a. Basic Standards
b. Ideal Standards
c. Attainable Standards

**Basic Standards**: Basic Standards are standards that have been established for use over a long time period from which a current standard can be developed. Basic standards usually do not change overtime hence are not used widely by companies. This is because in today’s world businesses are continuously changing hence static standards are of limited use for management control.

**Ideal Standards**: These are based on the best possible operating conditions, i.e., no breakdowns, no material wastage, no stoppages or idle time. Ideal standards are based on the assumption of perfect efficiency hence are usually not achievable. Ideal standards if used, would be revised periodically to reflect improvements in methods, materials and technology.

**Attainable Standards**: Attainable Standards are standards that can be achieved under normal working conditions if work is carried out efficiently with machines operated properly and materials used in the most effective manner. Allowance is made for normal losses, waste and machine downtime. These are the standards that provide the most appropriate information for management control. They can be used for product costing, cost control, stock valuation and as a basis for budgeting.
2. Setting Standards.

Realistic standards which can be used for control purposes rest on a foundation of a properly organised, standardised methods and procedures and a comprehensive information system. Setting standards requires input from all persons who have responsibility for costs and quantities.

Standards may be set at one of two levels as discussed above. Ideal standards represent optimum levels of performance under perfect operating conditions. Normal/Attainable standards represent efficient levels of performance that are attainable under expected operating conditions.

A standard cost implies that a target or standard exists for every single element which contributes to the product, the types, usage and prices of materials and parts, the grades, rates of pay, times of labour, production layout, tools etc.

**a) Standard Price Per Unit**

The direct materials price standard is the cost per unit of direct materials that should be incurred:

- This standard is based on the purchasing department's best estimate of the cost of raw materials.
- This standard should include an amount for related costs such as receiving, storing, and handling.

The direct labour price standard is the rate per hour that should be incurred for direct labour.

- This standard is based on current wage rates adjusted for anticipated changes, such as cost of living adjustments.
- This standard generally includes employer payroll taxes and fringe benefits.

**b) Standard Quantity Per Unit**

The direct materials quantity standard is the quantity of direct materials that should be used per unit of finished goods.

- This standard is expressed as a physical measure, such as pounds, barrels, or board feet.

---

*Activity*

Discuss the likely impact each of the above standards will have on the motivation of managers in a company.
This standard should include allowances of unavoidable waste and normal storage.

The direct labour quantity standard is the time that should be required to make one unit of the product.

- This standard is especially critical in labour-intensive companies.
- In setting this standard, allowances should be made for rest periods, cleanup, machine setup and machine downtime.

c) **Overhead Standards**

Predetermined overhead absorption rates become the standards for overheads for each cost centre.

- This overhead rate is determined by dividing budgeted overhead costs by an expected standard activity index.
- The standard manufacturing overhead rate per unit is the predetermined overhead rate times the direct labour quantity standard.

3. Computation of Variances and Evaluation of performance

A variance is the difference between the standard cost/revenue and the actual cost/revenue. Total cost Variance can be categorized into many components as shown below. An unfavourable variance suggests that too much was paid for materials, labour and overheads as there were inefficiencies in using materials and labour.

Favourable variances indicate efficiencies in incurring overheads and using materials and labour. A variance matrix can be used in analyzing variances. In such cases, the formulae for each cost element are computed first and then the variances.

Components of a Variance could be presented as follows in the diagram in the next page.

3.1 **Direct Material Price Variance**

The difference between the standard price and actual purchase price for the actual quantity of material. If the actual price is greater than the standard price then this variance is unfavourable as the company has spent more on purchasing materials and the variance is favourable if actual price is less than the standard price.

<table>
<thead>
<tr>
<th>Actual Quantity</th>
<th>Actual Quantity</th>
<th>Materials Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Actual Price</td>
<td>X Standard Price</td>
<td>Variance</td>
</tr>
<tr>
<td>(AQ) X (AP)</td>
<td>(AQ) X (SP)</td>
<td>(MPV)</td>
</tr>
</tbody>
</table>
Example - If J Ltd expected to purchase Material A for Rs.50/kg and actually purchased 500kg costing Rs.30,000 what is the material price variance of J Ltd.

= (500kg x Rs.60) – (500kg x Rs.50) = 5000 unfavourable

Causes for Material Price Variance
- Increase/decrease in general prices
- Change of suppliers
- Increase or decrease in quantity discounts
- Buying substitute material due to unavailability of planned material.

Components of a Variance

The components of Total Cost Variance can be further broken down as shown in the diagram below.
3.2 Material Quantity/ Usage Variance

This Variance calculates the impact on expected profits as a result of the quantity differential between standard quantity to be used for production and actual quantity of materials used for production at standard purchase price. If the actual quantity used is greater than the standard quantity planned to be used then this variance is unfavourable as the company has spent more on the volume of materials and if the opposite happens this variance is favourable.

Example : If J Ltd expected to purchase 600 kg of Material A for Rs.50/kg and actually purchased 500kg costing Rs.30,000 what is the material quantity variance of J Ltd.

\[
= (500\text{ kg} \times \text{Rs.}50) - (600\text{ kg} \times \text{Rs.}50) = 5000 \text{ favourable}
\]

Causes for Material Usage Variance

- Increase/decrease in the level of scrap
- Changes in method of production.
- Quality of material used

3.3 Total Material Cost Variance

The difference between the standard direct material cost of the actual production volume and the actual cost of direct material. Alternatively, the total material cost variance is the addition of material price and material quantity variance and is calculated as follows:

\[
\begin{align*}
\text{Actual Quantity} & \times \text{Actual Price} - \text{Standard Quantity} \times \text{Standard Price} = \text{Total Materials Variance} \\
(AQ) \times (AP) & - (SQ) \times (SP) = (TMV)
\end{align*}
\]

Materials price variances are usually the responsibility of the purchasing department, whereas materials quantity/usage variances are attributable to the production department.

**Activity**

Calculate Total Material Cost Variance of J Ltd using the formula, and see whether it is equal to the addition of price and quantity variances.
3.4 Direct Labour Rate Variance

This Variance calculates the impact on expected profits as a result of the rate differential between standard rate and actual rate of labour for the total hours worked. If the actual rate is greater than the standard rate then this variance is unfavourable as the company has spent more on labour and the variance is favourable if actual rate is less than the standard rate.

<table>
<thead>
<tr>
<th>Actual Hours</th>
<th>Actual Hours</th>
<th>Labour Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Actual Rate - X Standard Rate</td>
<td>(AH) X (SR)</td>
<td>(LRV)</td>
</tr>
</tbody>
</table>

Causes for Labour Rate Variance
- Increase/decrease in wages
- Changes to overtime/bonus plans
- Quality of labour used than planned

Activity

If K Ltd has budgeted for a total of 5000 labour hours for the current month at a standard rate of Rs.100/hr and the actual labour hours worked were 5250 labour hours at a total cost of Rs.525,000. Calculate the Labour Rate Variance.

3.5 Direct Labour Efficiency Variance

This variance calculates the impact on expected profits as a result of the differential between standard hours worked and actual hours worked valued at the standard labour rate. If the actual hours are greater than the standard hours then this variance is unfavourable as the company has spent more labour hours and the variance is favourable if actual hours are less than the standard hours.

<table>
<thead>
<tr>
<th>Actual Hours</th>
<th>Standard Hours</th>
<th>Labour Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>X Standard Rate - X Standard Rate</td>
<td>(SH) X (SR)</td>
<td>(LEV)</td>
</tr>
</tbody>
</table>

Activity

Calculate Labour efficiency variance for K Ltd using the above activity.
Labour efficiency variances relate to the efficiency of the workers and are the responsibility of the production department.

*Causes for Labour Efficiency Variance*

- Learning curve effect
- Enhanced working conditions
- Use of incorrect grade of labour
- Poor workshop organisation or supervision.
- Motivation level of the workforce

### 3.6 Total Direct Labour Cost Variance

The difference between the standard direct labour cost and the actual direct labour cost incurred for the production achieved. Alternatively, is the addition of Direct Labour Rate Variance and Direct Labour Efficiency Variance.

#### Devise the formula for the calculation of the Total Direct Labour Cost Variance using similar notation to above formulas and calculate this variance for the above K Ltd.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Devise the formula for the calculation of the Total Direct Labour Cost Variance using similar notation to above formulas and calculate this variance for the above K Ltd.</td>
</tr>
</tbody>
</table>

### 3.7 Variable Overhead Expenditure Variance

The difference between the actual variable overheads incurred and the allowed variable overheads based on the actual hours worked.

\[
\text{V.O.A.R.} = \frac{\text{Budgeted variable overheads}}{\text{Budgeted activity level}}
\]

\[
\text{V.O.E.V.} = \text{Actual Labour Hours} \times (\text{Standard Rate} - \text{Actual Rate})
\]

In the above formula rate relates to Variable Overhead Absorption rate.

### 3.8 Variable Overhead Efficiency Variance

The difference between the allowed variable overheads and the absorbed variable overhead.

\[
\text{V.O.E.V.} = \text{Actual Labour Hours} \times (\text{Standard Rate} - \text{Standard Rate})
\]
In the above formula rate relates to Variable Overhead Absorption rate.

### 3.9 Variable Overhead Total Variance

This is the difference between the planned total variable overhead cost and the actual variable overhead cost. It is over/under absorption of overheads.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>K Limited has budgeted Variable overhead cost for October of Rs.84,000. Budgeted production is 20,000 units of its product X. A total of 40,000 labour hours are expected to be worked. During October actual production was 20,500 units. Actual labour hours worked were 41,600 hours and the variable overhead cost incurred amount to Rs.86,700. The respective Variable Overhead Expenditure and Efficiency variances would be:</td>
</tr>
<tr>
<td>1. 660(F) and 1260(A)</td>
</tr>
<tr>
<td>2. 660(A) and 1260(F)</td>
</tr>
<tr>
<td>3. 1260(A) and 660(F)</td>
</tr>
<tr>
<td>4. 1200(F) and 600(A)</td>
</tr>
</tbody>
</table>

### 3.10 Fixed Overhead Expenditure Variance

This is simply the difference between Actual and Budgeted Fixed Overhead Expenditure. If actual expenditure is more than budgeted then this variance is adverse/unfavourable.

| Budgeted Fixed Overhead - Actual Fixed Overhead = Fixed Overhead Expenditure Expenditure Expenditure Variance |

### 3.11 Fixed Overhead Volume Variance

This variance measures the difference between the amount actually absorbed based upon actual production (in standard hours) compared to the amount expected to be absorbed based upon budgeted production (in standard hours).

| Actual Production at the Standard Rate - Budgeted Production at the Standard Rate = Fixed Overhead Volume Variance |

In the above formula rate refers to standard fixed overhead rate which is calculated as follows.
Fixed Overhead Absorption Rate = \( \frac{\text{Budgeted Fixed Costs}}{\text{Budgeted Activity Level}} \)

Budgeted activity level can be budgeted machine hours, budgeted labour hours or even budgeted production units.

The volume variance arises due to difference in the volume of production and the planned volume. This difference in the volume of production can be due to following:

- Labour efficiency being greater or less than planned (the efficiency variance)
- Hours of work being greater or less than planned. (the capacity variance)

Therefore the fixed overhead volume efficiency variance can be further subdivided into fixed overhead efficiency variance and fixed overhead capacity variance.

(a) Fixed Overhead Efficiency Variance – is the difference between the standard cost absorbed in the production achieved, whether completed or not, and the actual direct labour hours worked valued at the standard hourly absorption rate.

\[
\text{Efficiency variance} = \text{Actual labour hours} \times \text{F.O.A.R} - \text{Standard hours of production} \times \text{F.O.A.R.}
\]

(b) Fixed overhead capacity variance – It is the portion of the fixed overhead volume which is due to working at higher or lower capacity than standard. Capacity is expressed in terms of direct labour hours per day, and the variance is the difference between the budget cost allowance and the actual direct labour hours worked valued at the standard hourly absorption rate.

\[
\text{Budgeted fixed overheads} - \text{Actual labour hours} \times \text{F.O.A.R.} = \text{Capacity variance}
\]

The following data relates to the fixed overheads of AP Ltd.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Budgeted Cost</td>
<td>Rs.50,000</td>
<td></td>
</tr>
<tr>
<td>Budgeted Production</td>
<td>5000 units</td>
<td></td>
</tr>
<tr>
<td>Budgeted Labour Hours</td>
<td>15000</td>
<td></td>
</tr>
<tr>
<td>Actual Cost</td>
<td>Rs.45,000</td>
<td></td>
</tr>
<tr>
<td>Actual Production</td>
<td>5500 units</td>
<td></td>
</tr>
<tr>
<td>Actual Labour Hours</td>
<td>15500</td>
<td></td>
</tr>
</tbody>
</table>

Calculate the Fixed Overhead Variances of AP Ltd if the basis used for absorption of overheads is labour hours.

Hint: to calculate the fixed overhead variances first convert actual production into standard hours.
3.12 Sales Variances

The objective of the variances discussed earlier is to help management to control costs. To achieve planned profits, management also wish to control sales or to control the margin from sales.

a) **Total Sales Margin Variance** – is the difference between budgeted margin from sales and the actual margin when the cost of sales is valued at the standard cost of production.

b) **Sales Margin Price Variance** - is the difference between the standard margin per unit and the actual margin per unit for the number of units sold in the period.

\[
\text{Sales margin price variance} = (\text{Actual margin} - \text{Standard margin}) \times \text{Actual sales volume}
\]

c) **Sales Margin Quantity Variance** – is the difference between the budgeted number of units sold and the actual number sold valued at the standard margin per unit.

\[
\text{Sales margin quantity variance} = (\text{Actual sales volume} - \text{budgeted sales volume}) \times \text{standard profit margin quantity variance}
\]

When more than one product is sold, the sales margin quantity variance can be subdivided into a Mix variance and a Volume variance. The mix variance shows the effect on profits of variations from the planned sales mixture, and the volume variance shows the effect of the unit volume varying from standard.

- **Sales margin mix variance** – It is the portion of sales margin quantity variance which is the difference between the actual total number of units at the actual mix and the actual total number of units at the standard mix valued at the standard margin per unit.

- **Sales margin volume variance** – It is the portion of sales margin quantity variance which is the difference between the actual total quantity of units sold and the budgeted total number of units at the standard mix valued at the standard margin per unit.

3.13 Reporting of Variances

All variances should be reported to appropriate levels of management as soon as possible. **Variance reports** facilitate the principle of "management by exception." Rather than analyze every variance, top management will normally look for significant variances.
Activity

M Ltd is a company engaged in manufacturing women’s garments. Costs have been increasing at an increasing rate since previous months and the company’s management accountant is working together with the financial accountant to find the inefficiencies in the company and to reduce those in order to cut costs and improve revenue thereby the profit. The company at the beginning of the year has set its standard costs as follows.

<table>
<thead>
<tr>
<th>Standard Product Cost</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material X 5Kg @ Rs.50</td>
<td>250</td>
</tr>
<tr>
<td>Material Y 2Kg @ Rs.60</td>
<td>120</td>
</tr>
<tr>
<td>Unskilled Labour 5 hrs @ Rs.20</td>
<td>100</td>
</tr>
<tr>
<td>Skilled Labour 3hrs @ Rs.30</td>
<td>90</td>
</tr>
<tr>
<td>Variable Overheads 3hrs @ Rs.25</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td><strong>635</strong></td>
</tr>
</tbody>
</table>

Budgeted Fixed Costs were Rs.500,000 for an expected activity level of 1000 units. Actual Costs were as follows for the period.

5000 Kg’s of Material X were used at a cost of Rs.30,000. 6000 Kg’s of Material Y were bought at a total cost of Rs.32,000. Unskilled Labour worked a total of 5000 hrs and Skilled Labour worked a total of 8000 hrs. Variable Overheads are charged on the basis of Skilled Labour hrs. Skilled Labour was paid Rs.35/hour whilst Unskilled Labour rate was equal to the budgeted rate. The total variable overhead expenditure was Rs.34,000. Fixed overheads for the period was Rs.650,000. The actual output for the period was 2000 units.

Calculate all the relevant variances and comment on the performance of M Ltd.

4. Costing and Pricing Decisions

4.1 The Pricing Mix

Prices in any particular market depend on the interaction of costs, demand and competition. It is the interaction or mix which is all important. None of these factors acts in isolation and certainly none should provide the sole basis for price setting.

It is relatively simple to decide on upper and lower price limits for your products. At some point prices will be lower than costs, so that the venture is not worth your while. At the other extreme, beyond a certain point no one will be willing to buy a product or service you have to offer. Just where prices settle between these two extremes will depend on the relative strength of these three key factors-cost, demand and competition.
4.2 Costs

Costs are important. Once costs are known they provide a reference point for assessing profitability and enable you to see whether or not the expected return is satisfactory. In addition, apart from loss leaders and short term promotions, they show the minimum level below which prices will not normally be set. Whatever pricing strategy you decide to adopt, there must be a price below which it is simply not worth your effort. However, this is the only point at which costs should affect pricing decisions.

Using a simple "cost-plus" formula for determining prices, although convenient, takes no account of either what the market will bear or how your products or services compare with the competition.

4.3 Others

a) Demand

There must be a demand for your product, otherwise it will not sell - at any price. However once it has been established that a demand exists, all too often prices are set in relation to costs and competition, without taking demand properly into account. We must remember that customers do not simply buy products - they buy benefits, i.e. the benefits that acquiring the product or service will bring. Ask yourself the following questions:

- What benefits do customers get by buying my/our product?
- What special benefits do they get by buying from me/us?
- What are these benefits likely to be worth to them?
- What might they be prepared to pay for these benefits?

Only by considering the possible prices for your product or service can you take into account the effect that competition might have in keeping the price down.

b) Competition

Some markets - especially where barriers to entry are low and products are more or less the same - can be extremely competitive. However, not all competition takes the form of price cutting - often it leads instead to an emphasis on brand advertising to improve the image and price position of the product. In markets like these, although advertising clearly has an impact, it is by no means easy to decide just how much advertising is required to achieve a given price premium.

The main point to remember is that you don't have to undercut everybody to break into a particular market. If the lower price sector is crowded already, it may well be better to aim for another part of the market altogether - provided, of course, that you adapt your marketing plans and budgets accordingly.
Since costs, demand and competition can all change fairly frequently, it is important to keep your prices under review, to be sure that they are in line with what you are trying to achieve.

4.4 How Important is Pricing?

Getting one's prices right is vital to the success of any business. It has a direct effect both on levels of output and on profitability. In contrast, the significance of price to the customer can vary widely from one market to another. Many factors affect the customers decision to buy - quality, reliability, after-sales service and price can all play a part. In consumer markets where products are fairly similar and heavily branded, price is often paramount. For lower-priced goods on the other hand, where the effort of "shopping around" is less worthwhile, other factors such as convenience can be much more important.

For industrial markets, where purchasing decisions are often made by professional buyers, the choice between suppliers can be quite complex. Price is usually of some importance but so too are other factors such as reliability of supply. After all, there is little point in negotiating the best possible discount if this means that you are last in the queue for deliveries.

4.5 The Effect on Profitability

Efforts by firms to improve their profitability often concentrate on reducing costs and increasing sales to spread overheads. Companies frequently spend considerable amounts of time and effort trying to increase efficiency and reduce costs, whereas making higher prices stick in the market place can often have a more dramatic effect on profitability. Indeed it is frequently easier to increase profitability by improving profit margins than by chasing extra sales, especially if your market share is substantial already. Of all the factors affecting profitability, the profit margin is most directly significant. This is not surprising when we consider the following relationship:

\[
\text{Return on assets} = \frac{\text{profit}}{\text{sales}} \times \frac{\text{sales}}{\text{assets}}
\]

\[
15\% = 10\% \times 1,5 \\
21\% = 14\% \times 1,5
\]

From this simple arithmetic it is clear that increasing the profit margin, for example by four percentage points, has the effect of increasing overall return on assets by almost half!
4.6 Pricing Strategy

The only time when price setting is not a problem is when you are a "price-taker" and have to set prices at the going rate, or else sell nothing at all. This normally only occurs under near-perfect market conditions, where products are almost identical. More usually, pricing decisions are among the most difficult that a business has to make. In considering these decisions it is important to distinguish between pricing strategy and tactics. Strategy is concerned with setting prices for the first time, either for a new product or for an existing product in a new market; tactics are about changing prices. Changes can be either self-initiated (to improve profitability or as a means of promotion) or in response to outside change (i.e. in costs or the prices of a competitor).

Setting prices at different levels has important implications for sales output, market share and profitability. When introducing new products, some key decisions about market-positioning must therefore be made at the outset. The answers to the following questions can be all important:

- What benefits does the new product offer compared with the products of competitors’?
- What are these benefits likely to be worth and to whom?
- How long will this competitive advantage last? What is the product’s expected life cycle?
- What is the total potential market at different prices?
- How large a market share is being sought?
- Is a quick return required, or are you prepared to exploit the potential more gradually?
- Are resources available for spending on advertising to support a brand image and justify a premium price?
- How will the product fit in with others in the range - will it create new sales or shorten the lives of other products?

Once these questions have been answered the market strategy, and the broad price level implied should start to emerge.

4.7 Some Alternative Pricing strategies

A business introducing a new product may decide to adopt an "up-market" strategy and charge a higher price at first, only introducing lower-price models or reducing the price of the existing model as the competition starts to catch up. Alternatively, it may follow a market share or market penetration pricing strategy. In this case it aims for market domination by setting a low price from the start, calculating that this will discourage
competitors and enable it to capture a larger market share and achieve greater volume production at lower unit cost. In this way profits may still be higher despite lower prices. Such a pricing strategy can pay off handsomely, especially where demand is price sensitive and costs fall significantly with higher production. There is no "right" pricing strategy for all situations. The one to choose will depend on the prevailing market conditions and what your company is trying to achieve.

4.8 Effect on Life Cycles

Price positioning must take account of a product's position in it's life cycle as well as the life cycle of replacement products. As a product gets towards the end of its effective life its price position is likely to become weaker. If its price is changed this may affect other products in the range. A lower price, for example, may extend the product's own life but curtail the life of other, more profitable, new products.

4.9 Market Share

The response from competitors is likely to be greater the larger the market share you hold. The bigger your market share the more impact you will have on your competitors and therefore the more careful you need to be before making a price change. After all, if you are going to start a price war you should try to make sure beforehand that you are going to win it.

4.10 Advertising Support

Prices will depend on the size of the planned marketing budget, since this will affect your ability to convince buyers to pay higher prices. Although advertising can help sustain higher prices by creating a brand awareness and greater customer loyalty, don't forget that it can be very expensive.

4.11 Image

If you have invested time and money building up a brand image emphasizing the various non-price benefits of your product, it may do more harm than good to introduce low-price products into your range. Consider carefully what low-priced items may do to the brand/business image that you are trying to develop.

4.12 Tactical Pricing

Tactical pricing is concerned with making changes in your own prices and responding to price moves by others. Of course, pricing should not be seen in isolation but as a part of the overall marketing mix. Offering larger discounts- equivalent to cutting prices- might for example be a legitimate response to the start of a competitor's advertising campaign.
4.13 Initiating Price Changes

The following circumstances may lead you to think about cutting prices:

- If you have excess capability and need a short-term increase in business, and if you have failed to achieve this by more or better non-price marketing.
- If you are seeking to expand market share in the face of intense competition.
- If you are aiming at market domination in the hope of higher-volume production and lower unit costs.

On the other hand, price increases often result from over-demand for your product. If you cannot supply all customers, a price increase can be used effectively to ration supplies. Whatever form they take, price changes will almost always have an impact of some kind. Although suppliers, distributors and government may all be interested in your price changes for different reasons, the two key reactions are likely to be those of customers and competitors.

4.14 Customer's Response

If general conditions are good, you can usually increase your prices without too loud a howl from your customers; but in times of recession, your greatest concern is to maintain your market share. Then you will price not for profit, but to retain your customers.

4.15 Response from Competitors

A company thinking of changing its prices must also consider how its competitors are likely to react. Such reactions are especially important where:

- There are few firms in the market and your own share is relatively large;
- The product/services are relatively homogenous;
- Customers are both discriminating and well-informed

Complex strategy models can be developed to try to estimate how competitors are likely to react to price changes under different circumstances. Broadly speaking, the approaches are either statistical or conjectural. The statistical approach analyses how competitors have responded in the past on the assumption that they have a consistent price reaction policy. Unfortunately the problem with this is that firms do not always react logically.

The conjectural approach, on the other hand, amounts to putting yourself in your competitor's shoes and estimating how you would react in the circumstances. To do this you need to find out as much about each of your competitors as possible. Are they pursuing a market share objective? If so they may well decide to match your price change. On the other hand, if they are trying to maximise profits, they may well respond to a price
reduction by taking action on another front such as spending more on advertising or improving product quality.

How much profit are your competitors making? If you don't know then you should try to find out. You will then be in a much better position to judge how any price change will affect their profitability and how much freedom of action they actually have. Knowing whether or not your competitors can afford to enter a price war is something you should try to find out before you start one- not afterwards.

4.16 Responding to Price changes by Others

We have looked at the possible effects of initiating price changes - let us now consider the opposite question. How should we react to price changes made by competitors?. In some situations - in markets with near perfect competition and homogenous products - you may have little choice but to match a competitors price cut. Not to do so would probably mean losing most if not all of your sales. If on the other hand the competitor increases his price you must choose between fully or partly matching the rise or making no change at all. In doing this you must judge how the market as a whole is likely to react, as well as estimating the subsequent response of your competitors to your own actions. A refusal to increase your price may make the competitors reverse the original increase, so that an opportunity to raise overall profit margins may be lost.

In markets with on-homogenous products, you have more freedom in deciding how to respond to a price change. Since price may be only one factor - albeit an important one - in determining buyer behaviours, you may decide to change other elements of the marketing mix, for example, by concentrating more on advertising, improving product quality or deliveries.

The best approach is to consider the expected pay-off from adopting different responses. Start by trying to answer the following questions:

- Why did the competitor change his price in the first place? Was it to raise his own market share? To utilise spare capacity? To off-set increased costs ?
- Is the price change likely to be permanent or only temporary ?
- What will happen to your market share and profitability if you do not match the price change ?
- What are other competitors likely to do ?

We do not pretend that there is a simple solution to this problem. However, a logical approach should pay dividends. Always try to put yourself in your competitor's shoes and estimate how he will respond to your own actions. The less firms there are in the market the more complex things can become, since each company’s actions have a greater effect on the position of others. A further problem is that decisions about responding to price changes will often have to be made quickly whereas the competitor who initiated the change may well have spent considerable time making this decision.
Chapter 4
Marginal Costing and Decision Making

This Chapter will cover the following areas

1. Overview of Absorption and Variable Costing
2. Introduction to Principles of Marginal Costing
3. Break Even Analysis or Cost, Volume, Profit Analysis

1. Overview of Absorption and Variable Costing

Absorption costing is a method of costing that, in addition to direct costs, assigns all, or a proportion of, product overhead costs to cost units by means of one or a number of overhead absorption rates.

Variable costing (also known as Marginal Costing or Direct Costing) is an alternative method of costing to absorption costing. In marginal costing, only variable costs are charged as a cost of sale and a contribution is calculated which is sales revenue minus the variable cost of sales. Closing inventories of work in progress or finished goods are valued at marginal (variable) production cost. Fixed costs are treated as a period cost, and are charged in full to the income statement of the part of the accounting period in which they are incurred.

The above difference in the two costing methods is clearly evident by the closing stock valuation done by the two methods, i.e. marginal costing values closing stocks at the variable cost of production whereas in absorption costing closing stocks are valued at full cost of production.

Hence the fundamental difference between absorption costing and marginal costing is in the timing of it as in marginal costing fixed costs are written off in the period incurred. In absorption costing fixed costs are absorbed into units and written off in the period which the units are sold. As a result the profit under marginal costing is lower than the profit under absorption costing.

An illustration of the format used to prepare profit statements under marginal and absorption costing is shown below.
### Profit Statement - Absorption Costing

<table>
<thead>
<tr>
<th>Rs.000's</th>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>xxxxx</td>
</tr>
<tr>
<td><strong>Less: Full Cost</strong></td>
<td></td>
</tr>
<tr>
<td>Opening Stock</td>
<td>xx</td>
</tr>
<tr>
<td>Direct Materials</td>
<td>xxx</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>xx</td>
</tr>
<tr>
<td>Direct Expenses</td>
<td>x</td>
</tr>
<tr>
<td>Fixed Overheads</td>
<td>xx</td>
</tr>
<tr>
<td>Less: Closing Stock</td>
<td>(x)  (xxx)</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>xxxxx</td>
</tr>
</tbody>
</table>

### Profit Statement - Marginal Costing

<table>
<thead>
<tr>
<th>Rs.000's</th>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
<td>xxxxx</td>
</tr>
<tr>
<td><strong>Less: Full Cost</strong></td>
<td></td>
</tr>
<tr>
<td>Opening Stock</td>
<td>xx</td>
</tr>
<tr>
<td>Direct Materials</td>
<td>xxx</td>
</tr>
<tr>
<td>Direct Labour</td>
<td>xx</td>
</tr>
<tr>
<td>Direct Expenses</td>
<td>x</td>
</tr>
<tr>
<td>Less: Closing Stock</td>
<td>(x)  (xxx)</td>
</tr>
<tr>
<td><strong>Contribution</strong></td>
<td>xxx</td>
</tr>
<tr>
<td>Less: Fixed Overheads</td>
<td>(xx)</td>
</tr>
<tr>
<td><strong>Profit</strong></td>
<td>xxxxx</td>
</tr>
</tbody>
</table>

For example- in a period, 20000 units of Z were produced and sold. Costs and revenue were:

<table>
<thead>
<tr>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sales</strong></td>
</tr>
<tr>
<td>Production costs</td>
</tr>
<tr>
<td>Variable costs</td>
</tr>
<tr>
<td>Fixed costs</td>
</tr>
<tr>
<td>Administration and selling overheads</td>
</tr>
</tbody>
</table>

Prepare operating statements based on absorption and marginal costing.
### Absorption Costing Approach

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>100,000</td>
</tr>
<tr>
<td>Less</td>
<td></td>
</tr>
<tr>
<td>Production and cost of sales</td>
<td>(50,000)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>50,000</td>
</tr>
<tr>
<td>Less</td>
<td></td>
</tr>
<tr>
<td>Administration and selling overheads</td>
<td>(25,000)</td>
</tr>
<tr>
<td>Net profit</td>
<td>25,000</td>
</tr>
</tbody>
</table>

### Marginal Costing Approach

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>100,000</td>
</tr>
<tr>
<td>Less</td>
<td></td>
</tr>
<tr>
<td>Marginal cost</td>
<td>(35,000)</td>
</tr>
<tr>
<td>Contribution</td>
<td>65,000</td>
</tr>
<tr>
<td>Less</td>
<td></td>
</tr>
<tr>
<td>Fixed costs</td>
<td></td>
</tr>
<tr>
<td>Production</td>
<td>15,000</td>
</tr>
<tr>
<td>Administration &amp; selling</td>
<td>25,000</td>
</tr>
<tr>
<td></td>
<td>(40,000)</td>
</tr>
<tr>
<td>Net profit</td>
<td>25,000</td>
</tr>
</tbody>
</table>

In the above example since there is no closing stock the profit figure is the same. The key figure arising in the Marginal costing statement is the contribution of Rs. 65,000. The total contribution of Rs. 65,000 forms a pool from which fixed costs are met. Any surplus arising after fixed costs are met becomes the net profit.

2. Introduction to Principles of Marginal Costing

2.1 Definition and Meaning of Marginal Costing

This is the accounting system in which variable costs are charged to cost units and fixed costs of the period are written off in full against the aggregate contribution.

**Marginal cost** is the part of the cost of one unit of product or service which would be avoided if that unit was not produced, or which would increase if one extra unit were produced. Hence Marginal Costs usually comprise of extra materials used, additional labour hours worked, extra direct expenses incurred and other extra variable overheads incurred such as for selling and distributing the product or for general administration in the case of additional production. The term Marginal cost sometimes refers to the total Marginal costs of a department or batch or operation.
Select which of the following cost items can be classified as marginal costs and give your reasons.

- Direct advertising expenses
- Raw materials
- Rent
- CEO’s entertainment expenses
- Machinery depreciation
- Wages of packing staff who are paid on piece rate basis.

2.2 Uses of Marginal Costing

(a) As a basis for providing information to management for planning and decision making. It is particularly appropriate for short run decisions involving changes in volume.
(b) Used as a routine cost accounting system for the calculation of costs and the valuation of stock.

2.3 Contribution and Profit

Contribution is ‘Sales value less variable cost of sales’. Variable costs are all costs that vary with output and they include direct materials, direct labour costs and direct variable overheads. Contribution is actually the profits left for covering fixed overheads and the required profit margin.

Profit on the other hand is ‘Sales value less all costs irrespective of them being fixed or variable’.

AB Ltd sells Product Y for Rs.100. the product requires 5kg of direct materials at a total cost for Rs.25. The company pays its workforce at the hourly rate of Rs.10/hr and the company absorbs both variable overheads and fixed overheads on the basis of labour hours. The product Y requires 3 labour hours per product and the total Fixed Overheads for a production of 2000 units was Rs.10,000. The variable overhead rate for the product was Rs.2/labour hour.

Calculate the Contribution and the Profit of product Y.

Hint: To absorb fixed overheads first compute the fixed overhead rate per labour hour as that is the basis used by the company. Then multiply the fixed overhead rate per hour by the number of hours required for each product.
2.4 Main Features of Marginal Cost

The principles of marginal costing are as follows.

(a) Period fixed costs are the same, for any volume of sales and production (provided that the level of activity is within the 'relevant range'). Therefore, by selling an extra item of product or service the following will happen.

- Revenue will increase by the sales value of the item sold.
- Costs will increase by the variable cost per unit.
- Profit will increase by the amount of contribution earned from the extra item.

(b) Similarly, if the volume of sales falls by one item, the profit will fall by the amount of contribution earned from the item. The marginal costing philosophy is that profit measurement should be based on an analysis of total contribution.

(c) Since fixed costs relate to a period of time, and do not change with increases or decreases in sales volume, it is misleading to charge units of sale with a share of fixed costs. Absorption costing is therefore misleading, and it is more appropriate to deduct fixed costs from total contribution for the period to derive a profit figure.

(d) When a unit of product is made, the extra costs incurred in its manufacture are the variable production costs. Fixed costs are unaffected, and no extra fixed costs are incurred when output is increased. Supporters of marginal costing argue that the valuation of closing inventories should be at variable production cost (direct materials, direct labour, direct expenses and variable production overhead) because these are the only costs properly attributable to the product.

(e) The total profit in a period is the total revenue minus the total variable cost of goods sold, minus the fixed cost of the period.

\[
\begin{align*}
\text{Revenue} & \times \\
\text{Variable cost of sales} & \times (x) \\
\text{Contribution} & \times \\
\text{Fixed costs} & \times (x) \\
\text{Profit} & \times \end{align*}
\]

2.5 Arguments For and Against Marginal Costing

a) Arguments in favour of Marginal Costing

- It is simple to operate.
- There are no apportionments, which are frequently done on an arbitrary basis, of fixed costs. Many costs, such as the marketing director's salary, are indivisible by nature.
o Fixed costs will be the same regardless of the volume of output, because they are period costs. It makes sense, therefore, to charge them in full as a cost to the period.

o The cost to produce an extra unit is the variable production cost. It is realistic to value closing inventory items at this directly attributable cost.

o Under or over absorption of overheads is avoided.

o Accounts prepared using Marginal costing more nearly approach the actual cash flow position.

o Marginal costing provides more useful information for decision making.

Note – the two important aspects in marginal costing are the breakeven point and the margin of safety which will be discussed later in this chapter.

b) Arguments against Marginal Costing

o Fixed production costs are incurred in order to make output; it is therefore 'fair' to charge all output with a share of these costs.

o Closing Inventory values, by including a share of fixed production overhead, will be valued on the principle required for the financial accounting valuation of inventories as specified by the international accounting standard governing the valuation of inventories.

o A problem with calculating the contribution of various products made by an enterprise is that it may not be clear whether the contribution earned by each product is enough to cover fixed costs, whereas by charging fixed overhead to a product it is possible to ascertain whether it is profitable or not.

2.6 Marginal Cost Techniques and their Application

Marginal costing techniques are used in the following circumstances:

- To cost special one off projects
- To decide between making products internally and buying externally
- To choose among competing alternatives
- In the presence of a factor that limits the production level of a company
- To calculate Break - Even level of output
- When employing Penetration or destroyer pricing strategy

2.7 Limiting Factor Analysis

Limiting factor analysis is used when the company is in short of some factor of production which may be raw materials, labour, limit to machine capacity and shortage of cash. If this is the case the company is unable to maximise profits hence it should be the case that the available quantity of resources which is short should be used in the most profitable manner.
In dealing with a limiting factor problem, following steps should be followed:

- Identify that there may be a limiting budget factor other than sales demand.
- Calculate the volume of resources required for the budgeted sales demand.
- Calculate the volume of resources available.
- Compare the two total if (b) exceeds (c), there is a limiting factor.
- If there is only one such limiting factor, the next step is to calculate the contribution earned by each product per unit of the scarce resource. The products with the highest contribution per unit of scarce resource should receive priority in allocation of resources in the production budget.

E.g. V Ltd manufactures 4 products. However the company’s labour hours are currently restricted to 35,000 hours. The Material Costs are Rs.8/kg and Labour costs are Rs.7/hr. The information relating to the company’s 4 products are given below.

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price/unit</td>
<td>175</td>
<td>210</td>
<td>245</td>
<td>280</td>
</tr>
<tr>
<td>Demand for products</td>
<td>4000</td>
<td>6000</td>
<td>5000</td>
<td>3000</td>
</tr>
<tr>
<td>Material Usage/unit</td>
<td>8</td>
<td>10</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>Labour hrs/unit</td>
<td>4</td>
<td>3</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Variable Overheads/unit</td>
<td>9</td>
<td>11</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

Calculate how much of each product should be manufactured if the company is to maximise its profits.

<table>
<thead>
<tr>
<th>Contribution earned / product</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Selling price/unit</td>
<td>175</td>
<td>210</td>
<td>245</td>
<td>280</td>
</tr>
<tr>
<td>Variable costs</td>
<td>Material /unit</td>
<td>(64)</td>
<td>(80)</td>
<td>(96)</td>
</tr>
<tr>
<td>Labour/unit</td>
<td>(28)</td>
<td>(21)</td>
<td>(42)</td>
<td>(35)</td>
</tr>
<tr>
<td>Variable overheads/unit</td>
<td>(9)</td>
<td>(11)</td>
<td>(6)</td>
<td>(8)</td>
</tr>
<tr>
<td>Contribution /unit</td>
<td>74</td>
<td>98</td>
<td>101</td>
<td>141</td>
</tr>
<tr>
<td>Contribution / labour hr used</td>
<td>18.5</td>
<td>32.67</td>
<td>16.83</td>
<td>28.20</td>
</tr>
</tbody>
</table>

Ranking

|   |   |   |   |   |
|---|---|---|---|
|   | 3 | 1 | 4 | 2 |

Therefore the volume to be produced of each product will be:

<table>
<thead>
<tr>
<th>Available Labour Hours</th>
<th>35,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours required for product X</td>
<td>18,000</td>
</tr>
<tr>
<td></td>
<td>17,000</td>
</tr>
<tr>
<td>Hours required for product Z</td>
<td>15,000</td>
</tr>
<tr>
<td></td>
<td>2,000</td>
</tr>
</tbody>
</table>
Out of the remaining 2000 hours only 500 units of product W can be produced. The use of marginal costing has helped the company to choose the most profitable product mix to be produced from the available labour hours.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carry out a limiting factor analysis for the above V Ltd if only 150,000 kg of material are available ignoring the labour constraint..</td>
</tr>
</tbody>
</table>

2.8 Marginal Cost Pricing

Basically the use of marginal cost as the basis for pricing is marginal cost pricing and is useful to the company in situations where the company is planning to accept a one off special project or if the company is planning to adopt penetration or destroyer pricing. When accepting a special order if the company has spare capacity the goods should be ideally priced at the marginal cost as the fixed costs can be covered by the normal production volume. However it must be made sure in a case like this other normal customers do not get to know of the special price for the one off project and the customers of the one off project have no way of selling the products for the company at a low price to other people.

When a company wants to attract customers for a product the company can penetrate into the market by adopting a marginal cost pricing strategy as that is the incremental cost of making any product. Similarly if a company wants to gain market share at the expense of a competitor then they can practise destroyer pricing by selling their goods at the marginal cost of production as that is the lowest price at which one can sell a given product.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>MLL Ltd has a capacity to produce 10,000 units and currently it is producing only 8000 units. MLL Ltd was approached by Mr. D for a special order of 1000 units of the company’s product. Mr. D says the maximum price that he can pay is Rs.45/unit. The product requires material worth Rs.15, Labour worth Rs.10 Variable overheads worth Rs.5 and the total fixed overheads are absorbed to products at Rs.5/unit. Advice MLL whether they should accept D’s order or not. Currently they earn a contribution margin of 35% on its products calculate the difference in the selling prices and the profit margin between normal products and products of the special project.</td>
</tr>
</tbody>
</table>

a) Marginal Cost-Plus Pricing

**Marginal cost-plus pricing/mark-up pricing** is a method of determining the sales price by adding a profit margin on to either marginal cost of production or marginal cost of sales. Whereas a full cost-plus approach to pricing draws attention to net profit and the
net profit margin, a variable cost-plus approach to pricing draws attention to gross profit and the gross profit margin, or contribution.

E.g. A product has the following costs.

<table>
<thead>
<tr>
<th>Description</th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>5</td>
</tr>
<tr>
<td>Direct labour</td>
<td>3</td>
</tr>
<tr>
<td>Variable overheads</td>
<td>7</td>
</tr>
</tbody>
</table>

Fixed overheads are Rs 10,000 per month. Budgeted sales per month are 400 units to allow the product to break even.

**Required**
The mark-up which needs to be added to marginal cost to allow the product to break even is ...... %.

**The correct answer is 1662/3%**.

Breakeven point is when total contribution equals fixed costs.

At breakeven point, £10,000 = 400 (price – Rs 15)

∴ Rs 25 = price – Rs 15

∴ Rs 40 = price

∴ Mark-up = ((40 – 15) /15) × 100% = 1662/3%

**2.9 Decision Making**

Marginal costing can be used to make different decisions by a company. Some of them are given below:

a. Make or Buy Decision

This is the case where the company is considering whether to buy the product from outside or to produce it internally. If the marginal cost of production internally greater than the selling price offered by the external party then the product should be bought externally and vice versa.

b. Accept or Reject Decision

This is similar to what was discussed under Marginal Cost Pricing. If an offer is made for a company’s product the company should only accept if the sales price offered is at least equal to the marginal cost of production. Also when there are competing alternative opportunities to choose from a company should always choose the option that maximises the contribution. However, in certain instances if the given option is loss making, still it is necessary to accept it to facilitate another more profitable venture.

Chapter 04 – Marginal Costing and Decision Making
c. Discontinuance

A given product of a company should only be continued to produce if you can at least recover the marginal cost of production in the short term as in the long run any product should ideally contribute to fixed costs too.

3. Break Even Analysis or Cost Volume Profit Analysis

*Breakeven analysis* or *cost-volume-profit analysis (CVP)* is 'The study of the effects on future profit of changes in fixed cost, variable cost, sales price, quantity and mix'. Break-even analysis is a technique widely used by production management and management accountants. It is based on categorising production costs between those which are "variable" (costs that change when the production output changes) and those that are "fixed" (costs not directly related to the volume of production).

Total variable and fixed costs are compared with sales revenue in order to determine the **level of sales volume, sales value or production at which the business makes neither a profit nor a loss (the "break-even point").**

Requirements of break-even analysis

- Costs can be classified as either fixed or variable
- Unit sales price has remained constant
- The relationship between costs and revenues are known
- Can only apply to one product or constant mix
- Fixed costs same in total and unit variable costs same at all levels of output
- Production = Sales

3.1 Break Even Point

Break even point is the point where the business makes neither a profit nor a loss and the point where the business recovers all its costs.

\[
\text{Breakeven Point (units)} = \frac{\text{Total Fixed Cost}}{\text{Contribution per unit}}
\]

\[
\text{Contribution per unit} = \text{unit selling price} - \text{unit variable costs}
\]

\[
\text{Breakeven Point (sales revenue)} = \frac{\text{Total Fixed costs}}{\text{C/S ratio}}
\]
3.2 Contribution/Sales Ratio (C/S)

It is the percentage relationship between contribution and sales. Shows how much of contribution is earned per Rs. 1/= of sales revenue earned. A higher C/S ratio means contribution grows more quickly as sales levels increase.

Contribution/sales (C/S) ratio = profit/volume (P/V) ratio = (contribution/sales) × 100%

3.3 Margin of Safety (MOS)

Margin of safety (in units) = budgeted sales units – breakeven sales units

This is the difference between the budgeted units of sales volume and the break even level sales volume. It indicates how much sales may decrease before a company will suffer a loss. The larger the MOS the more likely it is that a profit will be made. The MOS should be expressed as a % of projected sales to put it in perspective.

Margin of safety (as %) = \( \frac{\text{Budgeted Sales} - \text{Breakeven Sales}}{\text{Budgeted Sales}} \times 100 \)

3.4 Sales Volume for Target Profit Calculation

Sales volume to achieve a target profit = \( \frac{\text{Total Fixed Cost} + \text{Target Profit}}{\text{Contribution per unit}} \)

The above formula is used to see the sales volume to be achieved if one is to incur a given profit.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company A hopes to sell 15,000 units of its product H in this year. The fixed costs for the period are Rs.50,000. The product has a market price of Rs.150. Product H incurs materials worth Rs.30, 2 labour hours @ Rs.10 each/hr and other expenses directly related to production of Rs.15/unit. Calculate</td>
</tr>
<tr>
<td>1. Break even point in terms of units and sales revenue</td>
</tr>
<tr>
<td>2. Margin of safety</td>
</tr>
<tr>
<td>3. Sales Volume to be achieved if Company A wants a target profit of Rs.1,500,000.</td>
</tr>
</tbody>
</table>
3.5 Breakeven Charts

- **Traditional / Conventional Break Even chart**

The above conventional break-even chart plots total costs and total revenues at different output levels.

The above graph is constructed by:

(a) Plot the fixed costs as a parallel line to the horizontal axis.

(b) Plot the sales revenue and total costs as straight lines from the origin.

The chart is usually drawn for budgeted sales volume and the point where the costs cross the sales revenue is the break even point. Gap between the total cost line and the fixed cost line represent the variable cost. The x axis shows sales units and y axis represent both costs and revenues.

- **Contribution Break Even chart**
The Contribution Break-Even Chart is very similar to the Break-Even Chart. Only difference is that Variable cost line is drawn instead of a fixed cost line to facilitate easy reading of the contribution figures. The x axis shows sales units and y axis represent both costs and revenues.

One problem with the conventional break even chart is that it is not possible to read contribution directly from the chart. Contribution break even chart is based on the same principles but it shows the variable cost line instead of the fixed cost line.

- **Profit Volume Chart**

![Profit Volume Chart](image)

This chart is different to the above two graphs as this graph shows the profit or loss earned at each activity level. The point at which there is no profit and loss is the Break-even point. The x axis depicts the sales in units/revenue whilst the y axis shows net profit/loss earned/incurred.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss the usefulness of the above charts to a company’s management accounting division.</td>
</tr>
</tbody>
</table>

### 3.6 Advantages and Limitations of Break-Even Analysis

#### a) Advantages

- Graphical presentation of costs and revenues can be more easily understood by non-financial managers.
b. A Breakeven model enables the determination of profit or loss at any level of volume within the range for which the model is valid, and the C/S ratio can indicate relative profitability for different products.

c. Highlighting the Breakeven point and MOS gives managers some indication as to the level of risk involved and as such is an aid to production and sales.

b) Limitations

a. Break even charts only relate to a single product.

b. It is assumed that all production is sold which does not happen in practise. Sales revenue is assumed to be constant for each unit sold. This may be unrealistic because of the necessity to reduce the selling price to achieve higher sales volumes.

c. All the costs are taken to be linear. Unit variable costs are assumed to remain constant and fixed costs are assumed to be unaffected by changes in activity levels.

d. It is assumed that activity is the only factor affecting costs, and factors such as inflation are ignored.

3.7 Impact of Selling Price, Fixed Costs and Variable Costs on Profit Volume Ratio

If the Sales price increase PV Ratio increases because contribution increases by a higher percentage than the sales price. If variable costs increase the PV Ratio decreases as the contribution decreases. Fixed costs do not have an impact on PV Ratio as it does not form a part of PV Ratio. These can be illustrated in graphical format as shown below.

Impact of increase in sales revenue for profit volume ratio.
C1 and C2 are contribution 1 and 2 before and after revision to the sales revenue.

### Activity

Draw graphs to show the effect of changes to the variable cost and fixed costs on the PV ratio.

### Practice Questions

#### Q1 - Limiting Factors.
The following standard data is available;

<table>
<thead>
<tr>
<th>Product</th>
<th>Direct materials per unit</th>
<th>Direct labour</th>
<th>Selling price per unit</th>
<th>Budgeted production</th>
<th>Max. sales for the period</th>
</tr>
</thead>
<tbody>
<tr>
<td>P</td>
<td>Rs. 10</td>
<td></td>
<td>Rs. 206.50</td>
<td>1,200 units</td>
<td>1,500 units</td>
</tr>
<tr>
<td>Q</td>
<td>Rs. 30</td>
<td>Rate per hour</td>
<td>No. of hours</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rs. 5.00</td>
<td>7 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rs. 7.00</td>
<td>15 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>5 hrs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>9 hrs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes:

a) No closing stocks are anticipated.

b) The skilled labour used for the grinding process is highly specialised and in short supply, although there is sufficient to meet the budgeted production. However, it will not be possible to increase the supply for the period.

Required:
Prepare statement showing the total contribution that could be obtained if the best use was made of skilled grinding labour.

#### Q2

A company produces 03 products and is reviewing the production and sales budgets for the next accounting period.

<table>
<thead>
<tr>
<th>Product</th>
<th>Contribution per unit</th>
<th>Machine hours required per unit</th>
<th>Estimated sales demand</th>
<th>Required machine hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>x</td>
<td>Rs. 12/=</td>
<td>06 hrs</td>
<td>200 units</td>
<td>1200 hrs</td>
</tr>
<tr>
<td>y</td>
<td>Rs. 10/=</td>
<td>02 hrs</td>
<td>200 units</td>
<td>400 hrs</td>
</tr>
<tr>
<td>z</td>
<td>Rs. 6/=</td>
<td>01 hr</td>
<td>200 units</td>
<td>200 hrs</td>
</tr>
</tbody>
</table>
Machine capacity is limited to 1200 hrs. and is insufficient to meet total sales demand. You have been asked to advice as to which product should be produced during the period.

**Breakeven**

A marketing company of shoes has prepared the following forecast for the next year.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pairs of shoes to be sold</td>
<td>24,000</td>
</tr>
<tr>
<td>Average selling price per pair</td>
<td>Rs. 40.00</td>
</tr>
<tr>
<td>Average cost per pair (variable costs only)</td>
<td>Rs. 25.00</td>
</tr>
<tr>
<td>Staff cost for the year</td>
<td>Rs. 90,000</td>
</tr>
<tr>
<td>General office cost for the year</td>
<td>Rs. 150,000</td>
</tr>
</tbody>
</table>

Required:

a) Calculate the Breakeven point in pairs of shoes to be sold, and margin of safety.

b) Prepare a Breakeven graph which indicate the Breakeven point.

c) Give three advantages and three limitations of Breakeven analysis.

**Q3 - Make or buy decisions**

A company is considering alternatives of either purchasing a component from an outside supplier or producing the component in-house. The estimated costs to the company of producing the component are as follows:

<table>
<thead>
<tr>
<th></th>
<th>Rs.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct labour</td>
<td>100</td>
</tr>
<tr>
<td>Direct material</td>
<td>300</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>50</td>
</tr>
<tr>
<td>Fixed overhead</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td><strong>550</strong></td>
</tr>
</tbody>
</table>

The outside supplier has quoted a figure of Rs. 500 for supplying the component. Should the company buy or make the component?

♫ My Short Notes

---

*Chapter 04 – Marginal Costing and Decision Making* 68
Chapter 5
New Trends in Costing

This chapter will cover the following areas:

1. An Overview of the Just In Time System
2. Use of ABC Costing Techniques
3. Application of ABC Costing to Marketing Scenarios.

1. An Overview of Just-in-time (JIT) systems

1.1 Understand the Aims and Objectives

JIT system was developed in Japan, notably at Toyota.

JIT aims for zero inventory and perfect quality and operates by demand-pull. It consists of JIT purchasing and JIT production and results in lower investment requirements, elimination of non value adding activities, space savings, greater customer satisfaction and increased flexibility.

'Traditional' responses to the problems of improving manufacturing capacity and reducing unit costs of production might be described as follows.

- Longer production runs
- Economic batch quantities
- Fewer products in the product range
- More overtime
- Reduced time on preventive maintenance, to keep production flowing

In general terms, longer production runs and large batch sizes should mean less disruption, better capacity utilisation and lower unit costs.

Just-in-time systems challenge such 'traditional' views of manufacture.

Just-in-time production is 'A system which is driven by demand pull basis and seeks to eliminate waste for finished products whereby each component on a production line is produced only when needed for the next stage'.

Chapter 05 – New Trends in Costing 69
Just-in-time purchasing. This seeks to match the usage of materials with the delivery of materials from external suppliers. For JIT purchasing to work satisfactorily it requires the following:

a) Confidence that suppliers will deliver exactly on time.
b) The suppliers will supply 100% quality so that there will be no rejects. The company must build up close relationships with their suppliers.

JIT purchasing can be further extended to sales and distribution. For example the supermarket stores in the USA have implemented JIT purchasing for most of their goods. One popular item would be baby pampers which takes lot of space to store. The suppliers are linked to the store’s inventory system and they are given a minimum level to supply as and when the shelves become empty.

JIT becomes very effective if the supermarket chain has the competitive edge. That is it is very difficult to get shop shelf space in reputed stores as there are lots of suppliers. Therefore if the supplier wants to do continuous business with the store they have to supply their goods on time with quality. JIT system once implemented becomes very effective on the supply chain management of the supermarket chain.

A company which adopts JIT purchasing concentrates on dealing with fewer suppliers who can provide high quality and reliable deliveries. The improved service is obtained by giving more business to fewer suppliers and placing long term purchasing orders. Suppliers are normally located close to manufacturing plans, super markets etc.

Further, in a distribution company who accepts orders over the phone could link the supplier and the customer. For example household items like TV’s, fans, refrigerators etc. Here the supplier will directly deliver it to the customer.

JIT is more of a philosophy or approach to management since it encompasses a commitment to continuous improvement and the search for excellence in the design and operation of the production management system.

1.2 The Main Features of JIT

JIT has the following essential elements:

JIT purchasing: Parts and raw materials should be purchased as near as possible to the time they are needed, using small frequent deliveries against bulk contracts.
**Close relationship with suppliers:** In a JIT environment, the responsibility for the quality of goods lies with the supplier. A long-term commitment between supplier and customer should therefore be established: the supplier is guaranteed a demand for his products since he is the sole supplier and he is able to plan to meet the customer's production schedules. If an organization has confidence that suppliers will deliver material of 100% quality, on time, so that there will be no rejects, returns and hence no consequent production delays, usage of materials can be matched with delivery of materials and inventories can be kept at near zero levels. Suppliers are also chosen because of their close proximity to an organisation's plant.

**Uniform loading:** All parts of the productive process should be operated at a speed which matches the rate at which the final product is demanded by the customer. Production runs will therefore be shorter and there will be smaller inventories of finished goods because output is being matched more closely to demand (and so storage costs will be reduced).

**Set-up time reduction:** Machinery set-ups are non-value-added activities which should be reduced or even eliminated.

**Machine cells:** Machines or workers should be grouped by product or component instead of by the type of work performed. The non-value-added activity of materials movement between operations is therefore minimised by eliminating space between work stations. Products can flow from machine to machine without having to wait for the next stage of processing or returning to stores. Lead times and work in progress are thus reduced.

**Quality:** Production management should seek to eliminate scrap and defective units during production, and to avoid the need for reworking of units since this stops the flow of production and leads to late deliveries to customers. Product quality and production quality are important 'drivers' in a JIT system.

**Pull system (Kanban):** A Kanban, or signal, is used to ensure that products/ components are only produced when needed by the next process. Nothing is produced in anticipation of need, to then remain in inventory, consuming resources.

**Preventative maintenance:** Production systems must be reliable and prompt, without unforeseen delays and breakdowns. Machinery must be kept fully maintained, and so preventative maintenance is an important aspect of production.

**Employee involvement:** Workers within each machine cell should be trained to operate each machine within that cell and to be able to perform routine preventative maintenance on the cell machines (i.e. to be multi skilled and flexible).
1.3 Changes Required for Implementation of JIT

- There must be full employee involvement. For example, 60,000 employees of Toyota produced a total of 2.6 million improvement suggestions per annum. In most cases, after line management approval, the working groups simply get on with implementing their ideas. In JIT, there is a never-ending search for improvements.

- The production process must be shortened and simplified. Each product family is made in a work-cell based on flow line principles. JIT increases the variety and complexity within work cells. This requires workers to be more flexible and adaptable.

- Using JIT, the emphasis on ‘doing the job right the first time’. Thus avoiding defects and reworking. JIT systems require quality awareness programmes, statistical checks on output quality and continual worker training.

- Close relationships with suppliers and customers have to be maintained hence implementation of an electronic data interchange with customers and suppliers should be in place.

- Co-operation of workers is very important when hours and hours of training are to be given at the implementation stage.

- Performance measures will have to be redesigned to suit JIT practises such as days of inventory, knowledge and capability based promotion, ideas generated and implemented, total head count productivity, customer complaints etc.

- Alternative control techniques should be designed in place of traditional variance analysis as JIT is concerned about supplier reliability, material quality, short lead times etc.

- New Costing techniques such as Activity Based Costing have to be used in place of traditional Absorption costing techniques.

- Proper information systems should be implemented to obtain all the necessary information for the smooth running of the JIT System.

1.4 Benefits in Adaptation of JIT

The key benefit offered by JIT is the increase it can generate in production efficiency and your competitiveness. These result from the elimination of waste - of time, raw materials and other resources.
Implementing just-in-time production can:

- Prevent over-production
- Minimise waiting times and transport costs
- Save resources by streamlining your production systems
- Reduce the capital you have tied up in stock
- Space savings from the reduction in inventory and improved layouts.
- Decrease product defects and reduction in obsolete stocks
- Reduced operating costs
- Greater performance and throughput
- Reduced paper work
- Improved delivery
- Increased flexibility and innovativeness

2. Use of Activity Based Costing (ABC) Techniques

**Traditional costing systems**, which assume that all products consume all resources in proportion to their production volumes, tend to allocate too great a proportion of overheads to high volume products (which cause relatively little diversity and hence use fewer support services) and **too small a proportion of overheads to low volume products** (which cause greater diversity and therefore use more support services). **Activity based costing (ABC) attempts to overcome this problem** by relating support overheads to products, not by production volume, but by a number of specific factors known as cost drivers. A cost driver is an activity which causes costs. The following are some typical cost drivers and the costs which the activity influences (or drivers)

<table>
<thead>
<tr>
<th>Examples of cost drivers</th>
<th>Typical costs driven by cost drivers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of production runs</td>
<td>Inspection, production, planning and scheduling, set up, tooling.</td>
</tr>
<tr>
<td>Number of despatches</td>
<td>Despatch department, invoicing etc.</td>
</tr>
<tr>
<td>Number of purchase orders</td>
<td>Purchasing department, stock holding etc.</td>
</tr>
<tr>
<td>Number of engineering changes</td>
<td>Technical department, production, planning, stock holding etc.</td>
</tr>
</tbody>
</table>
Nowadays, however, with the advent of advanced manufacturing technology (AMT), overheads are likely to be far more important and in fact direct labour may account for as little as five per cent of a product's cost. It therefore now appears difficult to justify the use of direct labour or direct material as the basis for absorbing overheads or to believe that errors made in attributing overheads will not be significant. Many resources are used in non-volume related support activities, (which have increased due to AMT) such as setting-up, production scheduling, inspection and data processing. These support activities assist the efficient manufacture of a wide range of products (necessary if businesses are to compete effectively) and are not, in general, affected by changes in production volume. They tend to vary in the long term according to the range and complexity of the products manufactured rather than the volume of output. The wider the range and the more complex the products, the more support services will be required.

Consider, for example, factory X which produces 10,000 units of one product, the Alpha, and factory Y which produces 1,000 units each of ten slightly different versions of the Alpha. Support activity costs in the factory Y are likely to be a lot higher than in factory X but the factories produce an identical number of units.

For example, factory X will only need to set-up once whereas Factory Y will have to set-up the production run at least ten times for the ten different products. Factory Y will therefore incur more set-up costs for the same volume of production.

2.1 Outline of an ABC system

An alternative to the traditional method of accounting for costs - absorption costing - is activity based costing (ABC). ABC involves the identification of the cost drivers which cause the costs of an organisation's major activities. Support overheads are charged to products on the basis of their usage of an activity.

The definition of ABC

Activity based costing (ABC) – cost attribution to cost units on the basis of benefit received from indirect activities. For example ordering, setting up, quality.

The major ideas behind activity based costing are as follows.

(a) Activities cause costs. Activities include ordering, materials handling, machining, assembly, production scheduling and despatching.

(b) Producing products creates demand for the activities.
(c) Costs are assigned to a product on the basis of the product's consumption of the activities.

2.2 The Mechanics of an ABC system

An ABC system is developed and used as follows.

Step 01
- Identify an organisation's major activities.

Step 02
- Identify the factors which determine the costs of an activity which are known as cost drivers.

Step 03
- Collect the cost of each activity. These are known as cost pools and are similar to conventional cost centres.

Step 04
- Change support overheads to products on the basis of their usage of the activities, expressed in terms of cost driver(s).

Example

<table>
<thead>
<tr>
<th>Total cost of purchasing</th>
<th>Rs. 200,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of purchase order</td>
<td>1,000 (chosen cost drivers)</td>
</tr>
<tr>
<td>Therefore products would be charges</td>
<td>Rs. 200/= for each purchase order.</td>
</tr>
</tbody>
</table>

Assume a batch needs 03 purchase orders to be made.

Therefore purchasing overheads = 3xRs200 = Rs. 600/= 

For those costs that vary with production levels in the short term, ABC uses volume related cost drivers such as labour or machine hours. The cost of oil used as a lubricant on the machines would therefore be added to products on the basis of the number of machine hours, since oil would have to be used for each hour the machine ran.
Activity

Discuss some of the cost drivers that can be used by a company that wished to launch a new product

Note:- ABC can be extended to ‘activity based budgeting’ and ‘activity based management’, with implications not just for production, but also for product development, marketing and sales, and for behavioural issues.

E.g. X Ltd makes a product called 'VIV' and its cost details are as follows.

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material Cost</td>
<td>Rs. 10</td>
</tr>
<tr>
<td>Labour Cost</td>
<td>Rs. 20</td>
</tr>
<tr>
<td>Total Production for the coming year</td>
<td>1,000,000 units</td>
</tr>
<tr>
<td>No of Production runs</td>
<td>50</td>
</tr>
<tr>
<td>No of Purchase Orders required</td>
<td>50</td>
</tr>
<tr>
<td>No of customer orders</td>
<td>10</td>
</tr>
<tr>
<td>Unit machine time</td>
<td>3 minutes</td>
</tr>
</tbody>
</table>

*Every product run is inspected.*

The Indirect Costs of X Ltd is as follows

<table>
<thead>
<tr>
<th>Cost Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Control</td>
<td>Rs. 900,000</td>
</tr>
<tr>
<td>Process set up</td>
<td>Rs. 1,350,000</td>
</tr>
<tr>
<td>Purchasing</td>
<td>Rs. 1,105,000</td>
</tr>
<tr>
<td>Customer Order Processing</td>
<td>Rs. 1,200,000</td>
</tr>
<tr>
<td>Occupancy Costs</td>
<td>Rs. 1,500,000</td>
</tr>
</tbody>
</table>

**Total Indirect Costs:** Rs. 6,055,000

X Ltd has identified the following cost drivers
- 450 inspections
- 450 set ups
- 1000 purchase orders
- 2000 customers
- 75000 machine hours

Calculate the standard cost of VIV in line with ABC principles and in terms of traditional costing systems if the original base used was machine hours.
**Step 1** cost per cost driver for an activity level of 1,000,000 units.

<table>
<thead>
<tr>
<th>Function</th>
<th>Cost driver</th>
<th>Cost per cost driver</th>
<th>For 1,000,000 units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality control</td>
<td>Inspections</td>
<td>900,000/450 =2,000</td>
<td>2000 x 50 =100,000</td>
</tr>
<tr>
<td>Process set up</td>
<td>set ups</td>
<td>1,350,000/450=3,000</td>
<td>3000 x 50 =150,000</td>
</tr>
<tr>
<td>Purchasing</td>
<td>purchase orders</td>
<td>1,105,000/1000=1,105</td>
<td>1105 x 50 = 55,250</td>
</tr>
<tr>
<td>Customer Order Processing</td>
<td>customers</td>
<td>1,200,000/2000=600</td>
<td>600 x 10 = 6,000</td>
</tr>
<tr>
<td>Occupancy Costs</td>
<td>machine hours</td>
<td>1,500,000/75000= 20</td>
<td>20 x 50,000 =1,000,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1,311,250</td>
<td></td>
</tr>
</tbody>
</table>

Note: In the above no cost pools were identified as every activity has a separate cost driver.

**Step 2** Charge the indirect costs to the product 'VIV'

Total Overhead Cost for 1,000,000 units = Rs.1,311,250

Hence Cost per unit = Rs.1,311,250 = Rs.1.31
1,000,000 units

**Step 3** Standard Cost per unit of VIV in line with ABC principles.

Materials Rs.10.00
Labour Rs.20.00
Overhead Rs. 1.31
Total Cost Rs.31.31

**Standard Cost per unit of VIV (in line with traditional costing principles)**

Overheads per machine hour = \( \frac{\text{Total Overheads}}{\text{Machine Hours}} \) = Rs.6,055,000/75,000 hrs = Rs.80.73/hr

Overheads per product which uses 3 minutes = (Rs.80.73/60) x 3 = Rs.4.04

Hence Total Standard Cost of the product is:

Materials Rs.10.00
Labour Rs.20.00
Overhead Rs. 4.04
Total Cost Rs.34.04
2.3 Advantages of Activity Based Costing

- This provides a more accurate version of a product's cost structure thus enabling a company to price its products accurately.
- ABC enables correct commitment of resources to products due to its capability of showing the most profitable product mix.
- This method help to identify the value added and non-value added activities so that non-value added activities could be appraised properly with a view to elimination.
- The ABC method enables in depth understanding of cost causation - why, where and when costs occur.
- It helps to direct management's focus on improving the efficiency of high cost activities as one attempt to increase the bottom line of the companies as ABC increases the visibility of activities performed by a company.

ABC is a suitable system to be used by a company if it has one or more of the following features.

- Indirect costs are significant in proportion to direct costs of a company.
- Goods are complex, requiring many inputs and processes.
- Simple, high volume products perform more poorly than complex low volume products.
- Different departments believe costs are assigned inaccurately.
- The company looses bids it thought were low and wins bids it thought were high.
- Operations have changed significantly but the costing system has not changed.

<table>
<thead>
<tr>
<th>Activity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>D Ltd a toy manufacturer produces a product by the name 'KIKU' at a production cost of Rs.40/unit which is sold to three major toy retailers X Ltd, Y Ltd and Z Ltd which demand the product in quantities of 10,000 each. D LTD makes the sales at Rs.75/unit.</td>
<td></td>
</tr>
</tbody>
</table>

Non Production Overheads of D Ltd are:

<table>
<thead>
<tr>
<th>Activity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Delivery</td>
<td>Rs.180,000</td>
</tr>
<tr>
<td>Inspections</td>
<td>Rs.200,000</td>
</tr>
<tr>
<td>After Sales Service</td>
<td>Rs.150,000</td>
</tr>
<tr>
<td>Maintenance</td>
<td>Rs. 60,000</td>
</tr>
</tbody>
</table>

Overheads were previously assigned based on Machine Hours which usually is around 15,000 hours. The Management Accountant is now keen to introduce ABC principles to the company, as she believes it will provide a realistic view of efficiency of cost activities within D Ltd. She has identified the activity volumes for the three customers as follows:


<table>
<thead>
<tr>
<th>Customer</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>No of Deliveries</td>
<td>2500</td>
<td>50</td>
<td>12</td>
</tr>
<tr>
<td>No of Inspections</td>
<td>10000</td>
<td>500</td>
<td>1000</td>
</tr>
<tr>
<td>After Sales Visits</td>
<td>200</td>
<td>100</td>
<td>50</td>
</tr>
<tr>
<td>Machine hours</td>
<td>5000</td>
<td>5000</td>
<td>5000</td>
</tr>
</tbody>
</table>

Calculate the profit or loss made by selling to X, Y and Z under both traditional and ABC costing methods.

3. Application of ABC Costing to Marketing Scenarios

Activity based costing could be used to cost any marketing activities. The following are some situations where marketers could use ABC costing for marketing purposes.

- Product costings for pricing purposes.
- Costing for a new product that has never been sold before – Totally innovative products
- Costing for a marketing event
- Costing for a marketing campaign
- Costing to identify the feasibility of a new distribution operation

Assume that you have been requested to organise a corporate hospitality event to reward the best selling dealers at the forthcoming national dealers convention. This event will happen right after the main event. Cost the event based on ABC costing techniques.

The following are two examples of how ABC costing could be used to support marketing activities.

Case - ABC Costing to optimize pricing

Many large businesses have purchased and installed price optimization software that helps them determine the costs of their products and services and computes the optimum prices to charge customers and clients. Small retail businesses are now considering this software as an aid in competing with giant competitors such as Wal-Mart. Small and mid-sized businesses can achieve the same benefits of price optimization software by using activity-based costing (or ABC).

ABC is a costing method developed in the 1980s to help large industrial firms improve their product costing and business processes, enabling them to compete against their lower-priced competition. ABC involves analyzing the activities and processes that are required in order to accomplish the objectives of a firm and then assigning supporting overhead costs to those objectives in a rational manner, allowing you to compute the real cost of producing, selling, and delivering products and services.
An ABC analysis lets us prepare a recipe or ‘bill of materials’ for a client’s goods and services so that you can see their revenue and costs by product or service, customer or client, and the level of support required. ABC can identify the 20% of customers that are responsible for 80% of the profit of most businesses. This will provide all of the price optimization information that many businesses need—at a reasonable cost and without the implementation problems of price optimization software.” The firm keeps costs down for an ABC analysis for small to mid-sized businesses by using Excel spreadsheets instead of price optimization software.

For companies that decide to implement price optimization software, activity-based cost analysis prior to implementation will enable you to get a good “baseline” of cost information to enter into the price optimization software.”

**How Service’s Marketing can use ABC**

Many businesses have adopted activity-based costing (or ABC) during the last decade. In the past, most of the companies implementing ABC were manufacturing-related, so there seems to be an idea that ABC is only useful to manufacturing businesses. It’s clear to us that service businesses can realize the same benefits from it as manufacturers. All businesses need to understand their true costs, which include the support required to sell and deliver goods and services. Support costs are a large part of the cost of some manufactured items. Support costs can vary for many reasons, and ABC is very useful in making sure that costs are adequately considered in the pricing decision.”

In an ABC study, we identify the major activities a business conducts and determine the level of service and support required. We categorize support costs according to the appropriate activities benefited, and then assign costs to activities & among activities. Finally, we assign the accumulated activity costs to cost objectives.

There are numerous benefits derived from using ABC. ABC helps you to better understand the business cost structure, which leads to better bidding, budgeting, and estimating. ABC also allows you to compute product line profitability and customer profitability, which permits you to make better decisions about your sales ‘mix’ and marketing efforts. ABC helps you set up a price structure that charges customers and clients according to the support required for their particular situation. We call it ‘just in time’ pricing. Finally, when a business fully adopts ABC, it serves as a vehicle for cost reduction, business improvement, reengineering, and change management.”

When identifying businesses that can benefit from ABC, organizations undergoing changes that haven’t yet been incorporated in their cost structure are prudent. Adoption of new technology, changes in contracts, new products or services, new or tougher competition, you name it—anything that has changed about the business that hasn’t been reflected in its cost structure makes it a good candidate for activity-based costing.”

About 10 years ago, we heard predictions that only a couple of companies that were the lowest cost providers would survive in most lines of business. It appears that we are now at that point—and this includes service businesses as well. No one who is serious about their business now can afford to ignore the benefits to be derived from activity-based costing.
Chapter 6
Costing Marketing Activities

This chapter will cover the following areas:

1. Costing of Marketing Activities
2. Budgeting and Profit Planning.

1. Costing of Marketing Activities

In costing marketing activities one will have to consider the details as presented in the situation and would require taking it forward. This section will be discussed based on several cases. Cost each of the cases as specified in the requirements.

Case Scenario – 01
Costing New Product Development – Case Adopted from Tetra Pack and Modified

Tetra Pak, the leader of the Pack

The Tetra Pak was invented in the fifties by the Raising brothers’ father, Ruben. It is now found in every fridge across the developed world; the first package to be launched in the UK was Tetra Classic, a tetrahedron shape which now holds the Lovely Jubbly brand. Its biggest UK customers are major fruit juice manufacturers such as Del Monte and Gerber, which makes own label products for major supermarket groups, plus large UK diaries like St Ivel. Tetra Pak has a couple of rivals, i.e. the Norwegian firm Elo Pack, and Bowater-owned Combibloc. But they are minor irritants to a player, which dominates the market.

Tetra Pak sales topped 6bn pounds last year, and earned an average 10% profit turnover. The company is concerned with the laminated board and the technology used to make the milk and fruit containers. The sales figure puts the company on level with Marks and Spencer, except Tetra Pak is a one-product company.

Its headquarters is based in Heathrow airport, demonstrate more than any balance sheet just how successful the company is. Based in Sweden, it has a presence in 117 countries, which are divided into regional sales centers. There are approximately 45 regional centers, which oversees all communications aspects of the company. Tetra Pak, employees over 16,000 people. It delivers over 68 billion cartons per year. The company is low profile and sees itself as being in the “business of running a business”.

Chapter 06 – Costing Marketing Activities 81
Germany and Australia markets are peculiar, in that both countries have powerful environmental and ecological movements that have raised Tetra Pak’s profile by questioning its environmental record. As a result Tetra Pak Germany has been pressured to communicate directly with the consumer through advertising and the sponsorship of football clubs and matches. “We need to position ourselves and our packaging as environmentally friendly”, explains, Zachariasson. Competition is also intensifying, stemming from direct rivals like Elo Pak and a far greater threat from glass and plastic bottle products.

The company has been criticized for being slow to react to consumer demands, and for the infamous tendency of Tetra Pak’s tendency to spill their contents. The solution to this is a plastic lid. The company accepts that to has been “slow to innovate, but these innovations cost money, and our aim is to maintain our position as a low cost operator”. But perhaps the time has come for us to play the game right or other wise we will upset our customers.” Tetra Pak is now slowly realizing that there’s an audience beyond its direct customers. The firm has introduced another carton opening called” RECAP”.

Unusually for the company, it has singled out a customer SmithKline Beecham, and allowed it to use RECAP before its rivals get the opportunity. Using a piece of innovation as a marketing tool is a first for Tetra Pak. The company also has created a slim line carton to differentiate product on supermarket shelves. Tetra Pak comments that they will be talking to the consumer more in the future and will continue to introduce innovative product to the market.

You have the newly appointed marketing assistant for Tetra Pack and will be actively involved in marketing the brand in Germany and Australia for the next 12 months. The company had decided to open a new retail outlet, which has been set up to create awareness amongst the primary and the secondary audiences about the Brand. If this exercise proves to be successful, the retail outlets will be set in other parts of the world as well.

**Memo**

From: Regional Innovation Manager

To: Marketing Manager

Subject: Development of new P-Tech RECAP

In lieu of the constant complaints received by our world wide operations on spillage, the global innovation team has decided to initiate the global P-Tech Recap innovation program. An over view of the project is as follows. Project P-Tech Recap is a unique...
innovation opportunity where the plastic technology is incorporated into the tetra pack technology where the product could be stored after first time usage. The present technology only allows one time use thus storage becomes a complicated issue.

The initial product development fixed cost would be 10 million sterling pounds. Other than this a one time fixed country adaptation cost of 100,000 sterling pounds is envisaged. The following is the tentative country roll out plan with the forecasted sales quantities.

<table>
<thead>
<tr>
<th>Country</th>
<th>Forecasted sales quantity (in units) during first year</th>
<th>Forecasted sales growth % in year 2</th>
<th>Forecasted sales growth % in year 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>750,000</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>France</td>
<td>800,000</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>UK</td>
<td>1,200,000</td>
<td>20%</td>
<td>15%</td>
</tr>
<tr>
<td>Belgium</td>
<td>250,000</td>
<td>10%</td>
<td>15%</td>
</tr>
<tr>
<td>Denmark</td>
<td>500,000</td>
<td>10%</td>
<td>15%</td>
</tr>
</tbody>
</table>

The suggested selling price of one unit is euro 9.45 across all countries. The Production variable cost would be euro 3.78 and the marketing variable cost would be 1.89 euro.

1 sterling is 1.89 euro.

**Required**

**Situation 01**

What is the minimum quantity that tetra pack should sell to recover the total cost from this new project.

**Situation 02**

By the end of the 3rd Year what would be total profits/loss that would be incurred by the project. Comment whether this project is financially viable.

**Situation 03**

If you allocate the total fixed costs equally across the countries, calculate the breakeven volumes and profit/loss situations after 3 years. Write a report to the innovation manager of tetra pack on your findings.
Case Scenario – 02  
Costing a Promotional Scheme

Ten years ago, Agro-cars were founded by Mr X importing popular Japanese cars from Toyota directly to Sri Lanka. In order to distribute these cars across the country it appointed dealers in many parts of the Island.

Agro cars do not sell vehicles directly but users their retailers who sell to the public. Over thirty dealers are appointed over 9 districts where certain districts have been divided based on sales potential. The actual sales for year 2004/05 are included in the following table, together with projected sales increases for 2006. The total ad spend of each retailer is also shown.

<table>
<thead>
<tr>
<th>District</th>
<th>Retail Outlets</th>
<th>Outlets’ Ad spend in Rs</th>
<th>Sales 2004/05</th>
<th>% Sales increase 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western 01</td>
<td>11</td>
<td>15,000,000</td>
<td>1,000</td>
<td>5</td>
</tr>
<tr>
<td>Western 02</td>
<td>4</td>
<td>3,000,000</td>
<td>250</td>
<td>10</td>
</tr>
<tr>
<td>Central</td>
<td>3</td>
<td>3,400,000</td>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td>North Central</td>
<td>2</td>
<td>2,500,000</td>
<td>200</td>
<td>5</td>
</tr>
<tr>
<td>Uva</td>
<td>3</td>
<td>2,000,000</td>
<td>100</td>
<td>-20</td>
</tr>
<tr>
<td>Sabaragamuwa</td>
<td>1</td>
<td>3,000,000</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Eastern</td>
<td>1</td>
<td>3,200,000</td>
<td>100</td>
<td>20</td>
</tr>
<tr>
<td>North</td>
<td>1</td>
<td>1,400,000</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>Southern</td>
<td>6</td>
<td>8,000,000</td>
<td>400</td>
<td>5</td>
</tr>
<tr>
<td>North Western</td>
<td>1</td>
<td>200,000</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

Advertising  
Currently, Agro-cars spend Rs 10,000,000 on advertising their vehicle ranges. In addition the retailers spend money locally as detailed in the above Table.

Serious doubts exist as to the effectiveness of what Agro-cars do, as the company is spread so thinly. Equal doubts exist as to the quantity and the quality of advertising undertaken by the retailers.

The newly appointed marketing consultant has suggested two schemes in order increase advertising effectiveness.

Scheme 1  
Retailers agree to spend Rs 10,000 per vehicle on advertising in 2006. Agro-cars agree to contribute an additional 2,500 per vehicle to be spent on further advertising.

Scheme 2  
Retailers commit to spending an additional 20% on advertising for 2006. Agro-cars agree to contribution 20% of total spend.

Required  
a. How much would each of the two schemes cost Agro-cars?  
b. Recommend one of the schemes, justifying your decision.
**Case Scenario – 03
Costing a Print Job**

Company X is a well established retailer with 29 stores throughout the country and a turnover in excess of Rs 300 Mn. It has successful retail formula selling a broad range of products in 06 categories. They are toys, books, clothing, cosmetics, CDs/videos, electrical goods.

Each of the above categories is managed by a team comprising a product manager, group buyer, merchandiser and either one or two assistants.

The marketing department produces an annual catalogue distributed in early October. Individual product groups also hold budgets and brief their own advertising agencies in collaboration with the marketing department.

Like many retailers, Company X sales build to a peak in December and success in this period is crucial. Company X’s marketing activity reflects this peak and a major component of its seasonal push is Christmas catalogue.

Work starts on producing on this in January, several months before it is distributed. Indeed visuals and layouts are ready for the October launch. All staff working on the catalogue knows that it is crucial that it is launched in October as 30% of annual sales are taken during November and December. Therefore final deadlines for amendments are late September to allow a month for printing and distribution.

Comprising 32 pages type setting and preparation costs Rs 1,000,000 and take 02 weeks with a further week needed for checking proofs. Print cost amount to Rs 50,000 per 1,000 copies. Each page needs an average of 06 photographs and these costs Rs 500 each including photography.

Some of the cost of producing the catalogues can be recovered from the manufacturers of the good featured in its pages. It has become established practise to sell the prime advertising space on the front cover for Rs 10,000/ the back cover for Rs 5,000 with the remaining pages being sold for an average of Rs 2,000 each.

Half the photographs are available from the suppliers, so saving some costs.

Questions:

1. Draw up an estimate of the cost associated with producing a million copies of the catalogue together with likely supplier contributions.
2. If it appears likely that the revenue for advertising sales on inside pages will be significantly reduced what suggestions can you make for reducing costs?
Case Scenario – 04
Costing a Marketing Event

You are an export company, exporting your products to USA and European markets. You receive the following details about two potential exhibitions.

Domotex 200X - Europe

This is a 03 day show we attended last year which generated leads to the sales of 50,000 metres of factory space. Standard costs are likely to be higher this year, but the organisers are promising an increase in attendance of 25%. Other costs are around the same. I have looked at last years costs for a 50 metre stand and they are:
Stand space (per day) £6,000
Stand design £6,000
Staffing £200 per day 04 staff
Travel £200 each
Food, hotel expenses £2,700

Global products fair - USA

This is a new event and the organisers expect a quality attendance around 1,000 leading industrialists. This takes place over 04 days and a 40 square metres space costs $6,000 per day with a 60 square feet space costing 50% more. Stand design costs are approximately ½ those of domotex whilst other expenses are broadly similar except airfares and travel likely to costs $300 per person.

I look forward to a successful attendance at both events as our research indicates that they offer excellent opportunities to reach key decision makers.

Required

a) Due to budget cut backs it has being decided that the company can afford to attend only one of the two exhibitions mentioned in the Memo. Identify costs for each event.

b) Make a recommendation for attending one of the events and justify.

2. Budgeting and Profit Planning

2.1 Overview of Budgeting

A budget is a quantified plan of action for a forthcoming accounting period which includes planned revenues, Costs, assets, liabilities and cash flows. A budget is a plan of
what the organisation is aiming to achieve and what is has set as a target whereas a forecast is an estimate of what is likely to occur in the future

Why do we produce budgets?

– To ensure the achievement of the organisation's objectives
– To compel planning
– To coordinate activities within departments.
– To communicate plans to the various responsibility centre managers.
– To provide a framework for responsibility accounting
– To establish a system of control
– To motivate employees to achieve organisational goals
– To evaluate the performance of managers.

Budgets are therefore not prepared in isolation and then filed away but are the fundamental components of what is known as the budgetary planning and control system. A budgetary planning and control system is essentially a system for ensuring communication, coordination and control within an organisation.

The budget period is 'The period for which a budget is prepared and used, which may then be sub-divided into control periods'. For example, a research and development budget may be prepared for the next 03 years because the long term nature of the activity makes yearly budgets less appropriate.

Limiting factor or principal budget factor – it will be recalled from the previous chapter that the limiting factor which at any given time effectively limits the activities of the organisation. It may be customer demand, production capacity, shortage of labour, materials, space or finance. Frequently the principal budget factor is customer demand. That is the company is unable to sell all the output it can produce.

a) Administration of the Budget

The budget manual; is a collection of instructions governing the responsibilities of persons and the procedures, forms and records relating to the preparation and use of budgetary data. In addition, the manual may include a table which specifies the order in which the budget should be prepared and the dates when they should be presented to the budget committee.

Accounting staff will normally assist managers in the preparation of their budgets; they will for example circulate and advice on the instructions about budget preparation, provide past information which will be useful to prepare the present budget and to ensure that managers will submit these budgets on time.
The **budget committee** is the coordinating body in the preparation and administration of budgets. It consists of high level executives who represent the major segment of the business. Its major task is to ensure that budgets are realistically established and that they are coordinated satisfactorily.

The budget committee is assisted by a **budget officer** who is usually an accountant. Every part of the organisation should be represented on the committee, so there should be a representative from sales, production, marketing and so on. The role of the budget officer is to coordinate the individual budgets into a budget for the whole organisation.

### 2.2 Stages in the Budgetary Process

- Communication of policy guidelines to preparers of budgets. This is important as this will enable the preparers of budgets to know exactly how to form their respective budgets to be in line with the long term objectives of the firm.

- The principle budget factor (see below) has to be identified which is the factor that restrict the performance of a company for that particular budget period. E.g. sales demand or availability of skilled labour.

- Next is the preparation of the sales budget or the budget of the principle budgetary factor. Various methods of forecasting can be used for this such as market research, sales personnel estimates, statistical forecasting etc.

- Next following the budget of the principle budgetary factor all the other budgets should be prepared ideally by the managers responsible for those particular budgets.

- Negotiation budgets with superiors.

- Coordination and review of budgets.

- All the budgets are utilised to prepare the master budget which is then presented to the top management for approval.

- Then the budgets are continuously compared with the actual results to identify variances and if needed the budgets are revised to take account of any changes that has taken place after the budgets were prepared. (this is ongoing review of budgets)

### 2.3 Functional Budget Preparation

The preparation of a budget may take weeks or months, and the budget committee may meet several times before the functional budgets are co-ordinated and the master budget is finally agreed.
A **departmental/functional budget** is 'A budget of income and/or expenditure applicable to a particular function. A function may refer to a department or a process. Functional budgets frequently include:

- Production cost budget (based on a forecast of production and plant utilisation) – by Production manager.
- Marketing cost budget – by marketing manager
- Personnel budget – by HR manager
- Purchasing budget – by purchasing manager
- Research and development budget – by R&D manager

Each of the above budgets can be further subdivided into categories;

Example 01 – Personnel budget can be subdivided into skilled labour budget and unskilled labour budget

Example 02 – Marketing budget will include the sales budget and the marketing expense budget as follows:

- Product promotional budget
- Product distribution budget
- Distribution expansion budget
- New product development budget
- Marketing personnel budget
- Advertising budget
- Market research budget

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>K Ltd, a fast food retailer, has recently done a market research and has identified that its sales will increase by 1000 more packs every month and the demand for January is 5000 packs. The sales price of a pack is on average Rs.250. The company has opening stock of 1000 units from the last quarter and it hopes to maintain 50% of the opening stock as the closing stock every month.</td>
</tr>
<tr>
<td>Each pack requires 10 minutes of skilled labour and 5 minutes of unskilled labour who are paid Rs.50/hr and Rs.30/hr. All the ingredients for the food packs have to be bought as no stocks of ingredients are kept. Further, the ingredients are of two types i.e. X and Y which costs Rs.20/kg and Rs.50 kg and each unit uses them in the ratio 2:1. Marketing costs (advertising) were initially estimated at Rs.10000 but this is expected to decline every month by 10% as the customers increase and their loyalty builds up.</td>
</tr>
<tr>
<td>Produce all the possible budgets from the given information for the first quarter of the year.</td>
</tr>
</tbody>
</table>
### Sales Budget

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales (units)</td>
<td>5000</td>
<td>6000</td>
<td>7000</td>
<td>8000</td>
</tr>
<tr>
<td>Sales (Rs.1000)</td>
<td>1250</td>
<td>1500</td>
<td>1750</td>
<td>2000</td>
</tr>
</tbody>
</table>

### Production Budget (units)

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>5000</td>
<td>6000</td>
<td>7000</td>
<td>8000</td>
</tr>
<tr>
<td>Closing Stock</td>
<td>500</td>
<td>250</td>
<td>125</td>
<td>63</td>
</tr>
<tr>
<td>Opening Stock</td>
<td>(1000)</td>
<td>(500)</td>
<td>(250)</td>
<td>(125)</td>
</tr>
<tr>
<td></td>
<td>4500</td>
<td>5750</td>
<td>6875</td>
<td>7938</td>
</tr>
</tbody>
</table>

### Raw Material Purchases budget (units)

<table>
<thead>
<tr>
<th>Material</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material X</td>
<td>9,000</td>
<td>11,500</td>
<td>13,750</td>
<td>15,876</td>
</tr>
<tr>
<td>Material Y</td>
<td>4,500</td>
<td>5,750</td>
<td>6,875</td>
<td>7,938</td>
</tr>
</tbody>
</table>

### Raw Material Cost Budget

<table>
<thead>
<tr>
<th>Material</th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Material X</td>
<td>9,000</td>
<td>11,500</td>
<td>13,750</td>
<td>15,876</td>
</tr>
<tr>
<td>Material Y</td>
<td>4,500</td>
<td>5,750</td>
<td>6,875</td>
<td>7,938</td>
</tr>
</tbody>
</table>

### Personnel Budget (hours)

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Labour</td>
<td>750</td>
<td>959</td>
<td>1146</td>
<td>1323</td>
</tr>
<tr>
<td>Unskilled Labour</td>
<td>375</td>
<td>480</td>
<td>573</td>
<td>662</td>
</tr>
</tbody>
</table>

### Personnel Cost Budget (Rs)

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled Labour</td>
<td>37,500</td>
<td>47,950</td>
<td>57,300</td>
<td>66,150</td>
</tr>
<tr>
<td>Unskilled Labour</td>
<td>11,250</td>
<td>14,400</td>
<td>17,190</td>
<td>19,860</td>
</tr>
</tbody>
</table>

### Marketing Cost Budget (Rs.)

<table>
<thead>
<tr>
<th></th>
<th>January</th>
<th>February</th>
<th>March</th>
<th>April</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advertising</td>
<td>10,000</td>
<td>9,000</td>
<td>8,100</td>
<td>7,290</td>
</tr>
</tbody>
</table>
2.4 Preparation of the Master Budget linking the Functional Budgets

a) Steps in the preparation of a master budget linking the functional budgets

- Prepare the sales budget followed by the production budget.
- Then formulate the raw materials, labour and factory overheads budgets to arrive at cost of sales budget.
- Next all the expenditure budgets including administration, selling and distribution and capital expenditure budgets should be prepared.
- Finally combine all the above budgets and prepare the master budget

The master budget is a summary of the functional (subsidiary) budgets and cash budget and includes a budgeted profit and loss account and a budgeted balance sheet.

The master budget is 'The budget into which all subsidiary budgets are consolidated, normally comprising budgeted profit and loss account, budgeted balance sheet and budgeted cash flow statement. These documents, and the supporting subsidiary budgets, are used to plan and control activities for the following year'.

It is this master budget which is submitted to senior managers or directors for their approval. If the master budget is approved as an acceptable plan for the forthcoming budget period then it acts as an instruction and authorisation to budget managers, to allow them to take action to achieve their budgets.

If the master budget is not approved as an acceptable plan then it will be returned to the budget committee for amendment. Senior management will then review the amended master budget again. Thus, budgeting is an iterative process and it may be necessary to perform many iterations before an acceptable, workable budget is adopted and approved.

All of the three components of the master budget derive its data from the functional budgets and other miscellaneous budgets such as the capital expenditure budget, debtors' budget etc. Budgeted Profit and Loss Account and the Budgeted Balance Sheet are prepared in the normal manner to arrive at the budgeted profit. An example of a cash budget is shown below.

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Gavin Smith is starting a small garment manufacturing business and is now trying to forecast his cash flow for the next quarter. His assistant has provided him with the following details. Sales demand will be 5000 in January and thereafter demand will increase by 1500 units per month in the next 3 months. Sales price of the garments manufactured will be Rs.600/item and sales prices are expected to rise by 5% in the last</td>
</tr>
</tbody>
</table>
month of the quarter. 50% of sales are made on credit where 30% of the debtors pay within the month of purchase and the other 20% pay one-month after the purchase date.

The cost of raw materials per unit of output is Rs.100 and each unit uses 0.5 hours of labour who are paid Rs.50/hour. These costs are paid as and when they arise and these costs are expected to rise by 2% from March. Variable overheads are paid at Rs.10/unit of output with one month's lag subject to 2% increase from March. Rent is paid at the end of each quarter for the next quarter and amounts to Rs.5000. Mr. Smith has Rs.50,000 in his bank account which he will invest as start up capital for the business. He has inherited all the necessary fixed assets to run his business from his father.

<table>
<thead>
<tr>
<th>CASH BUDGET</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Receipts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sales</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50% cash</td>
<td>1,500,000</td>
<td>1,950,000</td>
<td>2,400,000</td>
<td>2,992,500</td>
</tr>
<tr>
<td>50% Credit - same month</td>
<td>900,000</td>
<td>1,170,000</td>
<td>1,440,000</td>
<td>1,795,500</td>
</tr>
<tr>
<td>Next month</td>
<td>0</td>
<td>600,000</td>
<td>780,000</td>
<td>960,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>2,400,000</td>
<td>3,720,000</td>
<td>4,620,000</td>
<td>5,748,000</td>
</tr>
<tr>
<td>Payments</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw materials</td>
<td>500,000</td>
<td>650,000</td>
<td>816,000</td>
<td>969,000</td>
</tr>
<tr>
<td>Labour cost</td>
<td>125,000</td>
<td>162,500</td>
<td>204,000</td>
<td>242,250</td>
</tr>
<tr>
<td>Variable overhead costs</td>
<td>50,000</td>
<td>65,000</td>
<td>81,600</td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td></td>
<td></td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>625,000</td>
<td>862,500</td>
<td>1,085,000</td>
<td>1,297,850</td>
</tr>
<tr>
<td>Opening Cash</td>
<td>50,000</td>
<td>1,825,000</td>
<td>4,682,500</td>
<td>8,217,500</td>
</tr>
<tr>
<td>Balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net cash Flow</td>
<td>1,775,000</td>
<td>2,857,500</td>
<td>3,535,000</td>
<td>4,450,150</td>
</tr>
<tr>
<td>Closing Cash</td>
<td>1,825,000</td>
<td>4,682,500</td>
<td>8,217,500</td>
<td>12,667,650</td>
</tr>
<tr>
<td>Balance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Summary of steps to be used in the preparation of a budget

Step 1. Identification of principal/key/limiting budget factor

Step 2. Preparation of a sales budget, assuming that sales are the principal budget factor (in units and in sales value for each product, based on a sales forecast)

Step 3. Preparation of a finished goods inventory budget (to determine the planned change in finished goods inventory levels)

Step 4. Preparation of a production budget (calculated as sales + closing inventory – opening inventory)

Step 5. Preparation of budgets for production resources
   - Materials usage
   - Machine usage
   - Labour

Step 6. Preparation of a raw materials inventory budget (to determine the planned change in raw materials inventory levels)

Step 7. Preparation of a raw materials purchases budget (calculated as usage + inventory – opening inventory)

Step 8. Preparation of overhead cost budgets (such as production, administration, selling and distribution and R&D)

Step 9. Calculation of overhead absorption rates (if absorption costing is used)

Step 10. Preparation of a cash budget (and others as required, capital expenditure and working capital budgets)

Step 11. Preparation of a master budget (budgeted income statement and budgeted balance sheet and the cash budget)

2.5 Fixed, Flexible and Zero based Budgeting

a) Zero Based Budgeting

The principle behind zero base budgeting is that the budget for each cost centre should be prepared from 'scratch' or zero. Every item of expenditure must be justified to be included in the budget for the forthcoming period. ZBB rejects the assumption inherent in incremental budgeting that this year's activities will continue at the same level or volume next year, and that next year's budget can be based on this year's costs plus an extra amount, perhaps for expansion and inflation.
**Zero base budgeting** is 'A method of budgeting which requires each cost element to be specifically justified, as though the activities to which the budget relates were being undertaken for the first time. Without approval the budget allowance is zero.'

In reality, however, managers do not have to budget from zero, but can start from their current level of expenditure and work downwards, asking what would happen if any particular aspect of current expenditure and current operations were removed from the budget. In this way, every aspect of the budget is examined in terms of its cost and the benefits it provides and the selection of better alternatives is encouraged.

**b) Fixed and Flexible Budgets**

**Fixed budgets** remain unchanged regardless of the level of activity; **flexible budgets** are designed to flex with the level of activity. **Flexible budgets** are prepared using marginal costing and so mixed costs must be split into their fixed and variable components.

- **Fixed budgets**

The master budget prepared before the beginning of the budget period is known as the fixed budget. By the term 'fixed', we do not mean that the budget is kept unchanged. Revisions to a fixed master budget will be made if the situation so demands. The term 'fixed' means the following.

  (a) The budget is prepared on the basis of an estimated volume of production and an estimated volume of sales, but no plans are made for the event those actual volumes of production and sales may differ from budgeted volumes.

  (b) When actual volumes of production and sales during a control period (month or four weeks or quarter) are achieved, a fixed budget is not adjusted (in retrospect) to represent a new target for the new levels of activity.

The major purpose of a fixed budget lies in its use at the planning stage, when it seeks to define the broad objectives of the organisation.

Fixed budgets (in terms of a pre-set expenditure limit) are also useful for controlling any fixed cost, and particularly non-production fixed costs such as advertising, because such costs should be unaffected by changes in activity level (within a certain range).

- **Flexed budgets**

Comparison of a fixed budget with the actual results for a different level of activity is of little use for budgetary control purposes. Flexible budgets should be used to show what...
cost and revenues should have been for the actual level of activity. Differences between the flexible budget figures and actual results are **variances**.

A **flexible budget** is 'A budget which, by recognising different cost behaviour patterns, is designed to change as volume of activity changes'.

- **Two uses of flexible budgets**

  (a) **At the planning stage.** For example, suppose that a company expects to sell 20,000 units of output during the next year. A master budget (the fixed budget) would be prepared on the basis of these expected volumes. However, if the company thinks that output and sales might be as low as 15,000 units or as high as 25,000 units, it may prepare **contingency** flexible budgets, at volumes of, say 15,000, 17,000, 19,000, 21,000, 23,000 and 25,000 units, and then assess the possible outcomes.

  (b) **Retrospectively.** At the end of each control period, flexible budgets can be used to compare actual results achieved with what results should have been under the circumstances.

Flexible budgets are an essential factor in budgetary control.

(i) Management needs to know about how good or bad actual performance has been. To provide a measure of performance, there must be a yardstick (budget/standard) against which actual performance can be measured.

(ii) Every business is dynamic, and actual volumes of output cannot be expected to conform exactly to the fixed budget. Comparing actual costs directly with the fixed budget costs is meaningless.

(iii) For useful control information, it is necessary to compare actual results at the actual level of activity achieved against the results that should have been expected at this level of activity, which are shown by the flexible budget.

E.g. B Ltd manufactures gardening tools and it has budgeted for 20,000 tools and their detailed overhead budget is given below.

<table>
<thead>
<tr>
<th>Indirect Labour</th>
<th>Rs.20,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumables</td>
<td>Rs. 800</td>
</tr>
<tr>
<td>Other Variable Overheads</td>
<td>Rs. 4,200</td>
</tr>
<tr>
<td>Depreciation (fixed)</td>
<td>Rs 10,000</td>
</tr>
<tr>
<td>Other Fixed Overheads</td>
<td>Rs 5,000</td>
</tr>
<tr>
<td></td>
<td>Rs 40,000</td>
</tr>
</tbody>
</table>
Prepare a flexible budget for 24,000 tools.

Indirect Labour                  (Rs.20,000/20,000 units)*24,000 = Rs.24,000
Consumables                     (Rs.800/20,000 units) *24,000     = Rs.  960
Other Variable Overheads (Rs.4,200/20,000 units)*24,000  = Rs.  5,040
Depreciation                                                                           = Rs. 10,000
Other Fixed Overheads                                                          =  Rs.   5,000
                                                                                      Rs. 45,000

Note: In flexible budgeting all the variable costs are changed as they change with output whilst fixed costs are not changed as they tend to remain the same irrespective of the activity level.

<table>
<thead>
<tr>
<th>Exercise 01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Company P produces product Y. They expect to sell 9000 units of product Y in the coming year. The following historical records of costs are available.</td>
</tr>
<tr>
<td>Units of sales</td>
</tr>
<tr>
<td>----------------</td>
</tr>
<tr>
<td>9,800</td>
</tr>
<tr>
<td>7,700</td>
</tr>
<tr>
<td>Management of company P is not certain that the estimate sales is correct because they believe that competitors are planning promotional campaigns that may reduce the product’s sales as much as 1000 units.</td>
</tr>
<tr>
<td>On the other hand there is an every chance that the promotions may backfire and attract customers to the Needle works, pushing sales up by 1000 units. They have therefore asked you for a flexible budget to be prepared at sales levels of 8000 and 10,000 units. Sales price per unit has been fixed at Rs 50.</td>
</tr>
<tr>
<td>Prepare a flexible budget for 8,000 and 10,000 showing up to contribution and net profit.</td>
</tr>
</tbody>
</table>
Exercise 02

Forecast sales for a new product line have been estimated at 10,000 units per annum. Selling prices have been discussed at Rs 100 per unit, Rs 150 per unit and Rs 200 per unit. Fixed costs associated with the product are budgeted at Rs 10 per hour of direct labour & Rs 40 per unit produced in material costs. It takes two hours of direct labour to assemble and pack the units for delivery. Each unit sold will incur delivery costs but these will be recouped from the customer in full and are forecasted to make an additional contribution of Rs 10 per unit sold.

a) Prepare a budget for each price level that clearly shows sales, cost of sales, contribution and net profit.

b) In addition flex the budget to show what would happen if sales forecast is only 80% accurate.
Chapter 7
Marketing Decisions based on Management Accounting Decisions

This chapter will cover the following areas:

1. Investment Decisions based on Cost of Capital Calculations
2. Accept or Reject Decisions.
3. Make or Buy decisions
4. Addition and Deletion of Products

1. Investment Decisions based on Cost of Capital Calculations

Please refer chapter 13

2. Acceptance/Rejection of Contracts

In general terms, a contract will probably be accepted if it increases contribution and profit, and rejected if it reduces profit. If an organisation has spare capacity (which means that it would not have to turn away existing business), a 'special' (one-off) contract (which is normally (in the exam) at a price below the normal price of the product), should be accepted if the price offered makes some contribution to fixed costs and profit. In other words, the variable cost of the contract needs to be less than the price offered. Fixed costs are irrelevant to such a decision since they will be incurred regardless of whether or not the contract is accepted.

Additional fixed costs incurred as a result of accepting the contract must be taken into account, however. If an organisation does not have sufficient spare capacity, existing business should only be turned away if the contribution from the contract is greater than the contribution from the business which must be sacrificed.

Example: Accepting Or Rejecting Contracts

HP makes a single product which sells for Rs20, and for which there is great demand. It has a variable cost of Rs12, made up as follows.

<table>
<thead>
<tr>
<th></th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct material</td>
<td>4</td>
</tr>
<tr>
<td>Direct labour (2 hrs)</td>
<td>6</td>
</tr>
<tr>
<td>Variable overhead 2</td>
<td>12</td>
</tr>
</tbody>
</table>
The labour force is currently working at full capacity producing a product that earns a contribution of Rs4 per labour hour. A customer has approached the company with a request for the manufacture of a special contract for which he is willing to pay Rs5,500. The costs of the contract would be Rs2,000 for direct materials, and 500 labour hours will be required.

Decide whether the contract should be accepted.

Solution

(a) The labour force is working at full capacity. By accepting the contract, work would have to be diverted away from the standard product, and contribution will be lost, that is, there is an opportunity cost of accepting the new contract, which is the contribution forgone by being unable to make the standard product.

(b) Direct labour pay costs Rs3 per hour, but it is also usually assumed that variable production overhead varies with hours worked, and must therefore be spent in addition to the wages cost of the 500 hours.

(c) Rs

| Value of contract 5,500 |
| Cost of contract          |
| Direct materials 2,000   |
| Direct labour (500 hrs × Rs3) 1,500 |
| Variable overhead (500 hrs × Rs1) 500 |
| Opportunity cost (500 hrs × Rs4) (contribution forgone) 2,000 |
| Relevant cost of the contract 6,000 |
| **Loss incurred by accepting the contract** (500) |

Although accepting the contract would earn a contribution of Rs1, 500 (Rs5, 500 – Rs4, 000), the lost production of the standard product would reduce contribution earned elsewhere by Rs2, 000 and so the contract should not be accepted.

Other considerations must also be taken into account, however.

(a) Will relationships with existing customers, or prices that can be commanded in the market, be affected if the contract is accepted?

(b) As a loss leader, could it create further business opportunities?

Should existing business be turned away in order to fulfil a one-off enquiry or could a long-term contract be established?
Example: Minimum Price Using An Opportunity Cost Approach

Minimax has just completed production of an item of special equipment for a customer, only to be notified that this customer has now gone into liquidation. After much effort, the sales manager has been able to interest a potential buyer who might buy the machine if certain conversion work could first be carried out.

(a) The sales price of the machine to the original buyer had been fixed at Rs 138,600 and had included an estimated normal profit mark-up of 10% on total costs. The costs incurred in the manufacture of the machine were as follows.

<table>
<thead>
<tr>
<th>Description</th>
<th>Rs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct materials</td>
<td>49,000</td>
</tr>
<tr>
<td>Direct labour</td>
<td>36,000</td>
</tr>
<tr>
<td>Variable overhead</td>
<td>9,000</td>
</tr>
<tr>
<td>Fixed production overhead</td>
<td>24,000</td>
</tr>
<tr>
<td>Fixed sales and distribution overhead</td>
<td>8,000</td>
</tr>
<tr>
<td>Total</td>
<td>126,000</td>
</tr>
</tbody>
</table>

(b) If the machine is converted, the production manager estimates that the cost of the extra work required would be as follows.

Direct materials (at cost) Rs 9,600

Direct labour
- Department X: 6 workers for 4 weeks at Rs 210 per worker per week
- Department Y: 2 workers for 4 weeks at Rs 160 per worker per week

(c) Variable overhead would be 20% of direct labour cost, and fixed production overhead would be absorbed as follows.

Department X: 83.33% of direct labour cost
Department Y: 25% of direct labour cost

(d) Additional information is available as follows.

(i) In the original machine, there are three types of material.
   - Type A could be sold for scrap for Rs 8,000.
   - Type B could be sold for scrap for Rs 2,400 but it would take 120 hours of casual labour paid at Rs 3.50 per hour to put it into a condition in which it would be suitable for sale.
• Type C would need to be scrapped, at a cost to Minimax Ltd of Rs 1,100.

(ii) The direct materials required for the conversion are already in stock. If not needed for the conversion they would be used in the production of another machine in place of materials that would otherwise need to be purchased, and that would currently cost Rs 8,800.

(iii) The conversion work would be carried out in two departments, X and Y. Department X is currently extremely busy and working at full capacity; it is estimated that its contribution to fixed overhead and profits is Rs2.50 per Rs1 of labour. Department Y, on the other hand, is short of work but for organisational reasons its labour force, which at the moment has a workload of only 40% of its standard capacity, cannot be reduced below its current level of eight employees, all of whom are paid a wage of Rs160 per week.

(iv) The designs and specifications of the original machine could be sold to an overseas customer for Rs 4,500 if the machine is scrapped.

(v) If conversion work is undertaken, a temporary supervisor would need to be employed for four weeks at a total cost of Rs 1,500. It is normal company practice to charge supervision costs to fixed overhead.

(vi) The original customer has already paid a non-returnable deposit to Minimax Ltd of 12.5% of the selling price.

**Required**

Calculate the minimum price that Minimax should accept from the new customer for the converted machine. Explain clearly how you have reached this figure.

**Solution**

The minimum price is the price which reflects the relevant costs (opportunity costs) of the work. These are established as follows.

(a) **Past costs are not relevant**, and the Rs 126,000 of cost incurred should be excluded from the minimum price calculation. It is necessary, however, to consider the alternative use of the direct materials which would be forgone if the conversion work is carried out.

Type A
Revenue from sales as scrap (note (i)) 8,000

Type B
Revenue from sales as scrap, minus the additional cash costs necessary to prepare it for sale (Rs2,400 – (120 × Rs3.50)) (note (i)) 1,980

Type C
Cost of disposal if the machine is not converted
(a negative opportunity cost) (note (ii)) (1,100)
Total opportunity cost of materials types A, B and C 8,880

By agreeing to the conversion of the machine, Minimax would therefore lose net revenue of Rs 8,880 from the alternative use of these materials.

Notes
(i) Scrap sales would be lost if the conversion work goes ahead.
(ii) These costs would be incurred unless the work goes ahead.

(b) The cost of additional direct materials for conversion is Rs 9,600, but this is an historical cost. The relevant cost of these materials is the Rs 8,800 which would be spent on new purchases if the conversion is carried out. If the conversion work goes ahead, the materials held would be unavailable for production of the other machine mentioned in item (d) (ii) of the question and so the extra purchases of Rs 8,800 would then be needed.

(c) Direct labour in departments X and Y is a fixed cost and the labour force will be paid regardless of the work they do or do not do. The cost of labour for conversion in department Y is not a relevant cost because the work could be done without any extra cost to the company.

In department X, however, acceptance of the conversion work would oblige the company to divert production from other profitable jobs. The minimum contribution required from using department X labour must be sufficient to cover the cost of the labour and variable overheads and then make an additional Rs2.50 in contribution per direct labour hour.

\[
\text{Department X: costs for direct labour hours spent on conversion} \\
\text{6 workers} \times \text{4 weeks} \times \text{Rs210} = \text{Rs5,040} \\
\text{Variable overhead cost} \\
\text{Rs5,040} \times 20\% = \text{Rs1,008} \\
\text{Contribution forgone by diverting labour from other work} \\
\text{Rs2.50 per Rs1 of labour cost} = \text{Rs5,040} \times 250\% = \text{Rs12,600}
\]
(d) **Variable overheads** in department Y are **relevant** costs because they will only be incurred if production work is carried out. (It is assumed that if the workforce is idle, no variable overheads would be incurred.)

Department Y 20% of (2 workers × 4 weeks × Rs160) = Rs256

(e) If the machine is converted, the company cannot sell the **designs and specifications** to the overseas company. Rs 4,500 are a **relevant** (opportunity) cost of accepting the conversion order.

(f) **Fixed overheads**, being mainly unchanged regardless of what the company decides to do, should be ignored because they are **not relevant** (incremental) costs. The additional cost of **supervision** should, however, be included as a **relevant** cost of the order because the Rs 1,500 will not be spent unless the conversion work is done.

(g) The **non-refundable deposit** received should be **ignored** and should not be deducted in the calculation of the minimum price. Just as costs incurred in the past are not relevant to a current decision about what to do in the future, revenues collected in the past are also irrelevant.

**Estimate of minimum price for the converted machine**

Opportunity cost of using the direct materials types A, B and C 8,880

Opportunity cost of additional materials for conversion 8,800

Opportunity cost of work in department X

<table>
<thead>
<tr>
<th>Labour</th>
<th>5,040</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable overhead</td>
<td>1,008</td>
</tr>
<tr>
<td>Contribution forgone</td>
<td>12,600</td>
</tr>
<tr>
<td></td>
<td>18,648</td>
</tr>
</tbody>
</table>

Opportunity cost: sale of designs and specifications 4,500

**Incremental costs:**

- Variable production overheads in department Y 256
- Fixed production overheads (additional supervision) 1,500

Minimum price 42,584
3. Make or Buy Decisions

The GENERAL APPROACH TO DECISION MAKING involves the identification of all future costs associated with the required decision. Historical costs need not be considered. The only relevant costs are those future costs that differ among alternative courses of action. Relevant costs can be studied by using a FULL PROJECT OR INCREMENTAL APPROACH. With the full project approach management compares the total costs of each available alternative, generally selecting the one which produces the lowest total cost. Under the incremental approach only net cost differences are considered. Two disadvantages of the incremental approach are (1) it is cumbersome when evaluating more than two alternatives, and (2) netting leads to the possibility of mathematical errors.

In DECISION MAKING: AN EMPHASIS ON THE FUTURE is paramount. For example, businesses may find themselves in a position where a conventional income statement will reveal a loss no matter which alternative is selected. However, the primary consideration in decision making pertains only to properly evaluating future costs and revenues associated with the alternatives. THE CONCEPT OF SUNK COST means that the cost of past actions should not be considered in selecting the appropriate future path. Specifically, sunk costs are irrelevant in decision making. Again, the appropriate analysis requires a focus on future revenues and costs that differ among alternatives.

In decision making it is easy to fall into the trap of focusing only on quantitative considerations. However, QUALITATIVE FACTORS must also be evaluated. Examples of qualitative factors to consider are customer reaction, employee morale, anticipated effect on future productivity, and so forth.

A SUMMARY OF THE DECISION-MAKING PROCESS reveals four basic steps. First, identify each alternative and examine the future costs and revenues. Second, disregard items that are the same among alternatives. Third, identify and consider the qualitative factors. Fourth, make a decision after a thorough study of both the quantitative analysis and related qualitative concerns. Manufacturing companies must frequently choose between making or buying ("outsourcing") selected parts. These MAKE OR BUY DECISIONS require that management isolate the relevant costs. All future costs that differ between the make or buy alternatives should be studied. Sunk costs should be ignored. Generally, one would expect that a decision to buy a product would eliminate the variable costs associated with manufacturing those particular units. However, fixed factory overhead would probably continue. Because fixed factory overhead will continue whether the units are purchased or manufactured, these amounts can be disregarded. That is, fixed factory overhead is a cost that generally does not differ among the alternatives.

Bear in mind, however, that some costs are really AVOIDABLE FIXED OVERHEAD. That is, if the purchase decision allows closure of a manufacturing facility.
operation, certain fixed overhead may be avoided. Therefore, in analyzing the costs which differ among the alternatives, one must consider that by continuing to make the units the avoidable fixed overhead will continue to be incurred. By buying the units, this cost would be avoided (along with variable production costs). In performing a complete analysis of the decision to make or buy, management must also evaluate the OPPORTUNITY COST of the decision. Opportunity cost is the cost of a foregone alternative. For example, by deciding to buy units rather than continue to manufacture them, one may be able to free up manufacturing capacity to utilize in producing other products. The contribution margin associated with the additional products would become a relevant cost in the decision. This opportunity cost would generally be added to the cost of making the units.

In make or buy decisions, the QUALITATIVE CONSIDERATIONS are extremely important. One must continually monitor the supplier's financial health and ability to continue to deliver the product on a timely basis.

3.1 Relevant Costs for Decision Making

The costs which should be used for decision making are often referred to as "relevant costs". CIMA defines relevant costs as 'costs appropriate to aiding the making of specific management decisions'.

To affect a decision a cost must be:

a) Future: Past costs are irrelevant, as we cannot affect them by current decisions and they are common to all alternatives that we may choose.

b) Incremental: 'Meaning, expenditure which will be incurred or avoided as a result of making a decision. Any costs which would be incurred whether or not the decision is made are not said to be incremental to the decision.

c) Cash flow: Expenses such as depreciation are not cash flows and are therefore not relevant. Similarly, the book value of existing equipment is irrelevant, but the disposal value is relevant.

Other terms:

d) Common costs: Costs which will be identical for all alternatives are irrelevant, e.g. rent or rates on a factory would be incurred whatever products are produced.

e) Sunk costs: Another name for past costs, which are always irrelevant, e.g. dedicated fixed assets, development costs already incurred.

f) Committed costs: A future cash outflow that will be incurred anyway, whatever decision is taken now, e.g. contracts already entered into which cannot be altered.

3.2 Opportunity Cost for Decision Making

Relevant costs may also be expressed as opportunity costs. An opportunity cost is the benefit foregone by choosing one opportunity instead of the next best alternative.
Example

A company is considering publishing a limited edition book bound in a special leather. It has in stock the leather bought some years ago for Rs 100,000. To buy an equivalent quantity now would cost Rs 200,000. The company has no plans to use the leather for other purposes, although it has considered the possibilities:

a) Of using it to cover desk furnishings, in replacement for other material which could cost Rs 90,000
b) Of selling it if a buyer could be found (the proceeds are unlikely to exceed Rs 80,000).

In calculating the likely profit from the proposed book before deciding to go ahead with the project, the leather would not be costed at Rs100,000. The cost was incurred in the past for some reason which is no longer relevant. The leather exists and could be used on the book without incurring any specific cost in doing so. In using the leather on the book, however, the company will lose the opportunities of either disposing of it for Rs 80,000 or of using it to save an outlay of Rs90,000 on desk furnishings. The better of these alternatives, from the point of view of benefiting from the leather, is the latter. "Lost opportunity" cost of Rs 90,000 will therefore be included in the cost of the book for decision making purposes.

The relevant costs for decision purposes will be the sum of:

i) 'Avoidable outlay costs', i.e. those costs which will be incurred only if the book project is approved, and will be avoided if it is not

ii) The opportunity cost of the leather (not represented by any outlay cost in connection to the project).

This total is a true representation of 'economic cost'.

3.3 Make or Buy Decisions – Example

A company is often faced with the decision as to whether it should manufacture a component or buy it outside. Suppose for example, that Masanzu Ltd. make four components, W, X, Y and Z, with expected costs for the coming year as follows:

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production (units)</td>
<td>1,000</td>
<td>2,000</td>
<td>4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Unit marginal costs</td>
<td>Rs.</td>
<td>Rs.</td>
<td>Rs.</td>
<td>Rs.</td>
</tr>
<tr>
<td>Direct materials</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Direct labour</td>
<td>8</td>
<td>9</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Variable production overheads</td>
<td>2</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>14</td>
<td>17</td>
<td>7</td>
<td>12</td>
</tr>
</tbody>
</table>
Direct fixed costs/annum and committed fixed costs are as follows:

<table>
<thead>
<tr>
<th>Incurred as a direct consequence of making W</th>
<th>1,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Incurred as a direct consequence of making X</td>
<td>5,000</td>
</tr>
<tr>
<td>Incurred as a direct consequence of making Y</td>
<td>6,000</td>
</tr>
<tr>
<td>Incurred as a direct consequence of making Z</td>
<td>8,000</td>
</tr>
<tr>
<td>Other committed fixed costs</td>
<td>30,000</td>
</tr>
<tr>
<td></td>
<td>50,000</td>
</tr>
</tbody>
</table>

A subcontractor has offered to supply units W, X, Y and Z for Rs. 12, Rs. 21, Rs. 10 and Rs. 14 respectively. Decide whether Masanzu Ltd. should make or buy the components.

**Solution and Discussion**

a) The relevant costs are the differential costs between making and buying. They consist of differences in unit variable costs plus differences in directly attributable fixed costs. Subcontracting will result in some savings on fixed cost.

<table>
<thead>
<tr>
<th></th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rs.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unit variable cost of making</td>
<td>14</td>
<td>17</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Unit variable cost of buying</td>
<td>12</td>
<td>21</td>
<td>10</td>
<td>14</td>
</tr>
<tr>
<td>(2)</td>
<td>-4</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Annual requirements in units</td>
<td>1,000</td>
<td>2,000</td>
<td>4,000</td>
<td>3,000</td>
</tr>
<tr>
<td>Extra variable cost of buying per annum</td>
<td>(2,000)</td>
<td>8,000</td>
<td>12,000</td>
<td>6,000</td>
</tr>
<tr>
<td>Fixed cost saved by buying</td>
<td>1,000</td>
<td>5,000</td>
<td>6,000</td>
<td>8,000</td>
</tr>
<tr>
<td>Extra total cost of buying</td>
<td>(3,000)</td>
<td>3,000</td>
<td>6,000</td>
<td>(2,000)</td>
</tr>
</tbody>
</table>

b) The company would save Rs. 3,000/annum by sub-contracting component W, and Rs. 2,000/annum by sub-contracting component Z.

c) In this example, relevant costs are the variable costs of in-house manufacture, the variable costs of sub-contracted units, and the saving in fixed costs.

d) Other important considerations are as follows:

i) If components W and Z are sub-contracted, the company will have spare capacity. How should that spare capacity be profitably used? Are there hidden benefits to be obtained from sub-contracting? Will there be resentment from the workforce?

ii) Would the sub-contractor be reliable with delivery times, and is the quality the same as those manufactured internally?

iii) Does the company wish to be flexible and maintain better control over operations by making everything itself?

iv) Are the estimates of fixed costs savings reliable? In the case of product W, buying is clearly cheaper than making in-house. However, for product Z, the
decision to buy rather than make would only be financially attractive if the fixed cost savings of Rs. 8,000 could be delivered by management. In practice, this may not materialise.

<table>
<thead>
<tr>
<th>Exercise</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Pip, a component used by Goya Manufacturing Ltd., is incorporated into a number of its completed products. The Pip is purchased from a supplier at Rs. 2.50 per component and some 20,000 are used annually in production. The price of Rs. 2.50 is considered to be competitive, and the supplier has maintained good quality service over the last five years. The production engineering department at Goya Manufacturing Ltd. has submitted a proposal to manufacture the Pip in-house. The variable cost per unit produced is estimated at Rs. 1.20 and additional annual fixed costs that would be incurred if the Pip were manufactured are estimated at Rs. 20,800.</td>
</tr>
<tr>
<td>a) Determine whether Goya Manufacturing Ltd. should continue to purchase the Pip or manufacture it in-house.</td>
</tr>
<tr>
<td>b) Indicate the level of production required that would make Goya Manufacturing Ltd. decide in favour of manufacturing the Pip itself.</td>
</tr>
</tbody>
</table>

4. Addition and Deletion of Products

The ADDITION OR DELETION OF PRODUCTS OR DEPARTMENTS is one of the most difficult decisions management must make. Careful analysis is required; management should not merely conclude that any unit generating a net loss should be eliminated. This result occurs primarily because some fixed costs of a discontinued unit will continue and must be absorbed by other units which continue to operate. In essence, a domino effect can occur when the fixed costs are redistributed (i.e., other units may begin to also appear unprofitable). In these situations, the appropriate analysis is to compare company wide net income with and without the unit targeted for elimination.

Shutdown Problems

Shutdown problems involve the following types of decisions:

a) Whether or not to close down a factory, department, product line or other activity, either because it is making losses or because it is too expensive to run.

b) If the decision is to shut down, whether the closure should be permanent or temporary. Shutdown decisions often involve long term considerations, and capital expenditures and revenues.

c) A shutdown should result in savings in annual operating costs for a number of years in the future.

d) Closure results in release of some fixed assets for sale. Some assets might have a small scrap value, but others, e.g. property, might have a substantial sale value.
e) Employees affected by the closure must be made redundant or relocated, perhaps even offered early retirement. There will be lump sums payments involved which must be taken into consideration. For example, suppose closure of a regional office results in annual savings of Rs. 100,000, fixed assets sold off for Rs. 2 million, but redundancy payments would be Rs. 3 million. The shutdown decision would involve an assessment of the net capital cost of closure (Rs. 1 million) against the annual benefits (Rs. 100,000 per annum).

It is possible for shutdown problems to be simplified into short run decisions, by making one of the following assumptions
a) Fixed asset sales and redundancy costs would be negligible
b) Income from fixed asset sales would match redundancy costs and so these items would be self-cancelling.

In these circumstances the financial aspects of shutdown decisions would be based on short run relevant costs.

Exercise - Adding or Deleting Products
Brass Ltd. manufactures three products, Swans, Ducks and Chicks. The present net annual income from each item is as follows:

<table>
<thead>
<tr>
<th></th>
<th>Swans</th>
<th>Ducks</th>
<th>Chicks</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>50,000</td>
<td>40,000</td>
<td>60,000</td>
<td>150,000</td>
</tr>
<tr>
<td>Variable costs</td>
<td>30,000</td>
<td>25,000</td>
<td>35,000</td>
<td>90,000</td>
</tr>
<tr>
<td>Contribution</td>
<td>20,000</td>
<td>15,000</td>
<td>25,000</td>
<td>60,000</td>
</tr>
<tr>
<td>Fixed costs</td>
<td>17,000</td>
<td>18,000</td>
<td>20,000</td>
<td>55,000</td>
</tr>
<tr>
<td>Profit/(loss)</td>
<td>3,000</td>
<td>(3,000)</td>
<td>5,000</td>
<td>5,000</td>
</tr>
</tbody>
</table>

Brass Ltd. is concerned about its poor profit performance, and is considering whether or not to cease selling Ducks. It is felt that selling prices cannot be increased or lowered without adversely affecting net income. Rs. 5,000 of the fixed costs of Ducks is direct fixed costs which would be saved if production ceased. All other fixed costs will remain the same.

a) Advise Brass Ltd. whether or not to cease production of Ducks.
b) Suppose, however, it were possible to use the resources realised by stopping production of Ducks, and switch to produce a new item, Eagles, which would sell for Rs. 50,000 and incur variable costs of Rs. 30,000 and extra fixed costs of Rs. 6,000. What will the new decision be?
<table>
<thead>
<tr>
<th>Graduate/Postgraduate Diploma in Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Level</td>
</tr>
<tr>
<td>Finance for Marketing</td>
</tr>
<tr>
<td><strong>Recommended Study Text</strong></td>
</tr>
</tbody>
</table>

**Module Two**

**Interpreting Financial Accounts**
Chapter 8
Understanding Financial Accounting

This chapter will cover
1. The Nature of Financial Accounting
2. The Meaning and Purpose of Financial Statements
3. The Different types of Financial Statements – An introduction

1. The Nature of Financial Accounting

1.1 Underlying Principles

At the outset if we try to understand the need for “Accounting” we would find its roots are connected to the basic economic concept of “Scarcity”. As resources are limited when compared with the unlimited needs and wants of society, the necessity to “Control” arises so that resources could be utilized effectively. In satisfying this need for control, accounting becomes a “Controlling Mechanism”.

As discussed in chapter 1, Accounting can be broadly categorized into Financial Accounting and Management Accounting. Financial Accounting is mainly about reporting the performance of the organization to its stakeholders. This is done by the preparation of Financial Statements in accordance with Generally Accepted Accounting Principles (GAAP) and Accounting Standards.

1.2 Accounting Concepts

Accounting Concepts are assumptions underlying the subject of Financial Accounting which is a part of GAAP. Some of the important Accounting Concepts are given below.

a. Business Entity Concept
   This concept separates the individuals behind a business from the business itself, and only records transactions in the accounts if it affects the business.

b. Objectivity Concept
   An accounting statement should not, as far as is possible, be influenced by the personal bias of the person preparing it. Thus, figures used in accounting statements should be objective. The most objective value that can be placed on an asset is the historical cost actually paid for it, which can be proved by an invoice and verified as the market value on the date of acquisition. In certain respects, changes in the value of assets need to be recognised and at these times, the accountant must make an objective estimate of the new value.
c. **Historical Cost Concept**
   This concept means that transactions are recorded at their cost values as evidenced by cash flow or agreed liability of the parties. The validity of the concept is undermined in times of inflation.

d. **Going Concern Concept**
   Unless there is good evidence to the contrary, accounting assumes that the business will operate for the foreseeable future.

   It is also assumed that the business has no intention or necessity to liquidate or curtail the scale of its operations. Eg. Holding of Stocks, Credit transactions.

   Based on this concept, all resources are usually valued at cost where the departure from this concept would require alternate valuating methods.

e. **Realisation Concept**
   This concept dictates that we recognise sales revenue as having been earned at the time when goods or services have been supplied and an invoice issued; similarly, costs are incurred when goods or services have been received, not when they are paid for.

   Revenue must not be overstated by a sale which was not realized although a promise or an intention to purchase goods may have been expressed.

f. **Periodicity Concept**
   This concept assumes that financial results (profit/loss) of a company is calculated at pre-defined accounting periods (annually, half, yearly, quarterly, monthly) and not deferred until the termination of the business.

   The convention also leads to comparisons being made between one period and another.

g. **Accruals and Matching Concepts**
   There are two concepts combined here, but they interrelate. They arise from the periodicity concept and the need to identify transactions with particular accounting periods.

   The accruals concept states that expenditure incurred in a particular accounting period accounted for in that period, irrespective of whether or not it has been invoiced or paid for. Similarly, income that has been earned in that period should be accounted for in that period irrespective of the date of invoice or the receipt of monies from the transaction. The concept applies equally to all transactions, whether involving revenue, expenses, assets or liabilities. If the transaction has occurred during the period, then it should be accounted for.
The matching concept is similar, but goes one step further, in that it attempts to match the income earned in a period with the expenses consumed *in earning that income*. It may happen that expenditure has been incurred in a period, but it has not been used to generate income during that same period.

An example of this would be stocks purchased that remain unused at the end of the period. They have not been used to generate income in the period of purchase, so they are not included as part of the cost of goods sold in that period, on the assumption that they will be used to generate income in the future, they are carried forward and matched with the income of the future.

This creates a problem, in that the accruals concept states that the expenses should be accounted for in that period, but the matching concept states that expense should be matched to income.

Generally, a prudent view is taken of expenses. If they have been incurred during the period, they are taken into that period’s profit and loss account, even though they may have been incurred to provide future income. It is only where they can be reasonably identified with future earning potential that they are carried forward to future periods, and so most expenses are charged to the profit and loss account for the period in which they were incurred.

Similarly, a prudent view must also be taken of income. If monies have been received during a period in respect of income that has not yet been earned (e.g. the receipt of a deposit for a customer’s order that has not yet been fulfilled), this must not be treated as income in that period, but carried forward until the order has been satisfied, and matched with the relevant expense incurred.

**h. Materiality Concept**

Accounting statements are prepared for the benefit of various user groups. It is essential that the information provided is both significant and easily understood. The materiality concept ensures that the information provided is clear by omitting items that are not significant to the user in understanding the overall financial position of the organization.

The distinction between what is significant and what’s not, varies depending on the size of the organization, and is a matter of judgement. Factors determining materiality

a. Value (5%)
b. Nature of the item
c. Impact on reported results
i. **Consistency Concept**

Where there are similar items, similar treatment must be given within an accounting period and from one period to another.

The usefulness of financial accounting lies to a considerable extent in the conclusions that may be drawn from the comparison of the financial statements of one year with those of a preceding year, or of one company with another.

Much of the information thus derived would be useless if the choice of accounting methods were not applied consistently year by year. If a change in an accounting method is required, then comparative information should also be given. An example of an area where consistency is important, is the method of valuing stock.

The concept is also applied to the treatment of groups of similar items. For example, the same depreciation method should be used for similar types of fixed assets, and the same stock valuation method should be used for similar types of stock.

j. **Prudence Concept**

The concept of prudence or conservatism is that a business should not lay claim to any profits before they have been earned with reasonable certainty and on the other hand, it should anticipate fully the losses that it expects to incur in future periods, that is, losses should be written off in full as soon as they are anticipated. Whenever subjective judgment is needed, and must be included in the accounts, the figure that gives the lower profit should be chosen. This prevents profit being overstated. Similarly, assets should not be overstated for balance sheet purposes, but liabilities are generally recognized even where their likelihood is only possible, provided that they arise from a past event and their value can be estimated with sufficient reliability.

1.3 **Information for Decision Making**

Any party who is interested in the affairs of an organization may be defined as a “Stakeholder”. The main stakeholders of a typical business enterprise would be Shareholders, Funding Organisations, Employees, Analysts/ Advisors, Customers and Suppliers, the Government, the Public and the Management. Their interests in the organization would be numerous and diverse.

The main source of information available to them for decision making purposes would be the Annual Report of the organization and more importantly the Financial Statements which are contained within the Annual Report.
1.4 Historical Nature of Financial Information.

As financial accounting is mainly about reporting the financial performance of an organization, its output would be of a Historical nature. Also, as per the historical cost concept, transactions are recorded in the books at their original value. It has the advantages of the concept of objectivity being achieved where the values attached are the actual amounts incurred by the organization. Furthermore, these values could be documentarily verified. However, the following disadvantages also have to be noted.

   a. Asset values may be understated.
   b. Profits are distorted usually under inflationary conditions.

As a result there were various alternatives developed as substitutes to the historical cost basis of accounting. These methods were not widely accepted and were too complicated to implement in practice. As a result the historical cost system prevails even as at today.

From a marketer’s point of view the question that one would continuously have to ask is whether the past is an indication of the future? Based on the answer for this question, one can decide the relevance of past performance in making decisions involving the future. In most instances, there would be some relevance, and historical information is widely used in carrying out trend analysis, setting future targets etc.

Thereby Financial Statements would be of immense use to marketers despite its limitations. The marketer would need more information than what is generally contained in traditional financial statements. Such information needs are usually met by the provision of relevant Management Accounting Information.

‡ Activity

Identify Stakeholders of a selected business organization and identify their information needs

‡ Activity

“Financial Statements are utilized by Marketers than Accountants on a daily basis in making business decisions.” Select an organization of your choice, and speak to members of its Marketing Team and Finance Team and comment on the above assertion.
1.5 Publishing Financial Reports

As you may already know, the owners of a limited liability company obtain ownership by investing in the share capital of such an organization. However the management of a limited liability company is carried out by a team called the Board of Directors who are appointed by the shareholders. This means that the Board of Directors are accountable for the shareholders and that they must act in the best interests of the organization and not pursue their personal interests.

This accountability is exercised by the preparation of financial statements which are usually audited by an independent auditor who is appointed by the shareholders. This is referred to as an External Audit where the auditor expresses his opinion on the financial statements by way of a Report which is addressed to the shareholders. Now we have to focus on the mechanism through which the financial statements, audit report etc are communicated to the shareholders and other interested parties.

a) What is an Annual Report?

This is a document which is prepared by a limited liability company which communicates the said company’s performance over the last financial year to its shareholders and other interested parties who are usually referred to as stakeholders.

Features of an Annual Report

a) Report of the Board of Directors
b) Report of the Chairman
c) Financial Statements
d) Auditors’ Report
e) Statements of value addition
f) Details of dividends and market capitalization
g) Environmental activities and Projects of Social Responsibility undertaken during the year
h) Details regarding Corporate Governance

2. Meaning and Purpose of Financial Statements

Financial statements form part of the process of financial reporting. A complete set of financial statements normally includes a balance sheet, an income statement (profit and loss account), a cash flow statement and notes and other statements and explanatory material that are an integral part of the financial statements.
They may also include supplementary schedules and information based on or derived from, and expected to be read with, such statements. Such schedules and supplementary information may deal, for example, with financial information about industrial and geographical segments and disclosures about the effect of changing prices. Financial Statements do not, however, include such items as reports by directors, statements by the chairman, discussion and analysis by the management and similar items that may be included in an Annual Report.

The objective of financial statements is to provide information about the financial position, performance and changes in financial position of an enterprise, that is useful to a wide range of users in making economic decisions.

Financial statements prepared for this purpose meet the common needs of most users. However, financial statements do not provide all the information that users will need to make economic decisions since they largely portray financial effects of past events and do not necessarily provide non-financial information.

Financial statements also show the results of the stewardship of management, or the accountability of management for the resources entrusted to it. Those users who wish to assess the stewardship or accountability of the management do so in order that they make economic decisions: these decisions may include, for example, whether to hold or sell their investment in the enterprise or whether to re-appoint or replace the Board of Directors.

3. Different Types of Financial Statements – an Introduction

As mentioned above, financial statements mainly include a balance sheet, profit and loss account, a cash flow statement and explanatory notes.

3.1 Balance Sheet

This is a statement which presents the assets and liabilities held by an enterprise as at any given date. This would give out the financial position of the organization as at the point of preparation. In fact this is like a snapshot of the organization at a particular point. Usually the annual report would contain a balance sheet as at the last day of the financial year. Commonly used headings in a balance sheet are as follows.

- Property, Plant and Equipment
- Intangible Assets
- Inventories
- Trade Debtors
- Cash and Bank Balances
• Trade Creditors and other payables
• Taxation liability
• Provisions
• Long term Loans
• Share Capital
• Reserves

3.2 Profit and Loss Account

This is a statement which presents the financial performance of the organization for the past financial year. This would include the income earned and expenses incurred during the given period. Commonly used headings would include

• Revenue
• Cost of Goods Sold
• Operating Profit
• Finance Costs
• Profit before Taxation
• Taxation for the year
• Profit after Tax
• Results of exceptional items
• Dividends
• Retained Profit for the Period

3.3 Cash Flow Statement

This is a statement which presents the movement of cash flows of the organization in the past financial year. A cash flow statement when used in conjunction with the other financial statements would be useful in assessing the ability of the organization to generate cash and cash equivalents and enables users to develop models to assess and compare the present value of the future cash flows of different enterprises.

It also enhances the comparability of the reporting of operating performance, by different enterprises because it eliminates the effects of using different accounting treatment for similar transactions or events. Commonly used headings would include

• Cash flows from Operating Activities
• Cash flows for Investing Activities
• Cash flows from Financing Activities
### Examples

The following financial statements are obtained from a leading quoted public company in Sri Lanka for the year 2004. You are required to familiarize yourselves with the financial statements based on the initial learnings of the financial statements.

<table>
<thead>
<tr>
<th>ABC Company Limited</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income Statement (P&amp;L)</td>
</tr>
<tr>
<td>For the year ended 31st March 2004</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2004 Rs.'000s</th>
<th>2003 Rs.'000s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Turnover</strong></td>
<td>12,257,563</td>
<td>10,778,823</td>
</tr>
<tr>
<td><strong>Net Turnover</strong></td>
<td>4,197,813</td>
<td>3,564,480</td>
</tr>
<tr>
<td><strong>Cost of sales</strong></td>
<td>(2,604,462)</td>
<td>(2,397,819)</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>1,593,351</td>
<td>1,166,661</td>
</tr>
<tr>
<td><strong>Gain on Disposal of Shares</strong></td>
<td>885,183</td>
<td>6,897</td>
</tr>
<tr>
<td><strong>Other Operating Income</strong></td>
<td>52,092</td>
<td>37,353</td>
</tr>
<tr>
<td><strong>Distribution Cost</strong></td>
<td>(99,609)</td>
<td>(112,148)</td>
</tr>
<tr>
<td><strong>Administrative Expenses</strong></td>
<td>(197,401)</td>
<td>(201,277)</td>
</tr>
<tr>
<td><strong>Other operating Expenses</strong></td>
<td>(113,968)</td>
<td>(184,939)</td>
</tr>
<tr>
<td><strong>Profit from Operations</strong></td>
<td>2,119,648</td>
<td>712,547</td>
</tr>
<tr>
<td><strong>Net Financing income/(Cost )</strong></td>
<td>(180,987)</td>
<td>218,155</td>
</tr>
<tr>
<td><strong>Profit Before taxation</strong></td>
<td>1,938,661</td>
<td>930,702</td>
</tr>
<tr>
<td><strong>Income Tax Expense</strong></td>
<td>(313,034)</td>
<td>(321,790)</td>
</tr>
<tr>
<td><strong>Profit for the Year</strong></td>
<td>1,625,627</td>
<td>608,912</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2004 Rs.'000s</th>
<th>2003 Rs.'000s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Earnings per Share of Rs. 1/-</strong></td>
<td>5.42</td>
<td>2.03</td>
</tr>
<tr>
<td><strong>Dividend Per Share of Rs. 1/-</strong></td>
<td>0.50</td>
<td>0.45</td>
</tr>
</tbody>
</table>
ABC Company Limited
Balance sheet
As at 31st March 2004

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs. '000s</td>
<td>Rs. '000s</td>
</tr>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non-current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property, Plant &amp; Equipment</td>
<td>539,913</td>
<td>474,623</td>
</tr>
<tr>
<td>Investment in Subsidiaries</td>
<td>5,627,414</td>
<td>482,867</td>
</tr>
<tr>
<td>Investment in jointly controlled entity</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Investments in Associates</td>
<td>548,904</td>
<td>877,678</td>
</tr>
<tr>
<td>Other long Term Investments</td>
<td>858,125</td>
<td>1,033,199</td>
</tr>
<tr>
<td></td>
<td>7,594,356</td>
<td>2,888,367</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short term Investments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Inventories</td>
<td>916,030</td>
<td>791,373</td>
</tr>
<tr>
<td>Trade &amp; Other receivables</td>
<td>738,579</td>
<td>432,604</td>
</tr>
<tr>
<td>Amounts due from Subsidiaries</td>
<td>26,429</td>
<td>10,079</td>
</tr>
<tr>
<td>Short term Deposits</td>
<td>25,258</td>
<td>1,450,308</td>
</tr>
<tr>
<td>Bank &amp; Cash balances</td>
<td>269,445</td>
<td>144,088</td>
</tr>
<tr>
<td></td>
<td>1,975,741</td>
<td>2,828,452</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>9,570,097</td>
<td>5,716,819</td>
</tr>
<tr>
<td><strong>EQUITY &amp; LIABILITIES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Capital &amp; Reserves</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share capital</td>
<td>300,000</td>
<td>300,000</td>
</tr>
<tr>
<td>Capital Reserves</td>
<td>107,882</td>
<td>107,882</td>
</tr>
<tr>
<td>Revenue Reserves</td>
<td>4,263,844</td>
<td>2,773,217</td>
</tr>
<tr>
<td></td>
<td>4,671,726</td>
<td>3,181,099</td>
</tr>
<tr>
<td><strong>Non-current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deferred Taxation</td>
<td>28,037</td>
<td>32,821</td>
</tr>
<tr>
<td>Retirement Benefit Obligations</td>
<td>64,500</td>
<td>69,000</td>
</tr>
<tr>
<td></td>
<td>92,537</td>
<td>101,821</td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade &amp; Other payables</td>
<td>1,621,347</td>
<td>1,404,468</td>
</tr>
<tr>
<td>Amount due to related Companies</td>
<td>2,030</td>
<td>-</td>
</tr>
<tr>
<td>Income tax payable</td>
<td>142,413</td>
<td>100,557</td>
</tr>
<tr>
<td>Interest Bearing Loans &amp; Borrowings</td>
<td>3,026,119</td>
<td>915,850</td>
</tr>
<tr>
<td>Dividend Payable</td>
<td>13,925</td>
<td>13,024</td>
</tr>
<tr>
<td></td>
<td>4,805,834</td>
<td>2,433,899</td>
</tr>
<tr>
<td><strong>Total Equity &amp; Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>9,570,097</td>
<td>5,716,819</td>
</tr>
</tbody>
</table>
ABC Company Limited  
Cash flow statement  
For the year ended 31st March 2004

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs. * 000s</td>
<td>Rs. * 000s</td>
</tr>
<tr>
<td>Profit from Operations</td>
<td>2,119,648</td>
<td>712,547</td>
</tr>
<tr>
<td>Adjustments for:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation on Property, Plant &amp; Equipment</td>
<td>49,015</td>
<td>49,503</td>
</tr>
<tr>
<td>Provision for Gratuity</td>
<td>2,609</td>
<td>10,579</td>
</tr>
<tr>
<td>Gain on Disposal of Property, Plant &amp; Equipment</td>
<td>(1,150)</td>
<td>(5,647)</td>
</tr>
<tr>
<td>Gain on Disposal of Shares</td>
<td>(885,183)</td>
<td>(6,897)</td>
</tr>
<tr>
<td>Provision for fall in value of Investments</td>
<td>113,968</td>
<td>184,939</td>
</tr>
<tr>
<td>Reversal of provision for fall in value of Investments</td>
<td>(38,983)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operating Profit before working Capital Changes</strong></td>
<td>1,359,924</td>
<td>945,024</td>
</tr>
<tr>
<td>(Increase)/ Decrease in Inventories</td>
<td>(124,657)</td>
<td>(47,563)</td>
</tr>
<tr>
<td>(Increase)/ decrease in Receivables</td>
<td>(322,325)</td>
<td>(122,529)</td>
</tr>
<tr>
<td>Increase /( Decrease ) in Payables</td>
<td>218,909</td>
<td>(202,587)</td>
</tr>
<tr>
<td>Interest paid</td>
<td>(262,374)</td>
<td>(1,138)</td>
</tr>
<tr>
<td>Income Tax paid</td>
<td>(275,962)</td>
<td>(327,340)</td>
</tr>
<tr>
<td>Retiring Gratuities paid</td>
<td>(7,109)</td>
<td>(9,079)</td>
</tr>
<tr>
<td><strong>Net Cash flow from Operating activities</strong></td>
<td>586,406</td>
<td>234,788</td>
</tr>
</tbody>
</table>

**Cash flow from Investing activities**

|                                |       |       |
| Acquisition of Subsidiary      | (5,258,515) | - |
| Acquisition of Property, Plant & Equipment | (118,205) | (88,008) |
| Sale of shares- Associate      | 1,213,957 | - |
| Purchase of Shares & Other Investments | - | (325,658) |
| Dividends received             | 33,711  | 69,454 |
| Dividends received from Associate | 37,425 | 33,518 |
| Proceeds on Disposal of Property, Plant & Equipment | 5,050 | 5,647 |
| Proceeds on Disposal of Shares & Other Investments | 214,057 | 16,222 |
| Interest received              | 10,251  | 116,321 |
| **Net movement during the year** | (3,862,269) | (172,504) |

**Cash flow from Financing Activities**

|                                |       |       |
| Dividends paid                 | (134,099) | (140,582) |
| **Net movement during the year** | (134,099) | (140,582) |

**Cash & Cash Equivalents**

|                                |       |       |
| At the beginning of the year   | 678,546 | 756,844 |
| Net movement during the year   | (3,409,962) | (78,298) |
| At the end of the year (note A)| (2,731,416) | 678,546 |
### Note A

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount 1</th>
<th>Amount 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short term deposits</td>
<td>25,258</td>
<td>1,450,308</td>
</tr>
<tr>
<td>Cash in Transit</td>
<td>80,810</td>
<td>78,113</td>
</tr>
<tr>
<td>Cash in hand &amp; Bank</td>
<td>188,635</td>
<td>65,975</td>
</tr>
<tr>
<td>Bank &amp; Other Borrowings</td>
<td>(3,026,119)</td>
<td>(915,850)</td>
</tr>
<tr>
<td></td>
<td>(2,731,416)</td>
<td>678,546</td>
</tr>
</tbody>
</table>

♫ My Short Notes

---

Chapter 08 – Understanding Financial Accounting 124
Chapter 9
Reading the P&L Account, Balance Sheet, Cash Flow Statement

This chapter will cover the following areas
1. Reading the Profit & Loss Account and Balance Sheet
2. Reading the Cash Flow Statement

1. Reading Profit & Loss Accounts and Balance Sheets

1.1 The Format of the Profit and Loss Account

<table>
<thead>
<tr>
<th>XYZ LTD</th>
<th>Profit and Loss Account for the year ended xx/xx/xxxx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs.000's</td>
</tr>
<tr>
<td>Turnover</td>
<td>xxxxxxxx</td>
</tr>
<tr>
<td>Less: Cost of sales</td>
<td></td>
</tr>
<tr>
<td>Opening Stock</td>
<td>Xxxxx</td>
</tr>
<tr>
<td>Purchases</td>
<td>Xxxxx</td>
</tr>
<tr>
<td>Less: Closing Stock</td>
<td>(xxx) (xxxx)</td>
</tr>
<tr>
<td>Gross Profit</td>
<td>xxxx</td>
</tr>
<tr>
<td>Add: Operating Income</td>
<td>xxxx</td>
</tr>
<tr>
<td>Less: Operating Expenses</td>
<td>(xxx) XXX</td>
</tr>
<tr>
<td>Operating Profit</td>
<td>xxxxxx</td>
</tr>
<tr>
<td>Less: Interest Expenses</td>
<td>(xxx)</td>
</tr>
<tr>
<td>Profit Before Taxation</td>
<td>xxxxx</td>
</tr>
<tr>
<td>Less: Taxation</td>
<td>(xx)</td>
</tr>
<tr>
<td>Profit After Taxation</td>
<td>xxxxx</td>
</tr>
<tr>
<td>Less: Dividends</td>
<td>(xx)</td>
</tr>
<tr>
<td>Retained Profit for the year</td>
<td>xxxxx</td>
</tr>
<tr>
<td>Retained Profit brought forward</td>
<td>XXX</td>
</tr>
<tr>
<td>Retained Profit carried forward</td>
<td>xxxxxx</td>
</tr>
</tbody>
</table>
The most common format of the P&L Account currently used by the business organisations, is shown above. The name of the company and the time period to which the P & L is prepared for, must be stated at the top of the P& L. P &L Accounts are usually prepared annually but they can be prepared for 9 months, 6months etc also. The P & L is prepared to depict the financial performance of the business organisation over a given time period. Hence the items to be included in the P & L Account should essentially be revenues and expenses of different kinds. The most common items to be included in the P& L are discussed in detail below.

The P&L starts with 'Turnover', which is the sales revenue, earned by the company. The Turnover is followed by ‘Cost of Sales’ which includes three basic items. Opening Stock consists of the stocks of raw materials, work in progress (partly completed goods) or finished products in the company’s possession at the beginning of the accounting period. Purchases include all the purchases of raw materials made during the year to manufacture the finished products. Closing stock includes all the stocks of raw materials, work in progress or finished products the company has at the end of the accounting period. These types of cost of sales items are there typically for a manufacturing organisation. However, cost of sales of different types of businesses will differ from each other. The difference between the Sales Revenue and Cost of Sales is termed as Gross Profit. However if the cost of sales exceed the sales revenue, then it will be just termed as a ‘Loss’.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find out what would be included under cost of sales in a Bank’s P&amp;L.</td>
</tr>
</tbody>
</table>

Operating Income usually consists of any return obtained on the short term investments made by the company which may take the form of rent received, interest received etc. Operating Expenses can be categorised into two main areas as Administration expenses and Selling and Distribution expenses. The former includes rent and rates paid, sundry expenses, plant depreciation, stationery costs etc. The latter on the other hand, includes vehicle depreciation, advertising etc. Gross profit together with the difference between Operating Income and Operating Expenses constitute the Operating Profit.

The financial expenses i.e. interest payments, are then deducted from the operating profit to arrive at the taxable profit. Tax is then charged based on the corporate tax rules on the taxable profit. The profit after tax is what is available to be distributed to the shareholders as dividends. Dividends can be paid during the year, usually halfway through the year, where it will be called as ‘interim dividends’ and the proposed dividend is the final dividend proposed at the end of the year. The residual profits after the payment for dividends is termed as retained profit for the year, which is then added to the accumulated profits of the past years, and the final profit is the profit that can be carried forward and used by the company in its future years of operation.
‡ Activity

Study some annual reports of different companies and discuss how their P & L Accounts differ from one another and from the common format that was discussed above.

1.2 Techniques of Analysis

When studying the P & L of companies, it is important to use various tools to analyse them. When comparing the P & L Accounts of two companies they must be investigated first of all as to whether one can compare the selected two companies. For example, if the two companies are from different industries then it is of not much use to compare performance between the two companies. However in a situation where one company wants to see the impact on different industries as a result of a major change in a macroeconomic variable like the sudden increase in inflation or sudden depreciation of the domestic currency, then it is useful to see how different industries have performed amidst the changes in the economy.

Another factor is that the sizes of the companies being compared, must be comparable. This is very important if one is to compare the efficiency of a company with another, where the size of the company plays a vital role.

Once the companies used for the comparison are found to be comparable, then various techniques can be used to analyse the financial statements of the companies. The first method is the Horizontal analysis, which involves the line by line comparison of one set of data with another, i.e. comparison of the actual sales revenue with the budgeted sales revenue to identify variances.

The second method is Trend analysis where the horizontal analysis is extended over few years.
E.g. Gross profit over the past ten years.

Another method is the usage of common size statements, where the data in the financial statements are expressed as a percentage of critical components in the financial statements.
E.g. Components of the P & L are expressed as a percentage of total sales.

The P & L Accounts of J Ltd are given below for the past three years

<table>
<thead>
<tr>
<th></th>
<th>2005(Rs.000’s)</th>
<th>2004(Rs.000’s)</th>
<th>2003(Rs.000’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>1300</td>
<td>1000</td>
<td>950</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(700)</td>
<td>(530)</td>
<td>(510)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>600</td>
<td>470</td>
<td>440</td>
</tr>
<tr>
<td>Expenses</td>
<td>(300)</td>
<td>(220)</td>
<td>(215)</td>
</tr>
<tr>
<td>Net Profit</td>
<td>300</td>
<td>250</td>
<td>225</td>
</tr>
</tbody>
</table>
The Profit & Loss data may be common sized in relation to sales as follows

<table>
<thead>
<tr>
<th></th>
<th>2005(%)</th>
<th>2004(%)</th>
<th>2003(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales</td>
<td>100</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>(54)</td>
<td>(53)</td>
<td>(54)</td>
</tr>
<tr>
<td>Gross profit</td>
<td>46</td>
<td>47</td>
<td>46</td>
</tr>
<tr>
<td>Expenses</td>
<td>(23)</td>
<td>(22)</td>
<td>(23)</td>
</tr>
<tr>
<td>Net Profit</td>
<td>23</td>
<td>25</td>
<td>24</td>
</tr>
</tbody>
</table>

‡ Activity

For J Ltd given above, common size the above data to identify yearly growth taking 2003 to be the base year.

Hint: sales in 2004 common sized would be \((1000/950) \times 100 = 105\%\)

As shown above, these tools can be used to compare absolute figures or ratios to give an indication about the performance of a company in relation to:

- Another company
- Previous years
- The budgets set for the period
- Industry norms

‡ Activity

Think of a company familiar to you and see what benefits it would receive by comparing its performance in relation to the four factors given above.

1.3 The format of the Balance sheet

<table>
<thead>
<tr>
<th>XYZ LTD</th>
<th>Rs.000's</th>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intangible Fixed Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brands</td>
<td>xxxxx</td>
<td></td>
</tr>
<tr>
<td>Goodwill</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td>Research and Development</td>
<td>xx</td>
<td></td>
</tr>
<tr>
<td></td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td><strong>Tangible Fixed Assets (NBV)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land and Buildings</td>
<td>xxxxx</td>
<td></td>
</tr>
<tr>
<td>Machinery</td>
<td>xxxxx</td>
<td></td>
</tr>
<tr>
<td>Fixtures and Fittings</td>
<td>xxx</td>
<td></td>
</tr>
<tr>
<td></td>
<td>xxxxx</td>
<td></td>
</tr>
</tbody>
</table>
The Balance Sheet format used commonly by organisations is given above. The Balance Sheet is prepared to reveal the financial position of an organisation to the users of financial statements. Simply, it shows the Assets and Liabilities which have a specific monetary value of a company.

Assets can be divided into two as Tangible Assets and Intangible Assets. Tangible Assets are those assets that have a physical existence, as evident by the examples given above. Intangible assets do not have a physical existence.

Investments can be many things such as investments in equity or in government securities or even investments in associate companies.

Current assets are the short term assets held by a company whilst current liabilities are short term liabilities like bank overdrafts and others. If current assets exceed the current liabilities, the difference is termed as ‘Net Current Assets’. However, if the Liabilities exceed the assets it will be termed as ‘Net Current Liabilities’.

Liabilities held for time periods exceeding one year are termed as Long term Liabilities. A sound company with going concern status should have total assets over and above the value

<table>
<thead>
<tr>
<th>Investments</th>
<th>xxxxx</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Assets</td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>xxxx</td>
</tr>
<tr>
<td>Debtors</td>
<td>xxx</td>
</tr>
<tr>
<td>Less: provision for bad debts</td>
<td>(x)</td>
</tr>
<tr>
<td>Cash at hand and bank</td>
<td>xxx</td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>xxx</td>
</tr>
<tr>
<td>Trade Creditors</td>
<td>xx</td>
</tr>
<tr>
<td>Accrued Expenses</td>
<td>xxx</td>
</tr>
<tr>
<td>Taxation</td>
<td>xx</td>
</tr>
<tr>
<td>(xxx)</td>
<td></td>
</tr>
<tr>
<td>Net Current Assets</td>
<td>xxx</td>
</tr>
<tr>
<td>Long term liabilities</td>
<td></td>
</tr>
<tr>
<td>Debentures</td>
<td>xxxx</td>
</tr>
<tr>
<td>Long term loans</td>
<td>xxxx</td>
</tr>
<tr>
<td>Net Assets</td>
<td>xxxxxx</td>
</tr>
<tr>
<td>Share capital and Reserves</td>
<td></td>
</tr>
<tr>
<td>Share capital</td>
<td>xxxxx</td>
</tr>
<tr>
<td>Share premium</td>
<td>xx</td>
</tr>
<tr>
<td>Reserves</td>
<td>xxxxx</td>
</tr>
<tr>
<td>xxxxxx</td>
<td></td>
</tr>
</tbody>
</table>
of total liabilities. The difference between total assets i.e. Fixed assets and Current assets, and the total liabilities i.e. Current and Long term liabilities is known as ‘Net Assets’.

Share capital is the value of the company’s called up share capital, which may be either ordinary share capital or preference share capital or both. Share premium is the reserve that arises when the shares are issued over and above the nominal value of shares. Reserves include all the accumulated profits and any other type of revenue reserve or capital reserve that the company possesses. Revenue reserves are those reserves that can be distributed to shareholders and consists predominantly of accumulated profits over the years. Capital reserves cannot be distributed to shareholders and it should be noted that share premium is also a capital reserve.

‡ Activity

Take a few examples of capital reserves and revenue reserves a company can have and discuss how the respective reserves are formed in a company.

Hint: Discuss General reserve, Capital redemption reserve, Revaluation reserve etc

2. Reading Cash Flow Statements

2.1 Introduction

The cash flow statement provides an analysis of both cash receipts and cash payments that have taken place during a given year in a company. The main idea behind the preparation of the cash flow statement is to direct the attention of users of published financial statements of a company, to the ability of the company to generate cash on which the survival of a company depends. The cash flow statement gives an indication of the relationship of profitability, to cash generating ability, with consequences for the 'quality' of profits. The information in the cash flow statement will also assist users of financial information to assess the liquidity, financial viability and flexibility of the business and its ability to generate adequate future cash flows to meet its obligations.

As the name suggests the cash flow statement only includes actual cash inflows and cash outflows. Actual cash flows are the actual cash receipts for the year e.g. actual interest received. On the other hand, actual cash outflows are the actual cash payments made during the year e.g. interim dividends paid for the year. The cash flow statement by no means includes non-cash items. Non- cash items are the items that do not have a physical cash outflow or cash inflow though recorded in the financial statements e.g. depreciation.

The typical format of a cash flow statement is shown in the next page and in general, the headings of a cash flow include the following:
- Net cash flow from operating activities.
- Return on investment and servicing of finance.
- Taxation
- Capital Expenditure
- Equity dividends paid
- Management of liquid resources
- Financing

The result of the cash flow statement is termed as the 'Net cash flow' and the net cash flow arrived at by using the cash flow statement, can be reconciled with the opening and closing cash and cash equivalent balance. If calculated accurately, the net cash flow is the difference between the opening and closing cash and cash equivalent balance.

Note: Cash and cash equivalents consist of Cash in hand and deposits repayable on demand with any financial institution, less overdrafts from any financial institution repayable on demand.

### 2.2 The Format of a Cash Flow Statement

<table>
<thead>
<tr>
<th>XYZ LTD</th>
<th>Cash Flow Statement for the year ended xx/xx/xxxx</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rs.000’s</td>
</tr>
<tr>
<td>Net cash Flow from Operating activities (note 1)</td>
<td>xxxxxx</td>
</tr>
<tr>
<td>Return on investment and servicing of finance</td>
<td></td>
</tr>
<tr>
<td><em>Interest Received</em></td>
<td>xxx</td>
</tr>
<tr>
<td><em>Interest Paid</em></td>
<td>(xx) xx</td>
</tr>
<tr>
<td>Taxation</td>
<td>(x)</td>
</tr>
<tr>
<td>Capital Expenditure</td>
<td></td>
</tr>
<tr>
<td><em>Purchase of fixed assets</em></td>
<td>(xxx)</td>
</tr>
<tr>
<td><em>Sale of fixed assets</em></td>
<td>xx (xx)</td>
</tr>
<tr>
<td>Equity dividends paid</td>
<td></td>
</tr>
<tr>
<td><em>Interim dividends</em></td>
<td>(xx)</td>
</tr>
<tr>
<td><em>Proposed final dividend</em></td>
<td>(xx) (xxx)</td>
</tr>
<tr>
<td>Management of liquid resources</td>
<td></td>
</tr>
<tr>
<td><em>Sale of government securities</em></td>
<td>xx xx</td>
</tr>
<tr>
<td>Financing</td>
<td></td>
</tr>
<tr>
<td><em>Issue of shares</em></td>
<td>xxxxxx</td>
</tr>
<tr>
<td><em>Repayment of loan</em></td>
<td>(xxx) xxx</td>
</tr>
<tr>
<td>Net Cash Flow</td>
<td>xxxxxx</td>
</tr>
</tbody>
</table>
a) Cash Flows from Operating Activities

Net cash Flow from Operating Activities is calculated after excluding all the non cash items included in the operating profit figure given in the P&L Account. This is usually provided as the first note to the cash flow statement. The typical calculation of Net cash Flow from Operating Activities is as follows:

<table>
<thead>
<tr>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating profit as per P&amp;L Account</td>
</tr>
<tr>
<td>Add: Depreciation</td>
</tr>
<tr>
<td>Increase/ decrease in stocks</td>
</tr>
<tr>
<td>Increase/ decrease in debtors</td>
</tr>
<tr>
<td>Increase/ decrease in creditors</td>
</tr>
<tr>
<td>Net cash flow from operating activities</td>
</tr>
</tbody>
</table>

As depreciation is a non-cash item and is deducted in the P&L Account, it is added back to the operating profit. The increase in debtors or stocks is a cash outflow hence deducted from operating profit. The increase in creditors is added because cash can stay with the company for more time and can be used for other purposes when goods are bought on credit. The increase or decrease on the above items is calculated taking their respective figures from the balance sheet for the current year and the previous year.

Note that increase or decrease in cash and bank are not taken here, as those will be considered when reconciling the net cash flow with the opening and closing bank balances.

b) Cash Flows from Investing Activities

Cash within a company can be invested in a variety of ways to earn an additional income on top of the trading income of a company. The investments can take any form including the following:

- Investment in government securities
- Investment in associate companies and joint ventures
- Investment in land and buildings

The various financial obligations entered into by the company have their own ways of meeting their financial obligations such as interest payments in respect of leases, preference dividends paid etc.

All of the above items are included under the heading Return on Investment and Servicing of Finance and the difference between the cash receipts and cash payments are added to the Net cash flow from operating activities.
c) Cash Flow from Financing Activities

For a business to run successfully the availability of capital is a must. The ways and means by which the capital is maintained is given under this heading. The increase in share capital should be divided between the increase in capital and increase in the share premium. Then the loans, mortgages or leases that have been taken or repaid also come under this heading.

d) Other items in the cash flow statements

Taxation is the actual tax paid by the company. As a result, the previous year’s taxation figure is given under the taxation heading in the cash flow statement. This is because companies usually pay tax with a time lag of 1 year.

Capital expenditure is the purchase or sale of fixed assets excluding those related to acquisitions and disposals of business or a part of a business.

Equity dividends paid (dividends on ordinary shares) include the interim dividends paid during the current year and the proposed dividend of the previous year. This is because the final dividend is only declared at the end of a given year, hence they can only be paid in the subsequent year.

Management of liquid resources will include the cash payments and receipts in respect of the liquid resources in a company. Liquid resources are any current asset investments that can be readily disposed without having any impact on the operations of a company. Furthermore, liquid resources can be either traded in an active market such as government securities or can be readily converted into cash like demand deposits. Investment in Liquid resources is a cash outflow.

e) Information needed to prepare a cashflow statement

- Balance sheets for the current and the previous year
- P & L Account for the current year
- Movement in fixed assets for the current year
- Movement in liquid resources for the current year
- Any other movement in cash during the year not covered by the above.

‡ Activity

Discuss the use of information provided in the cash flow statement for five different users of financial statements.
**Exercise**

The following financial statements are obtained from a leading quoted public company in Sri Lanka for the year 2004. You are required to write a report explaining the performance of the company based on the reported financials.

<table>
<thead>
<tr>
<th>ABC Company Limited</th>
<th>Income Statement (P&amp;L)</th>
<th>For the year ended 31st March 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gross Turnover</strong></td>
<td>12,257,563</td>
<td>10,778,823</td>
</tr>
<tr>
<td><strong>Net Turnover</strong></td>
<td>4,197,813</td>
<td>3,564,480</td>
</tr>
<tr>
<td><strong>Cost of sales</strong></td>
<td>(2,604,462)</td>
<td>(2,397,819)</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>1,593,351</td>
<td>1,166,661</td>
</tr>
<tr>
<td><strong>Gain on Disposal of Shares</strong></td>
<td>885,183</td>
<td>6,897</td>
</tr>
<tr>
<td><strong>Other Operating Incomes</strong></td>
<td>52,092</td>
<td>37,353</td>
</tr>
<tr>
<td><strong>Distribution Cost</strong></td>
<td>(99,609)</td>
<td>(112,148)</td>
</tr>
<tr>
<td><strong>Administrative Expenses</strong></td>
<td>(197,401)</td>
<td>(201,277)</td>
</tr>
<tr>
<td><strong>Other operating Expenses</strong></td>
<td>(113,968)</td>
<td>(184,939)</td>
</tr>
<tr>
<td><strong>Profit from Operations</strong></td>
<td>2,119,648</td>
<td>712,547</td>
</tr>
<tr>
<td><strong>Net Financing income/(Cost )</strong></td>
<td>(180,987)</td>
<td>218,155</td>
</tr>
<tr>
<td><strong>Profit Before taxation</strong></td>
<td>1,938,661</td>
<td>930,702</td>
</tr>
<tr>
<td><strong>Income Tax Expense</strong></td>
<td>(313,034)</td>
<td>(321,790)</td>
</tr>
<tr>
<td><strong>Profit for the Year</strong></td>
<td>1,625,627</td>
<td>608,912</td>
</tr>
<tr>
<td><strong>Earnings per Share of Rs. 1/-</strong></td>
<td>5.42</td>
<td>2.03</td>
</tr>
<tr>
<td><strong>Dividend Per Share of Rs. 1/-</strong></td>
<td>0.50</td>
<td>0.45</td>
</tr>
</tbody>
</table>
Exercise

Take the profit and loss accounts, balance sheets and cash flows of several companies. Interpret the financial status based on the accounts presented between two financial years. The following areas of investigation are suggested

### Profit and Loss Account

- The movement of the companies’ cost of sales
- The change in the companies’ sales revenue
- Any significant changes in the opening and closing stock levels
- As a consequence of the above the change in gross profits
- Changes in the costs of operations
- Movement of the operating profits
- Changes in the interest expenses
- Significant changes in taxation
- Movement of dividend payments
- Changes to the retained profits

### Balance Sheet

- Changes in the intangible fixed assets
- Changes in the tangible fixed assets during the period
- If the above changes reflected in the profit and loss account, are in terms of operational activities
- Significant changes in the current assets and current liabilities
- Changes in the long term liabilities and share capital over the period.

### Cash Flow

- Changes in the cash inflows over the period
- Changes in the cash outflows over the period
- The net change in cash inflows and outflows over the period.
- Relate the above changes to the earlier activities identified in the other financial statements discussed above.
Chapter 10
Ratio Analysis

This chapter will cover the following areas:

1. Introduction to Ratio Analysis
2. Long term Solvency Ratios
3. Short term Solvency Ratios
4. Activity Ratios
5. Profitability Ratios
6. Operating Ratios
7. Limitations of Ratio Analysis

1. Introduction to Ratio Analysis

Ratios represent the relationship between different financial items in the accounts. Ratios are considered as a powerful analytical tool that can be used to interpret the information given in financial statements. As a result, calculation of ratios provide companies with several advantages as discussed below.

Firstly ratio analysis directs attention to areas of the company which require further detailed investigations, hence indirectly highlighting the strengths and weaknesses of a company's operations as ratios provide a valuable insight to a company's financial picture.

Ratios present financial information in summarised forms so it acts as a very useful tool for both managers and other stakeholders in a company to judge the performance of companies without having to go through masses of data.

Ratios can be used to give performance targets for employees within a company based on which their performance can be measured.

Ratios are considered to be a powerful comparative analytical tool as it helps companies to see whether their performance is better/worse than their competitors or the industry norms.

‡ Activity

Identify advantages of carrying out ratio analysis, to companies

There are few things that need to be kept in mind when conducting a ratio analysis. One should first know that there are no universal ratio definitions. The definitions used by different textbooks and different companies can vary. Hence it is vital to know what exactly the company wants to find out and accordingly use the definition of a ration that will aid the
company in finding out what it wants to investigate. Therefore, as a practice, whenever ratios are calculated the definition of the ratios used is always provided, so the user of the ratio analysis knows how exactly the ratios have been calculated and hence how it should be interpreted.

The other thing is that ratios looked at in isolation are absolutely useless. One cannot come to the conclusion that a particular ratio of a company is good or bad without comparing it with a similar ratio of a competitor or against the previous years of a company. Furthermore, it should be noted that most ratios are interrelated. Therefore when conducting a ratio analysis these interrelationships among the ratios calculated should be discussed too.

Finally one ratio, when considering the numerator and the denominator, can be broken down into various other ratios. So when analysing a ratio, one should break down that ratio into the lowest breakdown possible so the underlying causes for the ratio to be of a specified amount can be studied in detail.

Ratios can be classified into several groups as shown in the diagram below.

**Classification of Ratios**

![Classification of Ratios Diagram]

2. Long Term Solvency Ratios (Gearing Ratios)

These ratios are designed to indicate the long-term financial stability of the business, which is important information for most of the users of financial information. For example, bankers of the company using these ratios will assess the future ability of the company to meet its obligations and on that basis they will decide how much of loans to be given to the company in the future.
2.1 Debt to Equity Ratio

This ratio depicts the capital structure of the business indicating the proportion of debt financing used by the company relative to its shareholders’ funds.

Debt to Equity Ratio = \( \frac{\text{Debt}}{\text{Equity}} \times 100 \)

In this ratio, Debt will constitute of long term loans/debentures and preference share capital. Equity on the other hand includes ordinary share capital and reserves. Debt to Equity ratio of less than 100% is usually considered to be acceptable.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
</table>

An extract of X LTD’s Balance Sheet for the year ended 31/3/2004 is given below.

<table>
<thead>
<tr>
<th></th>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Long term liabilities - 10% loan stock</td>
<td>100,000</td>
</tr>
<tr>
<td>Share capital &amp; Reserves</td>
<td></td>
</tr>
<tr>
<td>Equity Share capital</td>
<td>250,000</td>
</tr>
<tr>
<td>Preference Share capital</td>
<td>10,000</td>
</tr>
<tr>
<td>Revaluation Reserve</td>
<td>5,000</td>
</tr>
<tr>
<td>Retained Profits</td>
<td>25,000</td>
</tr>
<tr>
<td></td>
<td>290,000</td>
</tr>
</tbody>
</table>

Calculate the Debt to Equity ratio of X LTD and comment on it if its competitor's debt to equity ratio is 75%.

2.2 Capital Gearing

This ratio calculates the proportion of debt financing used in the company as a percentage of total financing of the company.

Capital gearing = \( \frac{\text{Debt}}{\text{Debt + Equity}} \times 100 \)

Capital gearing ratio should ideally be below 50% and if this is the case the company is low geared as the company has sufficient funds to meet its debt obligations as and when they fall due.

However it should be noted that if a highly geared company generates good profits the return to ordinary shareholders is more due to the fact that interest payments made on behalf of debt are tax deductible. If a highly geared company makes low profits then ordinary shareholders may even get no return.
Calculate X LTD's Capital Gearing using the information given for the above activity. If X LTD's Bankers have told them its gearing should be 40% or less ideally, comment on whether X LTD is in line with the Bank's requirements.

### 2.3 Interest Cover

Interest Cover is computed to see the ability of the profits earned by a company to meet its interest payments in terms of number of times. The higher the Interest Cover the better it is for the company.

E.g. if the Interest Cover is 5 then the company can afford to pay their interest 5 times out of the profits earned by them.

\[
\text{Interest Cover} = \frac{\text{Profit before interest and tax}}{\text{Interest paid}}
\]

### Activity

An extract of Y LTD's P & L Account is given below.

<table>
<thead>
<tr>
<th></th>
<th>Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Profit</td>
<td>100,000</td>
</tr>
<tr>
<td>Profit after Interest</td>
<td>98,600</td>
</tr>
<tr>
<td>Profit after Tax</td>
<td>75,000</td>
</tr>
</tbody>
</table>

The company is proposing to pay a dividend of 15% of profits available to ordinary shareholders. The company has no preference share capital.

Calculate the interest cover of Y LTD and comment on it if the company has always maintained an interest cover of five in the past years.

### 2.4 Dividend Cover

This assesses a company's ability to pay dividends using the profits it has generated and is expressed in number of times and the higher the ratio the better it is for the company.

\[
\text{Dividend Cover} = \frac{\text{Profit attributable to ordinary shareholders}}{\text{Ordinary Dividend paid}}
\]

### Activity

Calculate the Dividend Cover of Y LTD using the information given in the activity above.
3. Short Term Solvency Ratios (Liquidity Ratios)

These ratios assess a company's liquidity and its ability to meet its short-term debt obligations. In other words, these ratios indicate the ability of the company to manage its working capital.

### 3.1 Current Ratio (Working Capital Ratio)

This ratio expresses the value of current assets held as a proportion of the value of current Liabilities of a company. In general, the Current Ratio should be in the range of 1.5:1. The Current Ratio indicates the ability of the company to meet its current liabilities by using current assets alone.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. J runs a small grocery shop in the suburbs of Colombo. Recently he has read about ratio analysis in an accounting book and is keen to calculate Current Ratio for his business. His Assistant Ms. K has provided him with the following information.</td>
</tr>
<tr>
<td>Cash in hand</td>
</tr>
<tr>
<td>Sales on credit</td>
</tr>
<tr>
<td>Purchases on credit</td>
</tr>
<tr>
<td>Stocks</td>
</tr>
<tr>
<td>Accrued Electricity</td>
</tr>
</tbody>
</table>

Calculate Mr. J's current ratio.

### 3.2 Quick Ratio (Acid Test Ratio)

This depicts a company's ability to meet its short-term liabilities using liquid current assets i.e. all current assets excluding stocks as stocks are considered as illiquid. Quick Ratio should ideally be 1:1.

\[
\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities}}
\]

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculate Mr. J's (see above) Quick Ratio.</td>
</tr>
</tbody>
</table>
4. Activity Ratios (Efficiency Ratios)

These ratios are related to the short term solvency ratios. Activity Ratios give an insight into the effectiveness of a company’s management of the components of working capital.

4.1 Inventory Turnover

This indicates the time taken by the company to sell a piece of stock and is usually stated in terms of number of days. The Inventory Turnover varies based on the industry as some industries keep a lot of stock while some keep no stocks at all.

\[
\text{Inventory Turnover} = \frac{\text{Stock}}{\text{Cost of Sales}} \times 365
\]

Sometimes this ratio is calculated using 52 or 12 instead of 365, if there is a need to express these ratios in terms of weeks or months respectively. If the information is available, the Average stock should be used instead of closing stocks.

If the above formula is inverted, i.e. Cost of Sales/ Stock without multiplying by 365 it will indicate how often company's stocks have been converted into sales during a year. This ratio is referred to as 'Stock Turn Ratio'.

‡ Activity

Calculate Mr. J's (see the activity under current ratio) Inventory turnover and Stock Turn Ratios.

4.2 Debtor Turnover

This calculates the time taken by debtors to settle their debts and is expressed in number of days. If the information is available, the average debtors should be used instead of closing debtors and also credit sales should be used instead of turnover.

\[
\text{Debtor Turnover} = \frac{\text{Debtors}}{\text{Turnover}} \times 365 / 52 / 12
\]

‡ Activity

Calculate Mr. J's (see the activity under current ratio) Debtor turnover ratio.
4.3 Creditors Turnover

This ratio estimates the time taken by a company to settle their creditors and is expressed in number of days. If the information is available, the average creditors should be used instead of closing creditors and credit Purchases should be used instead of Cost of Sales.

Creditors Turnover = \( \frac{\text{Trade Creditors} \times 365}{52 \times 12} \)

\(\frac{\text{Cost of Sales}}{}\)

‡ Activity

Calculate Mr. J’s (see the activity under current ratio) Creditors turnover ratio

4.4 Asset Turnover

This Ratio indicates the productivity of the fixed/ total assets of the business in generating sales and is expressed in terms of number of times.

Asset Turnover = \( \frac{\text{Turnover}}{\text{Fixed/ Total Assets}} \)

‡ Activity

If Mr. J’s assets comprise of only property worth Rs.10,000,000 and Furniture worth Rs.60,000 compute his asset turnover using the information given above.

4.5 Working Capital Cycle

Working Capital Cycle = Inventory Turnover + Debtors turnover - Creditors turnover

This indicates the length of time cash spends tied up, in current assets and is given in number of days. The logic behind this, is that stock cannot be converted into cash until it has been sold and then the customer pays for the goods. This must be offset against the fact that no cash is actually invested until the company has paid the supplier for the goods.

‡ Activity

Compute Mr. J’s Working Capital Cycle taking into consideration the ratios calculated above.
5. Profitability Ratios

These ratios are computed to judge the adequacy of profits earned by a company and to analyse how the company has earned them. This is because the P & L has several profit figures and each must be evaluated carefully to judge its contribution to the company's profit.

5.1 Return on Capital Employed (ROCE)

\[
\text{ROCE} = \frac{\text{Net profit before interest and tax}}{\text{Capital Employed}} \times 100
\]

This calculates the profit earned per Rupee of capital invested in the business. Capital employed is equal to Net Assets/ total capital & reserves of a company. Usually companies are given a target ROCE to achieve. As ROCE comes in the form of a percentage, it can be compared with the returns from alternative investment opportunities to see whether it is actually worth investing in the business concerned.

5.2 Earnings per Share (EPS)

\[
\text{EPS} = \frac{\text{Net profit after tax, preference dividend and minority interest}}{\text{Number of ordinary shares in issue}}
\]

EPS gives the return the shareholders receive for every share subscribed for, in a company. EPS is stated in terms of cents per share. EPS has to be stated in the financial statements of a company.

5.3 Gross Profit Margin

\[
\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Turnover}} \times 100
\]

This indicates the gross profit earned per Rupee of sales revenue. For example, if the gross profit margin is 50% then the company makes 50 cents gross profit from every Rupee of sales.

5.4 Net Profit Margin

\[
\text{Net profit margin} = \frac{\text{Net profit}}{\text{Turnover}} \times 100
\]
This indicates the net profit earned per Rupee of sales revenue. For example, if the gross profit margin is 30% then the company makes 30 cents gross profit from every Rupee of sales.

### 5.5 Return on Assets

\[
\text{Return on Assets} = \frac{\text{Net profit before interest and tax}}{\text{Total Assets}} \times 100
\]

This indicates the net profit earned per Rupee invested in Assets of the company.

<table>
<thead>
<tr>
<th>¤ Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABC Ltd has Net Assets worth Rs.50,000,000 comprising of Fixed Assets worth Rs.40,000,000 and current assets worth Rs.30,000,000. It has an issued ordinary share capital of Rs.40,000,000.</td>
</tr>
<tr>
<td>The net profit for the current year has been 40% of Turnover, which stood at Rs.10,000,000. The company pays interest on loans amounting to Rs.500,000 per year. The company pays tax at 25% p.a.</td>
</tr>
<tr>
<td>Calculate all the profitability ratios discussed above for ABC Ltd.</td>
</tr>
</tbody>
</table>

### 6. Operating Ratios

These ratios are used to depict the various costs that are included within operating expenses as a percentage of sales, in order to see the impact on profit by the increase or decrease in these costs.

#### 6.1 Material Costs to Sales

\[
\text{Material Costs to sales} = \frac{\text{Material Costs}}{\text{Sales}} \times 100
\]

This shows the cost of materials as a percentage of sales.

#### 6.2 Labour Costs to Sales

\[
\text{Labour Costs to sales} = \frac{\text{Labour Costs}}{\text{Sales}} \times 100
\]

The idea here is to indicate what proportion of sales revenue is spent for labour costs.
6.3 Factory Overheads to Sales

Factory overheads to sales = \( \frac{\text{Factory overheads}}{\text{Sales}} \times 100 \)

The amount of factory overheads covered by the sales revenue is indicated by the above ratio.

6.4 Administration Overheads to Sales

Administration overheads to sales = \( \frac{\text{Administration overheads}}{\text{Sales}} \times 100 \)

The expenditure on administration overheads as percentage of its sales revenue made by a company is expressed by this ratio.

6.5 Selling and Distribution Overheads to Sales

Selling and Distribution overheads to sales = \( \frac{\text{Selling and Distribution overheads}}{\text{Sales}} \times 100 \)

This is of importance to marketers especially because most of their expenditure is incurred under this category. This shows how much of sales revenue should be set apart for Selling and Distribution overheads.

All the expenses in a company can be broadly divided into two, as variable and fixed costs. Therefore the two ratios shown below summarises the expenditure and provides an insight into how a company's cost structure is compared to the revenue it earns.

a) Variable Costs to Sales

Variable Costs to sales = \( \frac{\text{Variable Costs}}{\text{Sales}} \times 100 \)

This ratio shows what the total variable cost incurred by a company is, as a proportion of sales revenue. The higher the sales, higher the variable costs would be, because they are directly proportional to each other.

b) Fixed Costs to Sales

Fixed Costs to sales = \( \frac{\text{Fixed Costs}}{\text{Sales}} \times 100 \)
Here fixed expenditure incurred is shown as a proportion of sales and the fixed costs decrease when sales increase, as there is more output on which fixed costs can be spread.

‡ Activity

An extract of XYZ LTD's Manufacturing Accounts for the year gives the following information.

Direct Materials Rs.100,000  
Direct Labour Rs. 250,000  
Direct Expenses Rs. 50,000

Total Factory overheads Rs. 150,000

Calculate the possible operating ratios from the information given above, if the company earned a revenue equal to 10 times the Direct Materials amount.

7. Limitations of Ratio Analysis

Though Ratios provide a powerful tool to analyse the financial statements of a company, like all other techniques it also has some drawbacks as discussed below.

It diverts attention from the figures and statements themselves. It is important to look at the size of the company under consideration. This is because larger companies usually have more bargaining power, and for example sometimes a high gearing ratio at a point of time may be a usual thing for a large company as they usually take high risks and make high profits.

Another thing is, that ratios takes figures from the financial statements and therefore ignore whatever is stated in the notes to the accounts and hence might not provide a realistic analysis of a company's future.

Ratios cannot be always compared because of the different accounting policies adopted or because of a difference in currencies and so on.

Ratios cannot be interpreted comprehensively without having a good knowledge of the peculiarities of the industry in which the business is in.

The financial statements can be distorted by creative accounting, in which case the ratios calculated using those figures will be meaningless.

Published financial statements always relate to the past hence ratios computed on these historic figures may not be valid today.
Even when ratios are used for inter firm comparisons, if one goes to the depth of it, might not be truly comparable because of things such as different product mixes, different objectives, different sets of workforce etc.

Ratios that are used for comparisons overtime are most of the time meaningless, as ratios fail to exclude the impact of inflation on figures of the financial statements.

Ratios are often subject to short term fluctuations, such as the seasonality of sales, and are distorted by any unusual event taking place in a given time period.

Finally ratios highlight problem areas but do not provide solutions to avoid the problem areas in the future.

Ratios only measure items that are of a quantitative nature. It ignores non-quantitative elements such as good will, labour relations, quality of the workforce which are also worthy of analysis for a comprehensive understanding of a company's financial status.

Most ratios do not have a particular value that is considered as ideal, hence the interpretation that follows these ratios will be biased by the interpreter's version of what is considered as ideal for a given ratio.

Performance measurement through calculation of ratios can influence employees to manipulate the items in the numerator and the denominator when preparing financial statements to fake good performance.

Calculation of too many ratios at the end can hide the big picture.

Most of the people who conduct ratio analysis are ignorant as to what ratios should be calculated to suit the purpose, thereby losing the whole purpose of ratio analysis.

Most of the definitions used by ratios are rather vague since they can be computed in several ways.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the possible actions that can be taken to mitigate some of the above drawbacks of ratio analysis?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Based on the last exercise done in chapter 9, using the same financial statements, calculate the ratios discussed and prepare a report to the finance director of that company indicating the financial position of that company based on your analysis.</td>
</tr>
</tbody>
</table>
Exercise

B LTD, a garment manufacturer, is thinking of acquiring one of two companies. The first company, X Ltd, is a wholesale supplier of clothes, and the other, Y Ltd, is a branded retailer of expensive clothes. Their financial statements are given below.

### Profit and Loss Accounts for the year ended 31/12/2004

<table>
<thead>
<tr>
<th></th>
<th>X Ltd Rs.000's</th>
<th>Y Ltd Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Turnover</strong></td>
<td>985</td>
<td>560</td>
</tr>
<tr>
<td><strong>Less: Cost of goods sold</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Opening Stock</td>
<td>150</td>
<td>145</td>
</tr>
<tr>
<td>Materials</td>
<td>255</td>
<td>136</td>
</tr>
<tr>
<td>Labour</td>
<td>160</td>
<td>125</td>
</tr>
<tr>
<td>Depreciation</td>
<td>35</td>
<td>20</td>
</tr>
<tr>
<td>Factory overheads</td>
<td>205</td>
<td>111</td>
</tr>
<tr>
<td><strong>Less: Closing Stocks</strong></td>
<td>(155)</td>
<td>(140)</td>
</tr>
<tr>
<td></td>
<td>650</td>
<td>397</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>335</td>
<td>163</td>
</tr>
<tr>
<td>Selling &amp; Administration Expenses</td>
<td>(124)</td>
<td>(75)</td>
</tr>
<tr>
<td>Interest</td>
<td>(35)</td>
<td>(10)</td>
</tr>
<tr>
<td><strong>Profit Before Taxation</strong></td>
<td>176</td>
<td>78</td>
</tr>
<tr>
<td>Less: Taxation</td>
<td>(65)</td>
<td>(25)</td>
</tr>
<tr>
<td><strong>Profit After Taxation</strong></td>
<td>111</td>
<td>53</td>
</tr>
<tr>
<td>Less: Dividends</td>
<td>(50)</td>
<td>(20)</td>
</tr>
<tr>
<td><strong>Retained Profit for the year</strong></td>
<td>61</td>
<td>33</td>
</tr>
</tbody>
</table>

### Balance Sheets as at 31/12/2004

<table>
<thead>
<tr>
<th></th>
<th>X Ltd Rs.000's</th>
<th>Y Ltd Rs.000's</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fixed Assets</strong></td>
<td>765</td>
<td>410</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td>155</td>
<td>140</td>
</tr>
<tr>
<td>Debtors</td>
<td>170</td>
<td>395</td>
</tr>
<tr>
<td>Bank</td>
<td>50</td>
<td>45</td>
</tr>
<tr>
<td></td>
<td>375</td>
<td>580</td>
</tr>
<tr>
<td><strong>Current Liabilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade creditors</td>
<td>235</td>
<td>300</td>
</tr>
<tr>
<td>Other</td>
<td>130</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>365</td>
<td>425</td>
</tr>
</tbody>
</table>
### Exercise

The following financial statements are obtained from a leading quoted public company in Sri Lanka for the year 2004. You are required to interpret the financial statements for 2004 using appropriate ratios.

<table>
<thead>
<tr>
<th>ABC Company Limited</th>
<th>Income Statement (P&amp;L)</th>
<th>For the year ended 31st March 2004</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2004</td>
<td>2003</td>
</tr>
<tr>
<td></td>
<td>Rs. ' 000s</td>
<td>Rs. ' 000s</td>
</tr>
<tr>
<td><strong>Gross Turnover</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12,257,563</td>
<td>10,778,823</td>
</tr>
<tr>
<td><strong>Net Turnover</strong></td>
<td>4,197,813</td>
<td>3,564,480</td>
</tr>
<tr>
<td><strong>Cost of sales</strong></td>
<td>(2,604,462)</td>
<td>(2,397,819)</td>
</tr>
<tr>
<td><strong>Gross profit</strong></td>
<td>1,593,351</td>
<td>1,166,661</td>
</tr>
<tr>
<td><strong>Gain on Disposal of Shares</strong></td>
<td>885,183</td>
<td>6,897</td>
</tr>
<tr>
<td><strong>Other Operating Income</strong></td>
<td>52,092</td>
<td>37,353</td>
</tr>
<tr>
<td></td>
<td>(99,609)</td>
<td>(112,148)</td>
</tr>
<tr>
<td><strong>Distribution Cost</strong></td>
<td>(197,401)</td>
<td>(201,277)</td>
</tr>
<tr>
<td><strong>Administrative Expenses</strong></td>
<td>(113,968)</td>
<td>(184,939)</td>
</tr>
<tr>
<td><strong>Other operating Expenses</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Profit from Operations</strong></td>
<td>2,119,648</td>
<td>712,547</td>
</tr>
<tr>
<td><strong>Net Financing income/(Cost )</strong></td>
<td>(180,987)</td>
<td>218,155</td>
</tr>
</tbody>
</table>
### Profit Before taxation
- **2004**: 1,938,661
- **2003**: 930,702

### Income Tax Expense
- **2004**: (313,034)
- **2003**: (321,790)

### Profit for the Year
- **2004**: 1,625,627
- **2003**: 608,912

### Earnings per Share of Rs. 1/-
- **2004**: 5.42
- **2003**: 2.03

### Dividend Per Share of Rs. 1/-
- **2004**: 0.50
- **2003**: 0.45

---

**ABC Company Limited**

**Balance sheet**

**As at 31st March 2004**

<table>
<thead>
<tr>
<th>Items</th>
<th>2004 Rs.' 000s</th>
<th>2003 Rs.' 000s</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ASSETS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Non- current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Property Plant &amp; Equipment</td>
<td>539,913</td>
<td>474,623</td>
</tr>
<tr>
<td>Investment in Subsidiaries</td>
<td>5,627,414</td>
<td>482,867</td>
</tr>
<tr>
<td>Investment in jointly controlled entity</td>
<td>20,000</td>
<td>20,000</td>
</tr>
<tr>
<td>Investments in Associates</td>
<td>548,904</td>
<td>877,678</td>
</tr>
<tr>
<td>Other long Term Investments</td>
<td>858,125</td>
<td>1,033,199</td>
</tr>
<tr>
<td><strong>Total Non-current Assets</strong></td>
<td>7,594,356</td>
<td>2,888,367</td>
</tr>
<tr>
<td><strong>Current Assets</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short term Investments</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Inventories</td>
<td>916,030</td>
<td>791,373</td>
</tr>
<tr>
<td>Trade &amp; Other receivables</td>
<td>738,579</td>
<td>432,604</td>
</tr>
<tr>
<td>Amounts due from Subsidiaries</td>
<td>26,429</td>
<td>10,079</td>
</tr>
<tr>
<td>Short term Deposits</td>
<td>25,258</td>
<td>1,450,308</td>
</tr>
<tr>
<td>Bank &amp; Cash balances</td>
<td>269,445</td>
<td>144,088</td>
</tr>
<tr>
<td><strong>Total Current Assets</strong></td>
<td>1,975,741</td>
<td>2,828,452</td>
</tr>
<tr>
<td><strong>Total Assets</strong></td>
<td>9,570,097</td>
<td>5,716,819</td>
</tr>
</tbody>
</table>

| EQUITY & LIABILITIES                 |                |                |
| **Capital & Reserves**               |                |                |
| Share capital                        | 300,000        | 300,000        |
| Capital Reserves                     | 107,882        | 107,882        |
| Revenue Reserves                     | 4,263,844      | 2,773,217      |
| **Total Capital & Reserves**         | 4,671,726      | 3,181,099      |

| **Non- Current Liabilities**         |                |                |
| Deferred Taxation                    | 28,037         | 32,821         |
| Retirement Benefit Obligations       | 64,500         | 69,000         |
| **Total Non- Current Liabilities**   | 92,537         | 101,821        |

<p>| <strong>Current Liabilities</strong>              |                |                |
| Trade &amp; Other payables               | 1,621,347      | 1,404,468      |
| Amount due to related Companies      | 2,030          | -              |</p>
<table>
<thead>
<tr>
<th>Income tax payable</th>
<th>142,413</th>
<th>100,557</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest Bearing Loans &amp; Borrowings</td>
<td>3,026,119</td>
<td>915,850</td>
</tr>
<tr>
<td>Dividend Payable</td>
<td>13,925</td>
<td>13,024</td>
</tr>
<tr>
<td>----------------------------</td>
<td>---------</td>
<td>---------</td>
</tr>
<tr>
<td><strong>Total Equity &amp; Liabilities</strong></td>
<td>4,805,834</td>
<td>2,433,899</td>
</tr>
<tr>
<td><strong>Total Equity &amp; Liabilities</strong></td>
<td>9,570,097</td>
<td>5,716,819</td>
</tr>
</tbody>
</table>

**ABC Company Limited**

**Statement of Changes in Equity**

For the year ended 31st March 2004

<table>
<thead>
<tr>
<th>Share Capital Reserves Rs. '000</th>
<th>Capital Reserves Rs. '000</th>
<th>General Reserves Rs. '000</th>
<th>Retained Reserves Rs. '000</th>
<th>Total Rs. '000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Balance as at 1.4.2002</td>
<td>300,000</td>
<td>107,882</td>
<td>2,160,000</td>
<td>4,305</td>
</tr>
<tr>
<td>Net profit</td>
<td></td>
<td></td>
<td></td>
<td>608,912</td>
</tr>
<tr>
<td>Transfers</td>
<td></td>
<td></td>
<td></td>
<td>(475,000)</td>
</tr>
<tr>
<td>Balance as at 31.3.2003</td>
<td>300,000</td>
<td>107,882</td>
<td>2,635,000</td>
<td>138,217</td>
</tr>
<tr>
<td>Balance as at 1.04.2003</td>
<td>300,000</td>
<td>107,882</td>
<td>2,635,000</td>
<td>138,217</td>
</tr>
<tr>
<td>Dividend paid</td>
<td></td>
<td></td>
<td></td>
<td>(135,000)</td>
</tr>
<tr>
<td>Net Profit</td>
<td></td>
<td></td>
<td></td>
<td>1,625,627</td>
</tr>
<tr>
<td>Transfers</td>
<td></td>
<td></td>
<td></td>
<td>(1,475,000)</td>
</tr>
<tr>
<td>Balance as at 31.3.2004</td>
<td>300,000</td>
<td>107,882</td>
<td>4,110,000</td>
<td>153,844</td>
</tr>
</tbody>
</table>

**ABC Company Limited**

**Cash flow statement**

For the year ended 31st March 2004

<table>
<thead>
<tr>
<th></th>
<th>2004</th>
<th>2003</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Profit from Operations</strong></td>
<td>2,119,648</td>
<td>712,547</td>
</tr>
<tr>
<td><strong>Adjustments for :</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depreciation on Property Plant &amp; Equipment</td>
<td>49,015</td>
<td>49,503</td>
</tr>
<tr>
<td>Provision for Gratuity</td>
<td>2,609</td>
<td>10,579</td>
</tr>
<tr>
<td>Gain on Disposal of Property Plant &amp; Equipment</td>
<td>(1,150)</td>
<td>(5,647)</td>
</tr>
<tr>
<td>Gain on Disposal of Shares</td>
<td>(885,183)</td>
<td>(6,697)</td>
</tr>
<tr>
<td>Provision for fall in value of Investments</td>
<td>113,968</td>
<td>184,939</td>
</tr>
<tr>
<td>Reversal of provision for fall in value of Investments</td>
<td>(38,983)</td>
<td>-</td>
</tr>
<tr>
<td><strong>Operating Profit before working Capital Changes</strong></td>
<td>1,359,924</td>
<td>945,024</td>
</tr>
<tr>
<td>(Increase)/ Decrease in Inventories</td>
<td>(124,657)</td>
<td>(47,563)</td>
</tr>
<tr>
<td>(Increase)/ Decrease in Receivables</td>
<td>(322,325)</td>
<td>(122,529)</td>
</tr>
<tr>
<td>Increase /(Decrease ) in Payables</td>
<td>218,909</td>
<td>(202,587)</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>---------</td>
<td>----------</td>
</tr>
<tr>
<td>Interest paid</td>
<td>1,131,851</td>
<td>572,345</td>
</tr>
<tr>
<td>Income Tax paid</td>
<td>(262,374)</td>
<td>(1,138)</td>
</tr>
<tr>
<td>Retiring Gratuities paid</td>
<td>(275,962)</td>
<td>(327,340)</td>
</tr>
<tr>
<td><strong>Net Cash flow from Operating activities</strong></td>
<td>586,406</td>
<td>234,788</td>
</tr>
</tbody>
</table>

**Cash flow from Investing activities**
- Acquisition of Subsidiary | (5,258,515) |
- Acquisition of Property Plant & Equipment | (118,205) | (88,008) |
- Sale of shares- Associate | 1,213,957 |
- Purchase of Shares & Other Investments | - | (325,658) |
- Dividends received | 33,711 | 69,454 |
- Dividends received from Associate | 37,425 | 33,518 |
- Proceeds on Disposal of Property, Plant & Equipment | 5,050 | 5,647 |
- Proceeds on Disposal of Shares & Other Investments | 214,057 | 16,222 |
- Interest received | 10,251 | 116,321 |

**Cash flow from Financing Activities**
- Dividends paid | (134,099) | (140,582) |

**Cash & Cash Equivalents**
- At the beginning of the year | 678,546 | 756,844 |
- Net movement during the year | (3,409,962) | (78,298) |
- At the end of the year (note A) | (2,731,416) | 678,546 |

**Note A**
- Short term deposits | 25,258 | 1,450,308 |
- Cash in Transit | 80,810 | 78,113 |
- Cash in Hand & Bank | 188,635 | 65,975 |
- Bank & Other Borrowings | (3,026,119) | (915,850) |

**My Short Notes**

---

*Chapter 10 – Ratio Analysis* 153
Chapter 11
Marketing Decisions and It’s Impact on the P & L and Cash Flow

This chapter will cover

2. Impact of other marketing mix activities on the P&L and Cash Flow
3. Profit Maximisation


Price is one of the 4Ps of marketing. Determining the sales price depends on a variety of factors such as the price elasticity of demand for the product, competitor prices, cost of production, target profit margin, objectives of the firm and the stage the product is in, in the product life cycle. Although the selling price is based on the above factors, at the end of the day, for any marketing campaign, the funds need to be obtained from the finance department, hence it is important that whatever marketing decisions undertaken, they are financially feasible. So to be a successful marketer whilst considering the most suitable pricing strategy to market the product, the financial impact of those decisions need to be considered too.

For example if the objective of the firm is to maximise sales revenue, the marketing strategy might attempt to attract as many customers as possible through a market penetration pricing strategy, where the products can even be sold at cost. In that case, the profitability of the company will go down and all the profitability ratios will be affected.

Another situation is when the competitors are practising a price reduction strategy, the company might attempt to compete by selling at a lower price than the competitor. As a result the company's cash flow might improve, as there will be more demand if the product is price elastic. However profitability will be affected due to the price cuts.

Then, the product life cycle stage of a product has an important impact on the marketing strategies to be adopted. For example, if the product is in the introduction stage, the prices cannot be set very high and the demand is also likely to be low. At the same time to attract customers, products will have to be sold at credit also. In a situation like this, profits might even be negative, as investment is more than the revenue especially in the introduction stage and at the same time if a lot of credit sales have taken place the cash flow is likely to be unattractive.
1.1 Different Pricing Strategies and its Impact

Pricing strategies are related with the policies adopted by marketers in setting the selling prices. A marketer uses three approaches in setting a price. They are as follows.

- a) Market based pricing methods
- b) Competitor based pricing methods
- c) Cost based pricing methods.

Through market based methods, the marketers may research and find out the demand at different price levels for a product. Through competitor research, the prices offered by competition will be captured. Then a marketer with the aid of accountants will work out costs of the product. Product costs could be developed as full costs or by the use of marginal costing techniques. If the latter is used, one will have to consider the break-even points in selling the minimum quantities to cover the fixed costs through contribution.

The impact of pricing on the P&L would be on the profitability of the given product which would be the recorded costs and recorded sales. Using full costing techniques, accountants and marketers may record profitability.

Although there is a tendency to increase profitability by setting a higher margin, the ability to sell them in the market will be greatly affected by the selling price, which is required to be in line with consumer’s ability and willingness to buy, and competitor prices. It would be fruitless to set a price to record a higher profit where one cannot sell adequate quantities in the market. This would affect the cash flow of the organisation. The marketers are expected to set prices to improve the company’s cash flow and also set a competitive positioning in the market. This strategy is related to the competitive strategy followed by an organisation.

1.2 Competitive strategy and its impact on the P&L and cash flow

Organisations that seem to be following a differentiation strategy would be in a position to charge a higher price for its offering. The differentiation is usually done through product features, benefits, branding, exclusive distribution and exclusive and selective promotions of highly targeted media channels. Also marketers have a unique opportunity to use the price quality perception in setting a relatively higher price for the product offer with differentiation. Marketers may target for higher profitability through these product lines. However due to lower quantities, the cash flow would be relatively poor.

Extreme price competition in the market may lead marketers to pursue a price penetration strategy to gain market share. In this type of competitive condition,
marketers tend to follow the cost leadership strategies to maintain costs of operation to minimum levels in gaining a thin margin. This would have an impact on the P&L in terms of recorded profit and also it will improve the cash flows significantly.

Many marketers may prefer the differentiation strategy as against cost leadership, since the latter would aggravate price wars in the market. This would lead to a total loss in the long term in the market place. Thus marketers will have to balance their product portfolio between the above two strategies in affecting its cash flows and profitability.

The following illustration would synthesise this further.

**Balancing between profitability and cash flow through pricing and competitive strategies**

<table>
<thead>
<tr>
<th>Differentiation Strategy</th>
<th>Cost Leadership Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Skimming Strategies</td>
<td>Price Penetration Strategies</td>
</tr>
<tr>
<td>Portfolio 01</td>
<td>Portfolio 04</td>
</tr>
<tr>
<td>Portfolio 02</td>
<td>Portfolio 05</td>
</tr>
<tr>
<td>Portfolio 03</td>
<td></td>
</tr>
</tbody>
</table>

High profitability in the P&L
Poor cash flow in the cash flow statement
High profitability in the P&L
Poor cash flow in the cash flow statement

‡ Activity

Look at the product portfolio of a company of your choice. Analyse their margin vs. the off take for a given period. Assuming a non-credit situation, calculate the profit impact that each product has made on the P&L of the company for that period and its impact on the cash flow of the product. Link this with the pricing strategy adopted by each of those products and relate it to their underlying competitive strategy.

2. Other Marketing Mix activities and their Impact on the P&L and Cash Flow

Marketing mix activities other than price would lead to costs and cash outflows of a company or a product. In managing marketing mix items other than price, marketers will have to consider the cash flow more than its profitability. Let’s look at some of the typical marketing mix activities a marketer may get involved in which would affect an organisation’s cash flows and profitability.
2.1 Impact from New Product Development Decisions.

New product development is an important facet of any marketer’s career. New products are required for an organisation to go thorough the product life cycle to ensure that there is continuity. Also products need to be continuously managed in order to ensure that the company manages its cash flows.

<table>
<thead>
<tr>
<th><strong>Insight</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>New Product Development needs to manage profitability and cash flows with the use of the BCG matrix.</td>
</tr>
</tbody>
</table>

**Boston Consultancy Group Matrix**

This matrix was originally developed to analyze different portfolios of SBUs within an organization. Today it is increasingly used in analyzing the product portfolios of a company in considering the requirement to develop new products, to support future company cash flows and profitability.

This business portfolio matrix uses market growth rate and relative market share as the indicators of the products’ strategic position. Market growth rate - A measure of the annual growth percentage of the market in which the business operates. Relative market share - The firm’s market share divided by the market share of its largest competitor. The Boston Consulting Group Matrix is presented as follows:

![BCG Matrix Diagram]

By dividing the matrix into four areas, four types of product portfolios could be distinguished:

- **Stars** - Stars are high growth businesses or products competing in markets where they
are relatively strong compared with the competition. Often they need heavy investment to sustain their growth. Eventually their growth will slowdown and, assuming they maintain their relative market share, will become cash cows. Star requires high cash outflow and would lead to profits in the long term.

Cash Cows - Cash cows are low-growth businesses or products with a relatively high market share. These are mature, successful businesses with relatively little need for investment. They need to be managed for continued profit - so that they continue to generate the strong cash flows that the company needs for its Stars. Cash cows therefore may lead to high cash flows and depending on the maturity of the market it may lead to high or low profitability.

Question marks - Question marks are businesses or products with low market share but which operate in higher growth markets. This suggests that they have potential, but may require substantial investment in order to grow the market share at the expense of more powerful competitors. The management has to think hard about "question marks" - which ones should they invest in? Which ones should they allow to fail or shrink? These may lead to high cash outflows as well as low profitability. All products will have to go through this stage.

Dogs - Unsurprisingly, the term "dogs" refers to businesses or products that have low relative share in unattractive, low-growth markets. Dogs may generate enough cash to break-even, but they are rarely, if ever, worth investing in.

Using the BCG Matrix for new product development to support cash flows and profitability

Once a company has classified its products, it must decide what to do with them. A company having too many stars would lead to a heavy toll on the present cash flows of the organisation. A company having too many cash cows, may lead to profitability issues and eventually be vulnerable for future competitor situations.

A healthy situation would be to maintain a balance between cash cows and stars. Stars could only be generated by introducing the new products which will pass through the question mark stage for market success.

‡ Activity

Relate the quadrants of the BCG matrix to the product life cycle. This will further highlight why the need for new products could be identified through this matrix.

The following paragraphs will present the new product development (NPD) process and the impact of each stage on the profitability and the cash flow situation of an organisation. This analysis will indicate the importance of cash flow planning in introducing a new product.
<table>
<thead>
<tr>
<th>Steps in the NPD process</th>
<th>Description</th>
<th>Cash Out Flows</th>
</tr>
</thead>
<tbody>
<tr>
<td>Idea Generation</td>
<td>Cash outflow for brainstorming, idea collection.</td>
<td></td>
</tr>
<tr>
<td>Screening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Concept Development and Testing</td>
<td>Cash outflow for research costs</td>
<td></td>
</tr>
<tr>
<td>Marketing Strategy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Business Analysis</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Product Development</td>
<td>Will lead to high cash outflows for prototype development, purchase of raw material, purchase of specialised machinery, special tests.</td>
<td></td>
</tr>
<tr>
<td>Test Marketing</td>
<td>There would be higher cash outflow for test market quantity production, special distribution logistics arrangements, and local promotions. There would be minimum cash inflows from sales collection of the test market products.</td>
<td></td>
</tr>
<tr>
<td>Commercialization/Launch</td>
<td>There would be high cash outflows on launch activities, commercial production, distribution set up costs, high awareness promotional campaigns and special personnel selling effort.</td>
<td></td>
</tr>
</tbody>
</table>

As the organisation progresses through different stages of the NPD process, it would be committing to incremental cash outflows. Thus planning for cash flows would be crucial for any new product development activity.

You may also note that profitability cannot be considered until the product is launched. However the decision to progress after the concept development and testing would largely be on the assumptions of future sales potential and cost forecasts.

Marketers should consider cash flows before planning for a new product development. Also they need to look at other product portfolios which could support the financing of the development of new products and maintain a balance in the product portfolios.

2.2 Impact from Branding Decisions

When one considers branding mechanisms, it will have to be viewed from branding media and brand activation costs. Branding media mainly deals with Above the Line (ATL) activities and brand activation mainly deals with Below the Line (BTL) costs.
The benefits of branding is essentially long term in terms of the ability to price products relatively higher, assuring continuous repurchase through loyalty etc. Therefore, the profitability of the brand would be a long term phenomena.

However the process of branding would involve immediate cash outflows to an organisation, and thus it needs to be managed.

2.3 Impact from Promotional Campaigns

The purpose of promotional campaigns could be illustrated with the following model.

<table>
<thead>
<tr>
<th>Attention</th>
<th>This is where the marketer attempts to get the attention of the consumer towards the product/idea that is being promoted. Advertising, public relations and direct marketing activities can help marketers get the attention of consumers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>Once attention is received, the next step would be to generate interest towards the product. Advertising material is produced to create interest. (Publicity generated positively, interesting offers made through direct marketing can generate interest.)</td>
</tr>
<tr>
<td>Desire</td>
<td>Desire would be the creation of a positive disposition towards the product. Sales promotional offers and sales presentations through personal selling would help create this.</td>
</tr>
<tr>
<td>Action</td>
<td>Action would be to get customers committed to the transaction. Closing techniques used in personal selling and sales promotional offers to be redeemed before a time frame would lead to action.</td>
</tr>
</tbody>
</table>

Promotional campaigns are targeted at taking the consumers through the above process. Various promotional mix elements could be for the above purpose. Each promotional mix item should contribute in gaining revenue for the organisation although for some elements, it cannot be identified directly.

Marketers should attempt to quantify the sales outcome of the promotional expenses at all possible times. The following table will highlight the possibilities.

| Advertising | Advertising creates a positive disposition towards a product. If advertising is directed at positioning, then the immediate reaction would be difficult to measure. But if it is directed at a sales or an awareness campaign, then a general idea should be taken by analysing the advertising to sales elasticity of the campaign. |
| Advertising to sales elasticity of demand = |
| % change in sales (quantity demanded) for the product concerned |
| % change in the unit of advertising and promotions expenditure |

Any co-efficient more than one will indicate a positive result. However one will not be able to determine whether the sales reaction was directly attributed to the advertising campaign. Quoting Ogilvy “I know half of my advertising cost is a waste, but I don’t know which half”.

<table>
<thead>
<tr>
<th>Sales Promotions (Consumer or Trade)</th>
<th>The sales reaction will have to be more than the cost effort for the campaign. Since sales promotions are an inducement to purchase, it should be directly attributed with sales. Marketers could be held responsible for more than proportionate increase in sales in relation to the cost incurred. This will lead to a positive cash flow to the company.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public relations</td>
<td>Essentially a cash outflow but will help the organisation create a positive impression of its products and on the corporate identity in the long term. Relating it to an immediate positive cash flow would be difficult.</td>
</tr>
<tr>
<td>Personnel Selling</td>
<td>Once again the personal and the persuasive nature of the process could be directly related to a positive cash flow status of an organisation.</td>
</tr>
</tbody>
</table>

As a net outcome, promotional campaign cost will have to outweigh the sales return for an organisation to enjoy both positive cash flows and profitability.

**Activity**

Analyse the promotional costs element wise (promotional mix element wise) of a company of your choice. Find out how sales have reacted to these promotional costs. Quantify the outcome whenever it is possible.

**2.4 Impact from Distribution Decisions**

Distribution costs should be viewed as physical distribution costs and margin costs. Physical distribution costs are costs associated in physically transporting the product, managing inventories, order taking costs etc. It is a big part of distribution costs.

On the other hand, margin cost does not relate to a cash flow situation. It is the difference between the retail price and the prices received by the company from the intermediaries.

Physical distribution ensures that products are delivered to customers’ hands. The distribution network should be adequate and ideally within easy access of customers.
However other factors such as the nature of the product, the level of control the company wishes to exercise over the distribution network etc will also play a role.

Most importantly the financial resources available to a company limits the type of distribution network a company can have. For example, if the company is manufacturing a fast moving consumer good, such as canned foods, and it has a stronger competitor who has placed all his canned products in a particular national supermarket chain and our company does not have sufficient funds to obtain a shelf space in that supermarket chain, then we will have to attempt selling at a smaller scale may be even in small groceries. This is because by trying to follow the competitor we will have to invest after borrowing which in turn will eat out our current profits through various interest payments and so on.

Some companies carry out direct marketing, and this can turn out to be very costly. So before attempting to market directly, one has to evaluate the financial benefits.

Physical distribution costs would be a definite cash outflow. In order to manage profitability and cash flows, a company could seek to reduce its physical distribution costs by increasing their efficiency.

Margin costs cannot be reduced in a distribution network since it may lead to a loss of motivation and support by the intermediaries. However, companies have been able to reduce significant margin costs with the new trends which are emerging such as dis-intermediation of distribution channels with the advent of e-commerce and other internet technologies.

Both would lead to a significant impact on the organisation’s profitability and an ease on the cash outflows of an organisation.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
</table>

Discuss the effects the intermediation of a retailer on selling goods to a customer has on financial statements as opposed to direct sales to customers. Compare physical distribution costs as well as margin costs in this exercise.

### 2.5 Stockholding and its Impact

Holding adequate stocks is an important element in managing demand in the market. Not having adequate stocks to meet consumer demand would lead to loss of sales thus having a long term repercussion by customers losing faith in the company. Thus marketers generally tend to favour holding higher stocks than going out of stock. However, a high stock situation tends to have a negative impact on both profitability and cash flow.
An overstock situation will affect the cash flow situation of a company since money will be tied in stocks. Also, the company will be paying interest on money borrowed in either purchasing or manufacturing goods.

However, a bigger closing stock will lead to a high trading profit in the P&L and it may seem to be a way of showing increased book profits. However, increased rent on stockholding space, writing off stock due to pilferage and damages would lead to a loss of profitability.

Thus organisations are expected to order economic order quantities in managing this dilemma.

Marketers are expected to support the stockholding as follows:
- Develop accurate sales forecasts in allowing purchasing and manufacturing in managing stocks.
- Create adequate demand through constant pull and push marketing strategies.
- Not unnecessarily introduce new products and increase stock keeping units (SKU’s).
- Constantly sell off slow moving stocks with special campaigns.
- Closing, dealing, and co-ordinating with manufacturing, purchasing, and warehousing personnel, in managing stocks in an organisation.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Analyse the product portfolio of a company. Document the stock inflows and outflows of different SKUs and find out the slow moving items in the list. Check with the finance department the cost of holding these stocks, impact it has made on the cash flows and find out how it would affect the profitability of that product line.</td>
</tr>
</tbody>
</table>

3. Profit Maximization

Profit maximization does not come without any cost. Various costs are incurred in order to maximize profits. It is essential for the finance department to evaluate various costs associated with the strategies adopted, to maximize profits in a company. For example, in order to maximize profits if the marketers are planning an expansion in the current credit period for customers, it will have a major impact on the cash flow of the company, as it will reduce at a rate as the cash inflows in the company maybe more than the cash outflows.

Another instance is when the company’s products are in the maturity stage of the Product Life Cycle. At maturity, since the demand for products are at a peak it is possible to generate profits through an increase in revenues. However, to increase sales a lot of persuasive promotion will have to be done as a marketing tactic. As a result, the advertising budget will be very high and at the same time the revenue will be high. Therefore although the profit might increase by size, the amount of profit earned for
every Rupee of sale will be low. So if an analysis is done on the financial statements
the marketers should be able to prove to the financial manager by justifying the
expenditure incurred as necessary to maximize profits. Profit maximization is possible
only when the company attempts to reduce costs. Sometimes the finance department
can take measures to reduce expenditure on promotion whilst the marketers might think
there is an absolute necessity to spend more money on promotion. In a scenario like
that, the finance division might have the justification that the only option available is to
cut the heavy expenditure in order to improve the profit of a company.

Marketers and financiers, together with all other functional personnel, will have to
work together in achieving the profit maximising targets.

An organisation could maximise gross profits by reducing purchasing and other costs
of sales and increasing sales revenue. However, net profit could only be increased by
managing other costs such as sales and distribution, finance costs and other
administrative costs such as Human resources, information technology etc.

Profit maximisation could only be achieved by constantly working out strategies to
maximise revenue and minimise costs. Revenue maximisation is only possible if both
marketing and sales units constantly develop and implement strategies to meet
consumer requirements using the marketing mix elements.

In managing costs, all functions will have to work together in achieving given cost
targets and continuously increase efficiencies.

<table>
<thead>
<tr>
<th>✫ Activity</th>
</tr>
</thead>
</table>
| Review the P&L of your company for the last five years. Analyse how revenue and
costs have changed over the years and comment on how it has affected the
profitability of the organisation. |

| ✫ Insight – Increasing the profitability of a company |

1. Increasing Sales Volume.

Increasing sales volume may appear to be an easy way of increasing profitability, but
this is not necessarily the case.

- Selling more and more is not the key to increased profitability: profit requires
  sales, but sales do not equal profit.
- If you increase your sales volume, at the same time you must rigorously control
costs, prices, capital employed, and your product/service mix. Be sure that none
of these four other components of profitability increases disproportionately; if
they do, increased sales reduce instead of increased profit.
• Trying to increase your sales by employing an additional sales rep or trading in a bigger geographic area only produces more profit if the extra sales produce at least enough extra profit (not revenue) to cover the extra costs.

• If you cut prices and margins to generate more sales, you need to achieve a considerable increase in sales volume - otherwise total revenue falls while costs remain the same.

• Increases in small volume orders may hinder profitability instead of boosting it because of inherent administrative costs such as invoicing and dispatching.

• If you extend credit in order to encourage more sales, the company will have to bear the costs - with a knock-on effect on profitability.

• Selling more of all your existing product/service lines or introducing new ones may increase your sales volume, but be sure you know the contribution each line makes. Selling more of loss-making lines is bad business unless it is necessary in order to raise sales of profit making ones.

• In some circumstances you can increase profits by reducing sales. Surveys have shown that a wholly disproportionate amount of cost and effort is sometimes invested to achieve a small amount of sales revenue. It is not uncommon to find that 50 percent of deliveries made account for only 15 percent of sales revenue. Or there's the 80/20 rule: 20 percent of your clients account for 80 percent of your profits. Consider what would happen if you reduced your sales by a selective 10 percent.

2. Reducing Costs and/or ensuring that Costs are fully Recovered where this has not previously been the case.

Investigate and calculate your true costs in total and for unit sales. You cannot adjust your costs in relation to other parts of your business unless you know what they are. Consider the effects of specific cost reductions carefully - arbitrary reductions may not produce the desired results in the long term. Seek advice from your accountant, your auditors, and your bank manager.

3. Improving the Product Mix

The product/service mix reflects the combinations in which the products or services provided are sold. The mix is normally derived from a series of historical accidents rather than from careful planning and analysis, and consequently it many not be as profitable as it could be.
Examine each product you sell in terms of the costs attributable to it and the net margin it makes. You may find that the products producing the highest unit gross profit and making the highest percentage contribution to your sales volume also attract a disproportionate amount of your selling costs.

You may find, for example, that you should aim to sell more of A and B, which you have found to be profitable, to supply less of C and D, which are of limited profitability, and to eliminate loss-making E and F from your sales portfolio. Consider the impact this will have on the other four factors - for example, a well-founded change in your product/service mix may lead to reduced volume of sales but increase your profitability.

4. Raising Prices Selectively or Overall.

Raising selling prices is a potential route to increased profitability (or at least to maintaining the current level of profitability when it might otherwise fall), but there are of course pitfalls.

Although customers may accept price increases if they are part of a general price adjustment in your business sector (in which case you are likely to merely maintain your overall level of profitability), raising prices in isolation without losing business (and thereby risking reduced profits) requires either a near monopoly, a vast difference between your products and your competitors', or a carefully thought out and implemented policy and sales strategy.

5. Reducing the Capital Employed in the Business.

Obtaining a good return on capital and reducing the capital tied up in your business normally improve profitability. Identify the categories of capital employed in your business and consider whether the following strategies can apply to any of them:

- Exercising tighter control of credit
- Reducing inventory levels
- Introducing outsourcing or expanding its scope
- Exploiting information and telecommunications technologies more fully

A change in any one of these affects the others. Any change, made or planned, voluntary or involuntary, must therefore be considered in the context of all others; changes made in isolation may not have the expected impact on profitability.
Reading Article
Increasing Profitability of Companies through CPA (Customer Profitability Analysis)

1. Introduction

Strategic cost management and activity-based costing have caused companies to look more closely at the drivers of their costs. Increasingly, companies have been focusing on the causes of costs and profits to enable better management of those costs and profits. First, companies focused on product profitability and more recently on customer profitability.

Companies recognize that though “exceeding customer expectations” is a worthy goal, exceeding those expectations profitably is necessary for long-term corporate viability. Thus, an understanding of corporate profitability necessarily relies on an understanding of what drives shareholder value in organizations. Increasingly, companies are focusing on the relationships between employee satisfaction, customer satisfaction, and corporate profitability. They are focusing on the drivers of corporate profitability and this requires an understanding of how to increase customer revenues and how to decrease customer costs. This article provides a discussion with examples of both the analysis of customer costs through activity-based costing and the development of long-term customer relationships for increased revenues and profits through the measurement of customer value.

A company can outperform rivals only if it can establish a difference that it can preserve. It must deliver greater value to customers or create comparable value at a lower cost, or do both. (Michael E. Porter. 1996. “What is strategy?” Harvard Business Review (November-December))

Though customer satisfaction is important, the goal is to increase customer and corporate profitability. Customer profitability analysis is evolving as a basis for determining the level of service that customers receive and the level of their fees.

The article will discuss best practices in determining customer profitability with respect to:

• Understanding and analyzing customer profitability.
• Maintaining and increasing customer profitability.
• Turning unprofitable customers into profitable ones.

The article does not present a detailed examination of an all-inclusive analytical tool for determining customer profitability. It does, however, provide the tools that permit the analysis of customer profitability and the implementation of programs to improve these profits.

Over the last ten years, strategic cost management and activity-based costing (ABC) have created a framework for companies to more closely examine the drivers (or causes) of their costs in order to improve management decisions and corporate
profitability. Companies initially focused on product profitability are now using ABC and other models to further examine the profitability of distribution channels and customers. Simultaneously, many companies are exploring the drivers of profit and success through the use of the balanced scorecard. Whichever model is used initially, determining customer profitability requires a clearer understanding of the causes of the revenues and the costs.

Expanding global competition is one reason behind the increased concern for customer profitability. Companies worldwide are being pressured to become more customer focused and to increase shareholder value. Customer profitability analysis is a useful tool in both areas.

2. Increasing Customer Focus

Many companies are convinced that improving corporate profitability requires more customer contact and closer customer relationships. Further, many marketing professionals have directed recent attention to increasing customer satisfaction, primarily examining the links between overall satisfaction and revenues. Meanwhile, accountants have traditionally focused on cost reduction. Customer profitability analysis attempts to bring together marketing and accounting professionals to analyze, manage, and improve customer profitability.

Companies are attempting to better understand and satisfy present and future customer demands. However, the goal is to increase customer satisfaction profitably. The analysis presented here, relying on ABC and other tools, can direct managerial attention to areas of improvement that can lead to greater customer and corporate profits. An ABC system is not the only means to measure customer profitability, but merely one of several tools that can be used.

Since ABC provides a better understanding of the profitability of products and services, companies have started to use the same approach to understand the profitability of customers. Following an ABC analysis, companies can examine the customer profitability information and determine how to manage customer relationships in order to increase customer satisfaction and the profitability of both individual customers and customer segments. The ABC analysis often provides information leading to such improved relationships that the profitability of both the company and its customers is increased.

Companies have been using improved information technology and large databases to help refine marketing efforts. Marketing tools and IT systems now permit companies to target individual customers and customer groups with pinpoint accuracy and to determine whether or not a customer spends enough to warrant the marketing effort.

At Federal Express, for example, customers who spend a lot of money but demand little customer service and marketing investment are treated differently than those who spend just as much but cost more to maintain. In addition, the company no longer markets aggressively to those customers who spend little and show few signs of spending more in the future. This change in strategy has substantially reduced costs.
Fed Ex also analyzed the profitability of the 30 large customers that generated about 10% of the total sales volume. The company found that certain customers, including some that required a lot of residential deliveries, were not bringing in as much revenue as they had agreed to initially when they negotiated discounted rates. The company increased the rates for some customers and lost those who would not agree to the rate hikes. In this case the focus is not merely on customers, but on profitable customers.

When Federal Express says “100 percent customer satisfaction, by performing 100 percent to our standards, as perceived by the customer”, what do they really mean? Do they always want to satisfy all customers? With customer profitability analysis, increasingly companies like Fed Ex are saying that they do want to satisfy customers, but they want to do it profitably. They are also anticipating and creating new customers for their products and services; for example Federal Express created the overnight package delivery market and is now creating another market for same-day delivery. This is another way that Fed Ex satisfies customer demand and maintains profitability.

Another company that has benefited from customer profitability analysis is Scotland-based Standard Life Assurance, Europe’s largest mutual life insurance company. The company was stunned when the first results of a profitability survey showed that the insurer was selling policies primarily to those who held little potential for making money for the company. Instead of attracting the affluent customers Standard Life wanted, its direct mail marketing campaign was encouraging older couples and stay-at-home mothers to sign up for costly home visits by sales agents. Revenues were higher, but they were the wrong kind of revenues; these were customers who typically bought only one policy and the margins were small. Standard Life was focused on customers, but was not paying attention to the profitability of each customer.

3. Increasing Shareholder Value

As the interest in increasing customer satisfaction has grown, so has the interest in increasing shareholder value. Companies are competing globally not only for customers, labourers, and suppliers, but also for capital. This has caused companies to concentrate on satisfying investors and lenders through an increase in shareholder value.

Although exceeding customer expectations is a worthy goal, companies recognize that exceeding those expectations profitably is necessary for long-term corporate viability.

To improve corporate profitability and shareholder value, companies must have a more complete understanding of the drivers of value in their organizations. To do this, companies increasingly focus on the value drivers and on the causal relationships among employee satisfaction, customer satisfaction, customer profitability and corporate profitability. Improved corporate profitability requires a deeper understanding of ways to increase customer revenues and decrease customer costs. Essential components of improved customer profitability include:
• The analysis of the cost of customer service through ABC;
• The measurement of the lifetime value of a customer; and
• The development of long-term customer relationships for increased revenues and profits.

An important challenge for companies is to manage customer relationships in order to make each customer profitable. Bank of America calculates its profits every month on each of its more than 75 million accounts; this permits the company to focus on the 10% of its customers that are the most profitable. Since it launched the program in 1997, customer defections are down and account balances in the top 10% have grown measurably. Calls from preferred and unprofitable customers are routed to different operators. A personal identification number entered by each caller allows the bank to determine, among other things, the customer’s profitability ranking. The level of attention and service will then differ accordingly. Bank of America still values customer service, but also understands that there must be a balance between customer service and customer profitability.

At First Chicago Corporation, a part of Bank One, profit and loss statements were prepared for every client, and a $3 teller fee was imposed in 1995 on some of the money-losing customers. Thirty thousand of them, about 3% of the bank’s total clients, closed their accounts. Some customers became more profitable by increasing their account balances to avoid the fee or by visiting ATMs instead of the tellers. While First Chicago lost some customers, it was also able to improve the profitability of most.

Understanding customer profitability requires an understanding of the costs of customer service.

Paging Network, Inc., a paging service provider located in Dallas, initially gave away its pagers to increase market share. After analyzing data on individual customers the company determined that many customers were too costly to service profitably. It sent letters to marginal customers increasing the rates and subsequently lost 138,000 customers in the third quarter of 1998. Of the remaining 10.2 million subscribers, it expected to lose another 325,000 customers before the end of 1998. The company determined that the cost to service these customers was greater than the revenue being generated and decided to cut its losses.

4. Customer Satisfaction, Loyalty, and Value

Recently, many companies have looked to the service profit chain model to help them understand the causal relationships between employees and customers and the impact on revenue growth and firm profitability. Among the relationships that have been documented and measured in this model are:

• Customer satisfaction and loyalty;
• The value of services and goods delivered to customers;
• Employee satisfaction, loyalty, and productivity; and
• Employee capabilities that aid in delivering outstanding results to customers. (Heskett, Sasser, and Schlesinger 1997:18)
Finance and accounting professionals must understand these relationships to associate:

- The human resource focus on employees;
- The production focus on operations;
- The marketing focus on revenues; and
- The traditional accounting focus on costs.

The integration provides significant value to marketing and general management executives as they try to improve customer and corporate profitability. Some of the relationships between customers and employees are self-reinforcing: satisfied employees contribute to customer satisfaction, and satisfied customers contribute to employee satisfaction.

To a customer, value involves the expected benefits and costs of a product or service, and the customer's perception is of significant relevance. The expected benefits are derived from the product and service attributes and the expected costs include the transaction costs, the life-cycle costs, and the risk.

Transaction costs are typically the immediate financial outlay, which includes the price, delivery, and installation costs. The life-cycle costs are the additional expected costs that the customer will incur over the life of the product. The risk is associated with the life cycle costs.

Customers do not determine corporate strategy, but their values and expectations for the company's products and services are influential. Organizations place great value on their customers and depend on them for long-term viability.

Five fundamental customer value axioms apply to most companies and help explain a customer's value to the firm:

i) The customer defines the product quality, service quality and acceptable price.
ii) Customers form their expectations relative to competitive alternatives.
iii) Customer expectations change, usually upward.
iv) Product and service quality must extend throughout the value chain.
v) Maximizing customer value requires that the whole organization be involved.

Source:
Marc Epstein, Research Professor of Management, Jesse H. Jones Graduate School of Management, Rice University. This article was written for The Society of Management Accountants of Canada.
Graduate/Postgraduate Diploma in Marketing
Intermediate Level
Finance for Marketing

Recommended Study Text

Module Three
Chapter 12
Introduction to Financial Management

This chapter will cover the following areas:

1. The Finance Function
2. The Functions of a Finance Manager

1. The Finance Function

The finance function runs through all other functions like production, personnel, marketing etc. Hence the finance function is difficult to be isolated from other functions. However the functions to be performed by the finance manager enables easy identification of the finance function. The main decisions to be taken by the finance function include the following:

- What are the sources of financing to be used?
- What investments should be undertaken?
- What sort of a dividend policy is to be adopted?
- How should working capital be managed?

1.1 The Modern Approach

a) Investment or Long Term Asset Mix Decision

This type of decision requires an understanding of the corporate strategy as to how funds should be apportioned among various investment needs such as innovation, replacements, expansion and even divestment. The investments are evaluated based on their ability to provide the target return required by the company while taking the risks associated with investments also into consideration. The cash flow patterns, certainty of cash flows, impact of cash flows on accounting profits, impact on the total investment portfolio from all current, new and abandoned projects should be considered.

b) Financing or Capital Mix Decision

The decision on the most appropriate type and source of funding and its timing is referred to as a “financing decision.” This decision is further dependent upon the market conditions prevailing, the situation the business is in and the type of investments for which the funds will be utilised. The costs and characteristics of funds are a very important part of the financing decision. Types of financing can be broadly divided into equity and debt. Sources of financing include shares, debentures, loans, sale of assets, leases, retained earnings etc.
c) **Dividend or Profit Allocation Decision**

The decision on what return to be provided, how it is to be provided and when it is to be provided to the owners of a business, are known as the dividend decision. The availability of retained profits is essential for dividends to be paid and it needs approval by the directors. Further other factors such as inflation, share-holder expectations, future growth needs, liquidity position of the company also have an impact on the amount of dividend to be declared. Companies in practise follow one of the following three dividend policies.

- Stable dividend policy-fixed dividend every year in real/money terms.
- Constant pay out ratio- a constant proportion of earnings paid out as dividends
- Residual approach- any remaining funds after funding all profitable capital investment projects to be paid out as dividend.

d) **Liquidity or Short Term Asset Mix Decision**

The decision on how to manage the working capital of a business is referred to as the liquidity decision. The liquidity of a company is the inter relationship between current assets and current liabilities. This is very important, as it is the liquidity of the business that ensures the long term survival of the business. Hence it is vital that a company decides what level of investment to be made in stock, debtors and cash, net of trade creditors.

The costs of each element of working capital should be carefully analysed against their relative benefits, to maintain the day to day operations of the business in the best possible manner. Care must be taken not to hold on to too much cash and stocks and negotiating long credit periods from creditors and allowing unrealistic credit terms to customers to retain them. Furthermore, the extent to which working capital should be financed by long term finance or short-term credit should be decided as a part of the liquidity decision.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discuss the interrelationship among investment, financing, dividend and liquidity decisions.</td>
</tr>
</tbody>
</table>

1.2 Traditional View

(a) **Arrangements of Long- Term and Short-Term Funds from Financial Institutions**

Businesses require capital to invest in a business's fixed assets such as land and buildings, and machinery in the long term and in a business's current assets like inventories and accounts receivable in the short term, for the smooth running of a business. These assets are not acquired all at once but gradually over a period of time as the business develops and expands in size. Hence arranging for funds both in the long term and the short term, to meet...
the projected investment needs, becomes an important part of financial management. Firms generally choose a mix of long term and short-term funds to base their funding requirements. Firms, which are predominantly financed by long term funds, are said to be conservative. Firms, which possess a high proportion of short-term funds in their financing mix, are said to be very aggressive.

This is because with short-term funds financial distress is higher as most of the sources of short-term funds are interest bearing, whereas some of the long term funds such as equity share capital have no such financial obligations. However short-term funds obtained can be repaid easily and quickly when compared with long term funds obtained. The various sources of funding that can be used by a business both in the short-term and in the long-term (see illustration) are discussed in detail below.

i) Long term Sources of Finance

Long term funds of financial institutions can be mainly of two types i.e. equity or debt.

- Equity Financing

Equity consists of share capital and reserves of a given company. Reserves would include capital reserves such as share premium and revenue reserves. Retained earnings are a part of revenue reserves, which include the funds that remain within a company out of their profits, after the distribution to the shareholders. This is usually considered as a no cost source of financing, that is relatively easy to obtain, as it is with the company itself when compared to the other forms of financing as discussed below. From a practical point of view, the entire profit after tax cannot be kept as retained profits as shareholders usually expect a fair return on their investment and thereby there is pressure on the Board of Directors to declare a dividend.
Equity financing also includes new share issues, which can take place in a variety of forms. Most new share issues carried out for the purpose of financing take the form of rights issues. A Rights issue is an offer to the existing shareholders of a company to subscribe for more shares, in proportion to their existing holding, at a price less than the market price.

Other fresh share issues can be made to new shareholders either by a placing or by a public offer. In a placing, the sponsor (e.g. stockbroker) undertakes to purchase the shares/to find clients to purchase the shares and place the shares with them. In a public offer, an offer for sale is made to the general public.

The problem with equity financing is the costs involved, for example in the case of a fresh issue, advertising costs and underwriting costs. Furthermore, from the point of view of investors, this method of financing can result in the dilution of voting rights, except in the case of a rights / bonus issue where all the rights are usually exercised by the share-holders and in a bonus issue the shares are received for free.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are the advantages share issues have over retained earnings? Also discuss in what circumstances a rights issue would result in a dilution of voting rights of the existing shareholders.</td>
</tr>
</tbody>
</table>

- **Debt Financing**

Debt financing mainly include bonds, debentures, long term loans etc.

- **Debentures**

A Debenture is a type of loan stock issued by a company to raise finance, which is more or less like a loan from the public, and furthermore these can be traded in the same way as shares in a stock exchange. Debentures can be issued as secured on a group of assets /specific assets or issued as unsecured and can even be issued as convertible to shares at redemption. Further Debentures can pay interest either on a fixed rate or can be issued with floating rate of interest.

- **Bonds**

A Corporate Bond is a type of loan stock issued by a company, when there is a requirement for long-term funds. Bonds, just like debentures, can be secured or unsecured. Another classification of bonds is as deep discounted bonds and zero coupon bonds. Deep discounted bonds will be issued at a discount and a low interest will be paid, usually semi-annually, and at maturity the company will pay the face value of the bond. However in the latter, as the name implies, the company will not pay any interest on the bond but at the issue date the bond will be issued at a substantial discount.
A Bank loan, on the other hand, is a very common source of long term finance and the interest on the loan will be either at a fixed rate or at a floating rate. Banks, based on the risk involved with the purpose for which the loan will be utilised, determine the interest rates of the loans.

‡ Activity

Discuss the relative benefits and weaknesses of the above methods of long term sources of debt financing.

ii) Short Term Sources of Finance

• Bank Overdrafts

The most common method of short term financing is the use of a bank overdraft facility. A bank overdraft facility represents the ability for a company to make payments out of their bank account amounting to more than what is in the account. Usually a company is given a limit on the overdraft facility and the company can choose to make use of the facility as the company wishes. The company is expected to pay interest based on the usage of the overdraft facility.

• Commercial Paper

Another source of short-term financing is the commercial paper. Listed companies in order to borrow directly from investors, usually issue commercial papers. Interest to be paid on the value of the commercial paper is agreed at the time of the issue and usually the amount in the commercial paper is repaid within one year to the investors.

• Trade Credit

Trade credit is also a short-term means of financing where the company will obtain goods and services on credit and agree to make the payment for them at a future period of time.

• Debt factoring

Debt factoring is mainly used for early recovery of funds from the company's debtors. The company will come into an agreement with a factoring company, where the factoring company agrees to pay usually 80% of the total value of debtors to the company at the time of the agreement. Then the factoring will collect the payments from the debtors at the end of the credit period. If there are any surplus funds after deducting the charges of the factoring company those funds will be paid back to the company. Debt factoring can be undertaken "With Recourse" to the company where the factoring company will accept responsibility for the bad debts. However if it is "Without Recourse" to the company then the company will have to bear the bad debts.
Activity
Discuss the various factors a company should look into when selecting a particular short-term source of financing to meet its investment needs.

(b) Orientation of the Finance Function with the Accounting Function and compliance of legal provisions relating to fund procurement, use and distribution.

i) Orientation of Finance Function with the Accounting Function

The finance function within an organisation has several roles to perform and they include:

- Raising money and making sure funds are available at the required time for the relevant parties.
- Recording and controlling the usage of available funds.
- Providing required financial information for managers in other departments to make decisions.
- Reporting to the stakeholders of the procurement, use and distribution of funds.

When considering the above functions, it can be clearly identified that accounting is just a part of the finance function. That is, financial accounting consists of the recording of financial transactions and the preparation of financial statements for the provision of information to the external stakeholders of the organisation which is shown by the second and the fourth functions of the finance department given above. Then Management accounting is concerned with the provision of accounting information internally, that helps the management in their planning, decision making and control, i.e. in the form of preparation of budgets, cash flow forecasts, investment appraisal, variance analysis, costing etc. These management accounting functions are covered by the second and third functions of the finance department given above.

Hence it is important to note that the finance function is a very broad area and the accounting function is just a sub-section of the finance function. The raising of funds and making it available at the correct time for relevant parties covers the financial management function.

In terms of the marketing function, financial accounting is important to record the financial impact of marketing transactions. Then management accounting is important to analyse how marketing activities fit in with the cash flow requirements and the business objectives of the organisation. Finally, the financial management function is vital to provide funding for the future financial needs of the marketing function.

ii) Compliance of legal provisions relating to fund procurement, use and distribution.

There are various legal requirements to be satisfied when raising, using and distributing funds. Knowledge of these requirements is imperative for the smooth operation of the
financial function of a business. The legal aspects of debt financing and equity financing are discussed below.

Ordinary share capital can only be raised by a public offer, and only by a public limited company. The amount of capital that can be raised by a share issue is limited to the authorised share capital stated in the company's memorandum of association. To increase the authorised share capital, a special resolution has to be passed, which requires 75% majority and then the increase should be exercised after passing an ordinary resolution. Furthermore, to allot shares under any circumstance, the company's directors of the authorised share capital need the prior approval of the shareholders, as an unauthorised share allotment amounts to a criminal offence. In the case of a new share issue, a company can allot shares without first offering them pro rata to existing shareholders on the same or more favourable terms than what is offered to the potential new investors for the issue.

Furthermore, it is legally required, that funds raised in the form of equity, should be used for valid purposes, such as to raise extra finance for investment activities or to give an equity interest in the company for its employees. However, equity funds should not be put into improper use i.e. for example to defeat a take over bid.

If shares are issued at a premium, ie where a share is priced higher than its nominal value, such excess should be credited to a share premium. This account can only be used for certain tasks such as in the case of a bonus share issue, to write off preliminary expenses, to write off expenses, commission, or discounts in share/debenture issues and to pay any premium on redemption of shares/debentures. In the payment of dividends, the company can only use profits and not capital for payment of dividends taking into account various restrictions imposed on dividend payment by the Articles of Association (e.g. use only trading profits to pay dividends). In addition, a company is prohibited to pay dividends if its net assets are not equal to or more than the called up share capital and capital reserves of the company.

A trading company usually has an implied power to borrow in addition to equity issues for business purposes, which is likely to be included in the objects clause of the Memorandum of Association as an express power to borrow. For a non-trading company, an express power has to be there to borrow as implied power is not sufficient. The company directors are usually given a limit on borrowings on behalf of the company in the Articles of Association.

Issues of debentures are also subject to many rules like shares i.e. for example a public offer of debentures can only be made by a public limited company. When debentures are issued at a premium, unlike in shares, there's no restriction in the usage of funds but is normally transferred to a capital reserve. To issue convertible debentures, firstly the directors should see whether they have the authority to issue as per articles. Then the issue must be first made to existing debenture holders on equal or more favourable terms. The debentures have to be paid at their redemption unless they are perpetual and the company can re-issue these debentures in the future if permitted by the Articles of Association.

Chapter 12 – Introduction to Finance 181
2. Important Functions of a Finance Manager

The Finance manager is responsible to achieve the financial objectives of a business by following an appropriate financial strategy i.e. a course of action including the specification of resources required designed to achieve the financial objectives of a given firm. The decisions of financial managers range from arranging sources of finance, evaluation of investments, dividend and liquidity policies to designing of hedging strategies to avoid the risk of investments. In other words, financial managers manage how funds flow from investors to the firm and back to investors again (see illustration below).

Functions performed by finance managers

2.1 Provision of Capital

Any business needs capital to start up and to successfully operate in the future. Hence, an important task of a financial manager is to seek ways and means of obtaining long-term funds to invest in long term investments the company is seeking to undertake. Today's investments provide benefits in the future.

Therefore, the financial manager should look into both, the size of the likely benefits from an investment and also the duration over which these benefits are spread over before committing capital. Furthermore, there are some other factors that have to be considered in providing capital for projects such as cost of capital, impact on company profits and liquidity, opportunity cost, effect on gearing, impact on company stakeholders and pattern of cash flows of the project. The provision of capital to projects has to be done with caution, as usually once the capital is committed it cannot be taken back and also the decisions taken regarding the capital of a company influence the future growth and the very survival of the business to a great extent.
2.2 Short Term Financing and Investor Relations

This refers to the working capital management function of the business by the finance manager. The finance manager must be talented enough to strike a balance between the costs and benefits of current assets. Decisions must be taken in a manner that the company has the most reasonable debt collection period, most desirable stock holding period, the best creditors payment period and the needed amount of idle cash in hand.

This in turn will ensure efficient control of business cash flows. Furthermore, the financial manager must be fully aware of the profitability versus liquidity trade off, when managing short-term finance. Short term financing starts when cash in hand is insufficient to meet the cash obligations as and when they fall due.

As a result, a reduction of debt collection period, delay of payments to creditors and a reduction of investment in stock arise to bridge the gap between cash inflows and cash outflows. A good short term financing plan can only be arrived by a trial and error method after considering interest rates, limits on borrowing, assumptions behind potential cash flows, available sources of funding etc.

Another duty of a financial manager is the successful maintenance of relationship with a company's investors. They are the main providers of capital for a business and legally are the owners of a business in the case of shareholders. Where shareholders are concerned, it is the duty of the financial manager to conduct business in a manner that is in the best interest of the shareholders. This would in turn, result in a constant reasonable return for investors in terms of dividends and also in terms of capital gains, if the market price of a company's shares increases over time due to the enhanced future prospects of profitability and growth of the business.

When funds are borrowed, it is the duty of the financial manager to honour the necessary payments in respect of interest or capital as and when they fall due. This sort of behaviour enhances the chances for future borrowing from investors by the finance manager at a low cost, as the credit rating of the company automatically improve when payments are made promptly.

Furthermore, it is important to know how investors value a firm before undertaking any projects that is supposed to increase the value of the firm to maintain good investor relations.

2.3 Banking and Custody

The Finance Manager should maintain a close relationship with banks which are used by the firm for its day to day financial transactions as this relationship becomes very important when arranging short term and long term facilities. Also, banks provide facilities to invest/borrow short term liquidity for short periods, maybe for as short as on an overnight basis. Banks also
have various facilities that could be used for financing the Import/Export business. Therefore, it is important to have a good relationship with the banks which are used by the firm.

Having custodial arrangements in place becomes very important when raising debt in the capital markets, as the custodial arrangements could be used to collect funds, disburse dividends and for final settlement of borrowings under debt instruments. The custodian can be used as the go between of the investors and the firm. Having custodial arrangements beforehand will provide the opportunity to the Financial Manager to choose an efficient custodial service provider at lower cost rather than trying to establish a relationship when issuing debt etc.

2.4 Credit and Collections

Another major function of a financial manager is deciding the amount of credit to be granted to the customers and thereafter collecting the accounts receivables in such a way that the cash flow forecasts of the firm are not affected. Credit given to the customers should be controlled in such a way that customers pay their dues on time and it minimises the risk of bad debts.

A financial manager should arrive at the optimum level of trade credit to be allowed after considering the improvement in profit that has resulted through the increase in sales as a result of giving on credit. A company's credit policy should be set after considering several factors such as,

- Competitor's credit policy
- Financing cost of the company
- Risk of bad debts / Customer performance
- Administration cost of the credit system
- Elasticity of demand for company's products
- Security provided by the customer

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>List some of the administration costs associated with the credit control function of a given company</td>
</tr>
</tbody>
</table>

In evaluating an individual customer's creditworthiness, various sources of information can be used such as trade references, bank references, information from credit agencies and from competitors. Internally also some analysis can be done by analysing their financial statements and reports.

For prompt collection of debts, various favourable tactics such as discounts on early payment or taking the services of a factoring company can be used. However, if the above does not
work, strict measures such as charging of interest on overdue accounts, withholding of supplies etc can be used. If none of the above works, as a last resort, the financial manager can opt to take legal action.

The financial manager should always be on the lookout for the age analysis of the company's debtors, the increase in bad debts etc. If the performance of debtors are monitored continuously, certain dues could be recovered avoiding bad debts. Furthermore, the financial manager should attempt to motivate the credit control staff of the organisation as they perform an important function to maintain the liquidity of a company.

2.5 Investments

Financial managers are expected to put their funds into profitable ventures. Long term investments are mainly made on fixed assets or in equity or debt of other companies. Short-term surplus cash investments can be made on various financial instruments such as interest bearing deposits, treasury bills, bills of exchange, certificates of deposits etc. The financial manager must look into various factors in deciding where to invest money in both the short term and long term and these include:

- Profitability of the investment
- Safety of the investment / Risk factors involved
- Diversification needs of the company
- Taxation effects
- Restrictions on the sources of investment

The Finance manager should strike a balance between risk and return when taking investment decisions.

2.6 Insurance

Usually the subject of insurance comes under the purview of the finance manager. It has to be noted that the fixed assets of a business are instrumental in generating the revenue for a business enterprise. Therefore proper insurance would indemnify losses arising through various losses to fixed assets.

Apart from fixed assets there are many more items that need to be taken into consideration for insurance such as, inventory, cash-in-transit, employee related policies such as health insurance etc

Usually consultants specialising in insurance are consulted by the finance manager in reducing the overall risks attached to the business enterprise.
2.7 Planning for Control

Financial planning is a process that consists of several functions that helps a financial manager to control the financial operations of a company. These functions include:

- Analysis of investment opportunities available to the company.
- Evaluation of future outcomes of current decisions.
- Choosing among different investment alternatives.
- Measuring of performance against targets set.

The objective of any financial manager in financial planning is to take risks that are only worth taking and those that will result in an adequate return for the risk taken. Financial planning can be both long term and short term. Short term financial planning is making sure that the firm has enough cash to meet its short term obligations. Short term financial planning confirms that the firm has arranged its short term borrowing and lending needs to its best advantage.

Long term financial planning is concerned with making sure that the firm has enough assets to operate into the future and the capital invested in long term projects gives a return that is over and above the costs incurred in raising those finance. Hence, it can be said that the financial planning function helps the finance manager to ensure their financial strategies are consistent with their financial resources. Also financial planning enables the taking of correct decisions at the right time to pursue a company's production and investment goals.

2.8 Reporting and Interpreting

The Companies Act requests all companies to publish their financial statements at least once a year. Public limited companies listed in the stock exchange are required to publish financial information more frequently i.e. quarterly or half yearly. The financial statements are important for different stakeholders of a business in different ways. For investors, the financial statements show how the management team of a company has used their funds to add value to the business and thereby to provide them with a good return. In terms of creditors, financial statements are useful to see the ability of a business to make their payments on time.

‡ Activity

List some of the administration costs associated with the credit control function of a given company

‡ Activity

List other stakeholders of a company and discuss the purposes for which they use the company's financial statements.
Financial statements are published to provide information for the stakeholders of the business but the real use of financial statements to a financial manager is to interpret the performance of the business. For example, it is important for a financial manager to see whether the company is cash rich, or is there a threat of insolvency? Does the company maintain a reasonable gearing level? Has the business achieved the target profit margins? Is the business's ROCE ratio and Liquidity ratios in line with the industry and company norms? The above information is important for a financial manager as these will influence his next financial strategy. For example, if his debtor collection period is too long, his cashflow might not be good but his profitability high, he might decide next time to reduce sales on credit or shorten the credit period granted.

2.9 Evaluating and Consulting

The Financial manager has to compare the company's actual performance against the targets set. The financial manager would have been given a target by the board of directors for his performance evaluation. In addition to these targets, the finance department would have budgeted for a certain level of performance. The financial manager will be responsible for any under achievement of targets given and will be required to explain.

Deviations from set targets are analysed and reasons given where appropriate for which purpose a variance analysis needs to be carried out. Sometimes external factors may hinder the performance of the finance department where the finance manager cannot be penalised for the poor performance. All this is possible only if the financial manager has a good picture of the evaluation of performance of a company, hence this is an essential function of a financial manager.

All finance managers are not good in all areas of finance, hence sometimes consultation might be necessary to operate all aspects of the finance function. For example, in the case of taxation planning, if the financial manager lacks the ability to do tax administration the company can seek the services of a tax consultant to minimise tax liabilities of a business. Similarly if the internal audit department of a company is not strong, the financial manager should employ the services of an audit company to audit the internal operations of the business.

2.10 Tax Administration

The management of “Taxation” is an integral part of any business organisation. This is entrusted to the finance manager and forms a vital element of financial management. An ethical and a socially responsible company must strive for tax avoidance where by the company acts within the legal frame-work. A key challenge for the finance manager would be to refrain from tax evasion activities, whereby tax savings are made by illegal means.

As in the case of insurance, the finance manager usually would obtain the services of a tax consultant in tax planning activities.
2.11 Control Environment

Proper internal controls should be in place if a financial function is to operate in a smooth manner and this is another important function of a financial manager. Firstly, there should be segregation of duties, for example, one person should not be allowed to prepare an invoice, record the transaction and issue a cheque. Then physical controls, such as storage of important documents in a safe or a vault, restriction of access to certain areas of the company and passwords restricting access in the case of a computerised system should be implemented for the security of financial operations in a company.

Then in the case of the issue of cheques, there should be at least two authorised signatories. Then various levels of managers should be given limited authority so that always, major decisions go through the finance manager. Also especially in the finance department there should be arithmetical checks such as check digits to prevent both frauds and errors within the system. Some of the tools that can be used as arithmetic checks are the preparation of trial balance and control accounts, bank reconciliation statements etc.

2.12 Economic Appraisal

When undertaking any project the financial manager should evaluate the financial feasibility of such a project. Hence, for any financial decision the relative benefits and costs of those decisions should be assessed accurately as possible. Quantitative techniques such as present value calculations, decision tree analysis, sensitivity analysis, expected value calculations can be used in arriving at these decisions. Any decision taken by the financial manager should have the financial justification, as every decision has an opportunity cost. Therefore a financial manager must ensure the decisions taken are not only economically feasible but also add value to the business.
Chapter 13
Investment Decision Making

This chapter will cover the following areas

1. Introduction to Investment Decisions
2. Expansion of Existing Business and Diversification of New Business
3. Investment Evaluation Criteria

1. Introduction to Investment Decisions

As discussed in the previous section one area of financial management is to decide on which investments to undertake in both the short term and in the long term to boost the wealth of the company as a whole. The areas of concern include the returns provided by the investments, the costs associated with the investments and the risk levels of investments.

1.1 Nature of Investment Decisions

Investments can be both internal and external and can range from investment in company's fixed assets, working capital and expansion of current business units to acquisition of other entities. Hence it is important a financial manager is capable of choosing the most desirable investment opportunities and allocate the available financial resources in the most effective manner amongst the various opportunities in short term, medium term and in long term in line with a company's overall strategy.

It is usually the practise if an investment yields a return that is greater than the company's target return to go ahead with that investment provided the investments of the chosen type are allowed by the company. This is because in general, the risk associated with an investment in terms of its certainty of cash flows, influence of macro economic variables such as interest rates and inflation etc. are considered when arriving at a target return for an investment.

When surplus funds are invested outside the business, the common principle would be that there is a positive co-relationship between risk and return. ie Higher the risk – higher the return. For example government securities such as treasury bills would be a risk free investment but its return would be lesser than an alternate investment in the stock market where the risk factor is very high. Hence at the end of the day the return that can be obtained by an investor depends on his/her risk appetite.

It should be noted that every business can't invest in all types of investments there are some restrictions prevailing for some industries on their investments either due to statutory requirements (e.g. Banks and Primary Dealers) or customer requirements (e.g. Fund
Management companies). Hence investments should not be done solely on cost versus return but also in compliance with statutory requirements.

1.2 Importance of Investment Decisions

It is the task of a financial manager to devise sound Investment Decisions as any potential investment can have an impact on the following areas:

- All investments affect liquidity position of a company as any investment has its own cash inflows and cash outflows. The timings and size of these should be properly appraised since investments can drain out the liquid funds of a company if expected cash inflows fail to materialise. Further it should be remembered if a company run out of its liquid funds due to a wrong decision both dividend payment policies and working capital management will not be able to function as planned loosing the whole purpose of investment which is to maximise the wealth of the shareholders.

- Investments have an impact on reported earnings for a period. Hence when investment decisions are taken those decisions should always act in a manner to increase the reported earnings as every investment decisions are supposed to be taken with the single intention of providing a better return to the investors. However there are instances where organisations do invest in projects with a lesser return / sometimes loss making where these projects support the core business of the organisation eg: a food court in a shopping maul or to enhance the companies image through socially responsible activities.

- The long term growth and future survival of a company rest upon its investment decisions made today. Most of the investment decisions once taken can never be reversed hence an investment should also be evaluated in terms of its contribution to the future growth of a company.

- Investments should always be undertaken at a moderate risk level one should neither take no risk nor take the maximum risk possible because at either end the chances of loosing are more. Therefore investments should always be diversified to a suitable extent. However there is always an element of risk that cannot be diversified away hence one should be prudent when investment decisions are taken that the risk associated with those decisions in their worst cases can still be borne by a company without any detrimental impact on the company. The risk could be further minimised by having a portfolio of investments where the risk is low, moderate and high.

- Investment decisions by nature involve large amount of funds hence if successful, gain the gains are very attractive and if they loose the losses are detrimental. Hence in taking investment decisions there should be a balance in terms of amounts invested in various investments in away that a gain from one can be used to cover a loss from another investment. Usually the amount of funds to be invested in various investments depends on a financial manger's calculation of exposure to risk as a result of undertaking an investment.
1.3 Types of Investment Decisions

As mentioned above the investment decisions can be made on undertaking new projects within the existing business for organic or internal growth. Alternatively investment can be in the form of take over /merger which is termed as external investments for the purpose of inorganic growth. The extreme side of investment decision is disinvestment, which involves sale of parts of the business or withdrawal from unsuccessful projects, which threaten the long term survival, and profitability of a company.

2. Expansion of Existing Business and Diversification of New Businesses.

2.1 Expansion of Existing Business

Companies which like to grow without the help from other companies choose to invest in their current business operations in a variety of ways. For example selling more of its existing products, producing new products to current customers, entering into new markets and adding more functions to the current business operations which were previously done externally etc.

There are various reasons for internal investment, such as the need to improve the company’s current competitiveness, to meet customer requirements, to be inline with the new trends in various industries, to increase profitability, the desire to grow at a lower pace, the desire to stick with the current organisation structure etc.

2.2 Diversification to new Businesses

The other method of investment is diversifying into other businesses. This is a more external method and can be undertaken for reasons such as the need to grow fast, to spread the risk of investments, to increase financial strength of a company, control the development of rival industries, to link processes and to benefit from various tax relief schemes and to gain supply chain advantages.

<table>
<thead>
<tr>
<th>§ Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>R Ltd has been a canned food manufacturer for the past several years. The demand has been declining for its products since of late due to the increased range of canned food supplied by the international players of canned food, limited scope for developing a new range canned products and limited agents to distribute R Ltd’s products. Profits are also falling at a rate and a national supermarket has recently offered to form a merger with R Ltd. Advise whether R Ltd should expand its business on its own or enter into a merger with the supermarket chain</td>
</tr>
</tbody>
</table>
3. Investment Evaluation Criteria

Most successful businesses operating today do not have sufficient funds to undertake all the new projects that come in their way. Hence in order to select suitable projects and prioritise various alternatives available to them, they have to use various investment evaluation techniques. The investment evaluation techniques considered in this chapter are:

- Discounted Cash flow techniques
  - Net Present Value (NPV)
  - Internal Rate of Return (IRR)
  - Profitability Index (PI)
- Discounted Payback Period
- Payback
- Accounting Rate of Return (ARR)

3.1 Discounted Cash Flow Techniques

In most projects although the costs are incurred immediately the revenues are generated throughout future time periods. Hence in order to compare the cost incurred now against the future revenues generated, it is necessary to arrive at the present value of future revenues as when comparing one has to compare like with like. Therefore techniques such as discounted cashflow technique is considered superior to other methods that will be discussed subsequently as discounted cashflow technique take time value of money into consideration.

Present value (PV) can be defined as the cash equivalent now of a future sum of money receivable or payable discounted at an agreed rate of return.

\[
PV = \frac{1}{(1+r)^n}
\]

Where \( r \) = rate of return
\( n \) = time period

The discounted cash flow techniques include the following methods:

a) Net Present Value Method (NPV)

Net Present Value is the difference between the PV of cash inflows and the PV of cash outflows of a given project. Usually the rate of return used to discount the cash flows of a project to arrive at its NPV is the company’s cost of capital as this is considered to be the minimum acceptable rate of return from an investment in the company’s point of view.

Cost of Capital is the total cost of all sources of finance of a company.
The general rule in NPV method is that if PV of cash inflows exceed the PV of cash outflows the project is accepted as it generates a positive cash inflow for the company. However if the PV of cash outflows exceed the PV of cash inflows the project should be rejected as if it is undertaken it will yield a negative cash flow for the business.

**E.g. 1** A Ltd is planning to undertake a project that costs LKR10,000 immediately and will generate revenues in the following manner for the next four years i.e.

Year 1 LKR 7,000  
Year 2 LKR 9,000  
Year 3 LKR 10,000  
Year 4 LKR 12,000

Calculate the NPV and decide whether A Ltd should accept or reject the project if company’s cost of capital is 10%.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow (LKR)</th>
<th>Discount factor</th>
<th>PV (LKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-10,000</td>
<td>1</td>
<td>-10,000</td>
</tr>
<tr>
<td>1</td>
<td>7,000</td>
<td>$1/(1+0.1)^1$</td>
<td>6,364</td>
</tr>
<tr>
<td>2</td>
<td>9,000</td>
<td>$1/(1+0.1)^2$</td>
<td>7,438</td>
</tr>
<tr>
<td>3</td>
<td>10,000</td>
<td>$1/(1+0.1)^3$</td>
<td>7,513</td>
</tr>
<tr>
<td>4</td>
<td>12,000</td>
<td>$1/(1+0.1)^4$</td>
<td>8,196</td>
</tr>
<tr>
<td></td>
<td><strong>NPV</strong></td>
<td></td>
<td><strong>19,511</strong></td>
</tr>
</tbody>
</table>

Therefore A Ltd should accept the project as it yields a positive NPV of LKR19,511.

The advantages of NPV method
- This method considers time value of money.
- Facilitates clear decisions i.e. if NPV is positive accept otherwise do not accept.
- NPV of different projects are additive.
- The NPV method relates to the wealth maximisation objective of companies.

The disadvantages of NPV method
- Complicated technique.
- Difficulty in determining the discount rate to be used.
- Future cash flows are difficult to predict.
- When life of the project is uncertain this method will not give accurate results.
- Size of the investment is ignored.

**b) Internal Rate of Return Method (IRR)**

In simple this is the rate of return at which the present value of the project is zero. In other words at this rate of return PV of cash inflows equal the PV of cash outflows. The formula to calculate IRR is given below:
The decision criteria now is if IRR is greater than the company’s cost of capital the project should be accepted and if the IRR is lower than the company’s cost of capital the project should not be undertaken. This is because any given company’s minimum target return from an investment is the company’s cost of capital.

E.g. 2 If J Ltd is undertaking a project with initial expenditure of LKR 5,000 and the project is expected to generate LKR 3,000 and LKR4,000 in the next two years. Calculate its IRR and advice J Ltd whether it should go ahead with the project if their cost of capital is 10%.

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow (LKR)</th>
<th>Discount factor (10%)</th>
<th>PV(LKR)</th>
<th>Discount factor (25%)</th>
<th>PV(LKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-5000</td>
<td>1</td>
<td>-5000</td>
<td>1</td>
<td>-5000</td>
</tr>
<tr>
<td>1</td>
<td>3000</td>
<td>1/(1+0.1)^1</td>
<td>2727</td>
<td>1/(1+0.25)^1</td>
<td>2400</td>
</tr>
<tr>
<td>2</td>
<td>4000</td>
<td>1/(1+0.1)^2</td>
<td>3306</td>
<td>1/(1+0.25)^2</td>
<td>2560</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NPV</td>
<td>1033</td>
<td>NPV</td>
<td>40</td>
</tr>
</tbody>
</table>

\[
\text{IRR} = 0.10 + 0.15(1033/1073) = 0.2444 = 24.44\%
\]

As the IRR is greater than company’s cost of capital of 10% the project is accepted.

Note: To arrive at an approximate IRR any two discount rates that give a negative NPV and a positive NPV on a given project can be chosen. Further a project could have multiple IRRs.

Advantages of IRR method
- Easy to understand and compare with other investment alternatives as the answer is in terms of a percentage (%).
- When the discount rate is difficult to calculate at the start of the project this method can be used.
- Considers time value of money.

Disadvantages of IRR method
- Difficult to arrive at the exact IRR as it can only be approximated using two discount rates.
- When discounting factor differs over the life of the project it is difficult to calculate IRR.
c) Profitability Index Method (PI)

This method is used when it is necessary to evaluate two or more positive NPV projects with different initial investments as NPV method do not take size of investment into consideration. The Profitability Index considers the return generated per LKR of investment in present value terms hence the project that gives the highest return is generally accepted.

\[
\text{PI} = \frac{\text{Present value of future cash flows}}{\text{Initial Investment}}
\]

E.g. 3 C Ltd has three projects which have initial investments of LKR10,000, LKR20,000, and LKR30,000 respectively. The three projects have positive NPV of LKR20,000, LKR50,000 and LKR 70,000 respectively. Calculate PI of the projects and chose the project that C Ltd should chose to maximise their return.

<table>
<thead>
<tr>
<th>Project</th>
<th>NPV(LKR)</th>
<th>Investment(LKR)</th>
<th>PI</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>20,000</td>
<td>10,000</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>50,000</td>
<td>20,000</td>
<td>2.5</td>
</tr>
<tr>
<td>3</td>
<td>70,000</td>
<td>30,000</td>
<td>2.33</td>
</tr>
</tbody>
</table>

C Ltd should chose project 2 as that gives the highest return per LKR invested.

Advantages of PI Method
- It is similar to the NPV method and usually both methods give identical results.
- In conditions of capital rationing this method can be used to rank divisible projects.

Disadvantages of PI Method
- In instances where capital rationing is not required this method might not give the most accurate results.
- If all the required investment cannot be known in advance this method is of little use.
- This is not an absolute measure

3.2 Discounted Payback Period

This is another technique of investment appraisal that uses discounted cash flows to calculate the time period to recover the initial investment. It is the rule that projects that recover the initial investment with a shorter time period are the ones that should be prioritised and chosen.
E.g. 4 P Ltd has two projects that require initial investment of LKR 10,000 each with cash inflows of LKR 8000 p.a. for 2 years and LKR 4000 p.a. for 4 years respectively. Calculate the discounted payback for the two projects if company's cost of capital is 10% and chose the project that P Ltd should undertake to recover their investment as quickly as possible.

**Project 1**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow (LKR)</th>
<th>Discount factor</th>
<th>PV(LKR)</th>
<th>Discounted payback period</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-10,000</td>
<td>1</td>
<td>-10,000</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4,000</td>
<td>$1/(1+0.1)^1$</td>
<td>3,636</td>
<td>3.02 years</td>
</tr>
<tr>
<td>2</td>
<td>4,000</td>
<td>$1/(1+0.1)^2$</td>
<td>3,306</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>4,000</td>
<td>$1/(1+0.1)^3$</td>
<td>3,005</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>4,000</td>
<td>$1/(1+0.1)^4$</td>
<td>2,732</td>
<td></td>
</tr>
</tbody>
</table>

**Project 2**

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash flow (LKR)</th>
<th>Discount factor (10%)</th>
<th>PV(LKR)</th>
<th>Discounted payback period</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-10,000</td>
<td>1</td>
<td>-10,000</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>8,000</td>
<td>$1/(1+0.1)^1$</td>
<td>7,273</td>
<td>1.4 years</td>
</tr>
<tr>
<td>2</td>
<td>8,000</td>
<td>$1/(1+0.1)^2$</td>
<td>6,612</td>
<td></td>
</tr>
</tbody>
</table>

Therefore P Ltd should chose project two as that has the lowest payback period.

**Advantages of Discounted payback method**
- Takes time value of money into consideration.
- Easy to calculate.
- Enables one to choose most liquid projects.
- Time related risk is minimised.

**Disadvantages of Discounted payback method**
- Only gives preference to short term projects.
- Cash flows after the payback period are ignored.
- Difficult to distinguish between two projects with the same payback period.
- Total profitability of a project is not considered.
- The choice of the ideal payback period is decided by the management hence this method is not objective.
Activity

D Ltd has two projects A and B with initial investments of LKR50,000 and LKR20,000 each.

Project A has cash inflows of LKR10,000, LKR20,000, and LKR25,000 for the first three years and thereafter LKR30,000 p.a. for the next three years. Further the government has agreed to give a grant for 50% of the initial investment for project A in its first year of operation.

For Project B on the other hand is expected to generate revenues of LKR10,000 p.a. for the first 4 years and LKR15,000 in the last year. Also it is known in advance that a machine used for Project B can be sold for LKR10,000 in the last year of the project.

Assume all cash flows arise at the end of the year concerned except the government grant for project A which arise at the start of year 1.

The company's cost of capital is 15% p.a. However for project B, D Ltd wants a return of 120% over its cost of capital.

Required:

a) Calculate the NPV of the two projects.
b) Calculate the IRR of the two projects.
c) Calculate the PI of the two projects
d) Calculate the Discounted payback period for the two projects.

3.3 Payback

This is a traditional method of investment appraisal very similar to discounted payback method. Hence the strengths and weaknesses of payback method is similar to those of Discounted payback method except the fact that payback do not consider time value of money in its calculation. Therefore the payback method is calculated similar to discounted payback method taking the non-discounted cash flows into consideration.

E.g. 1 X Ltd is planning to introduce a new product called JAY to the market at a cost of LKR3,000 and the product is expected to yield revenues of LKR750 p.a. for 6 years. X Ltd’s target return is 10%p.a. Calculate the payback period for the project.

The payback period is (LKR3000/LKR750), i.e. 4 years.

d) Accounting Rate of Return (ARR) Method

This is also a traditional method of investment appraisal, which is similar to IRR except that this method uses accounting returns i.e. profits instead of the cash flows of the project to arrive at a rate of return for the project. If the ARR is greater than the company's target rate of return the project is accepted and if the opposite happens the project is rejected.
The above formula is the most common way of calculating ARR but one can use average investment and profits can also be taken before or after tax and interest.

Advantages of Accounting Rate of Return Method
- Focus is on profitability.
- Size of investment is considered.
- Since the answer gives a % return the ARR can be compared with the returns of other alternative investment methods like bank deposit rates, government securities interest rates etc.
- Can be used to judge the success of the business in terms of profit % earned per LKR of investment.
- Easy to compute.

Disadvantages of Accounting Rate of Return Method
- Ignore time value of money.
- Profits are subjective as opposed to cash flows.
- Various definitions of profit and investment.
- Average annual return may be distorted sometimes when profits vary widely over the life of the project.

**Activity**

If product Y requires an initial investment of LKR2,000 and it is expected to generate net sales revenues of LKR500 p.a. for the first 2 years and LKR600 p.a. for the next three years and tax is currently at 25% p.a. calculate ARR for product Y taking post tax profits into consideration.

**Net Present Value and Internal Rate of Return**

These are the preferred two methods of discounted cashflow techniques. Research has shown that the most widely used technique out of the two is the IRR method because most non-financial managers find it easier to understand the IRR % which in turn can be compared with other forms of return from various investments. However IRR has some considerable disadvantages hence in instances where NPV and IRR conflict it is better to go by NPV as it always relates to wealth maximisation objective of firms. Further when projects are mutually exclusive IRR cannot be used. Hence it is advisable to go by NPV when the two methods are in conflict as NPV is considered to be the most superior method of investment appraisal.
Net Present Value and Profitability Index Method

Actually taken PI method is a development of NPV to take the size of initial investment into consideration when evaluating projects. As long as a project yields a PI greater than 1 that project automatically yields a positive NPV. However when there is capital rationing it is the PI that gives the accurate result but when there is capital rationing and there are mutually exclusive projects one cannot directly arrive at a PI and it can be only done through trial and error. In those instances where there is no capital rationing one can use NPV alone to choose a project.

‡ Activity

S Ltd has three projects with investments of LKR40,000, LKR35,000 and LKR46,000 respectively. The revenues expected are LKR10,000p.a. for 5 years, LKR25,000p.a for 6 years and LKR20,000p.a for 4 years for the respective projects. If the company's target return is 10%p.a. and their capital is limited to LKR90,000, decide which projects S Ltd should undertake to maximise their wealth. Assume that projects are divisible i.e. part of any project can be undertaken no need to take the whole Project.

♪ My Short Notes

---

Chapter 13 – Investment Decision Making
Chapter 14
Financial Impact of Marketing Decisions

This chapter will cover the following areas

2. Specific Strategic Decisions for Individual Products.
3. Key Exercise

1. Corporate Strategy Decisions

A strategy is a course of action undertaken to reach a specified objective. Strategies are developed at various levels of an organisation as shown in the illustration below.

Levels of Strategy

Corporate Strategy

Business Strategy

Operational Strategy

Corporate strategies are developed by the senior management of an organisation, to attain its corporate objectives in the long term. Business strategies, on the other hand, are the different strategies adopted by the strategic business units within an organisation to be in line with the corporate strategy of the organisation and hence, are set by the middle management. Operational strategies are formulated within the strategic business units, in order to satisfy the business and corporate strategies being followed by the organisation. Operational managers are responsible for the operational strategies implemented.

Corporate strategy is the main focus in this section, because most of the corporate strategies undertaken have important financial implications for the organisation. This is because corporate strategy is concerned with the overall direction of the organisation and usually require significant financing, as corporate strategies look into areas such as:

What business the company is in; What the company's current products and markets are;
If the company should enter into new markets, and if yes on how to enter; If the company should withdraw from existing markets; and If new products should be developed / if the production of existing products should be stopped.

<table>
<thead>
<tr>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Formulate appropriate corporate strategies for multinational organisations like a) McDonalds b) Sony</td>
</tr>
</tbody>
</table>

As mentioned above corporate strategies can be developed into operational strategies of functional departments, such as that of marketing as shown in the following illustration

**Development of Corporate Strategy to suit Marketing Strategies**

Marketing objectives are specific, quantifiable aims of the marketing department to be in line with the corporate strategy of the business. Marketing strategy is the identification, anticipation and satisfaction of customer demand through market research, product planning and development, pricing, distribution and promotion. Marketing strategy can be only be achieved through marketing tactics which refer to tools and techniques used by the marketing function, to achieve its objectives such as sales promotion techniques.

E.g. The corporate objective of the firm is to increase profits by 5% next year which is to be achieved by the corporate strategy of increasing the firm's current market share. Hence the marketing department sets an objective of increasing market share by 8% next year. Research on the market shows that there is lot of customer loyalty to the firm's products and none of the competitors are able to compete fiercely with the firm's products. Hence the firm develops its market strategy to further increase the purchases of its current customers and attract new customers through expansion of its distribution network. The firm also intends to use tactics such as discounts for repeat purchases, free delivery for bulk purchases, gifts for every new customer introduced etc.
‡ Activity

Suppose A Ltd, which currently sells an electrical component both locally and internationally, wants to increase its volume of exports by 2% next year. Draft a document detailing the corporate strategy, marketing objectives, marketing strategies and marketing tactics to be used by A Ltd to achieve its corporate objective.

2. Specific Strategic Decisions for Individual Products.

2.1 Business Strategy Decisions

Business strategy in the context of marketing, defines how an organisation should approach the markets of its product portfolio. Various methods of marketing can be followed, for example for a basic product, the same product can be offered to all segments within a market. However, if an organisation is trying to market a specialised product, then relevant market segments should be identified and promoted accordingly, based on the various needs of various market segments.

At the same time, the positioning expected by the firm also plays a major role in the business strategy decisions of an organisation. For example, if the organisation wants to be a market leader, it will have to follow various strategies such as, provision of a superior product to the market, reduction of cost of operations in order to offer a reasonable price to defend its market share etc. Alternatively, if the desire of the organisation is to be a niche marketer, the strategies to be adopted are different, such as concentration on a narrow segment of the market with a very narrow product range.

However all of the above mentioned business strategies cannot be implemented in isolation, as these have an impact on other functions such as finance, where the availability of funds and opportunity cost of funds have to be carefully analysed before dedicating funds for any type of business strategy.

Any business strategy that cannot justify its cost, should not be implemented, as it implies that there are other more profitable ventures available for those funds. Once the funds are spent, they should be regarded as sunk costs and only future revenues against future costs should be compared to evaluate the viability of a business strategy adopted.

‡ Activity

Draft a business strategy for a small clothes retailer specialising in children's garments attempting to enter an already established market with two large popular multinational children garment retailers. Discuss the financial implications of your business strategy.
2.2 Product Marketing Strategy

The most important thing about product marketing is that the methods of marketing used to market the product, should be very specific to the product being marketed. This is because the different products satisfy different needs of various consumer groups, hence the usage of generalised marketing strategies for a portfolio of products will fail to address the differences among a given portfolio of products, for company's advantage. Product Marketing can be segregated into different areas such as:

- Identification of a target market
- Positioning a product
- Branding
- Product features
- Pricing
- Distribution

Before a product is put to the market, it is essential to identify a target market segment for the product. This can be done before product development as it makes the marketing task easier, as in the modern world, marketing orientation has more scope than product orientation.

The identification of target market depends on various factors such as the image of the company, the company's existing customer portfolio, the uses of the product, the level of competition in a given segment of the market etc. Also, the financial resources available to target the desired market and to retain that market share in the long term, should be considered.

Once the target market is identified it is the duty of the company to define its product location in the market in comparison with other products of similar nature available. Researching the image in the consumer's mind about the product, can make product positioning very successful. The key attributes of products, that differ from one product to another, include things like quality, price, size, location etc. A product can be positioned to fill a gap in the market or to be with the current products offered in the target market. The financial implications of the product positioning could be for example, if the product is supposed to be of the best quality, can the company afford to input high quality raw materials and still charge a reasonable price? In order to face competition, will it have to initially sell at a loss to secure a position in the market? and, what would the impact be on the long term survival of the business?

Branding plays a major role in modern day marketing because most consumers prefer to purchase branded products. Different companies can adopt different branding strategies. For example in some companies, all of its products go by the name of the company i.e. family brand strategy, whereas in some companies different products have their own brand names, i.e. individual branding strategy. Branding is very important for product marketing because it
adds value to products, it aids a company to obtain customer loyalty and most of all it provides a product with a unique identity.

Product features are another significant element of product marketing. This is because the more facilities offered by a product, the more marketable the product is, and especially now, since many products on top of its core function, have other supplementary facilities offered by the products e.g. mobile phones.

Packaging also pays an important role in product features as it creates the first impression on any product and promotes impulsive buying. The financial side of product features, is that if the consumer feels the value of expenditure incurred by the company can provide enhanced services and attractive packaging.

Pricing is another important element in product marketing and is affected by various factors such as the company’s objective on pricing. If the objective is to maximise profits the prices are usually set higher but if the objective is sales revenue maximisation, the prices are usually set at low levels. However, a company cannot take pricing decisions alone, as there are external constraints on pricing such as customer demand, competitor’s prices, legislative requirements etc. A specific price should be set for a product using techniques such as cost based pricing, consumer orientated pricing or competitor orientated pricing depending on the company's financing requirements. For example, if the company is using its retained profits then some sort of reasonable pricing can be adopted to attract customers and market the product. However, if the company has used borrowed funds it has to price the product in a manner that it recovers at least its cost of borrowed funds.

Once all the above elements are satisfied, the distribution network for the product should be arranged. The choice of distribution network depends on factors such as whether it is a service or a product which is marketed, as services are marketed directly compared to products. Then if the company wants to tightly control its distribution, the product can be made available only at a limited number of places and so on.

Again the financial feasibility of the current distribution network should be handled with care, that the distribution methods are capable of generating revenue over and above the costs incurred in maintaining or expanding the current distribution network.

‡ Activity

Formulate a product marketing strategy for a newly opened bank, to market its banking products on a national scale, considering the financial aspects associated with implementing such a strategy.
2.3 Consumer Decision Making

Most consumers engage in the search for information before they purchase a product. The methods used by them can vary based on their personality. For example, if the consumer's mentality is that of trying anything new, advertisements can influence him to buy products. If the consumer's mentality is that of a follower, when his peers or family members buy the product he will automatically buy the product. The sources of information used by various groups of consumers also differ based on their accessibility as the sources of information can range from newspapers, leaflets, magazines, television, internet, radio to friends, family, colleagues, role models, sales staff, bill boards etc. Also, the consumers can obtain information from the careful observation of various tactics of businesses themselves. Examples include discounts on food items after a certain time period in supermarkets to avoid wastage of perishable food items, special offers in airlines and hotels when demand is low etc. so a customer who wants to travel to a given country will wait for the time the ticket prices go down if he is in no hurry.

3. Key Exercise

<table>
<thead>
<tr>
<th>Activity - Compulsory Case to be done in Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>You are the marketing manager of a leisure company who is looking for options for growth. One of your friends who studied with you overseas, who is planning to start a unique leisure venture sends you a proposal inviting your company to be a strategic investing partner with the intended company under consideration</td>
</tr>
</tbody>
</table>

The proposal is attached herewith. Prepare a report to your board of directors analysing the

- Financial viability of the project. You are expected to use all key learning outcomes from all the three modules in preparing this report
- Evaluate the strength of the strategies suggested
- Assuming that your board of directors have conceptually agreed to take the above proposal seriously, what financial and non financial alterations do you suggest to the above proposal
- Assuming you agree to go for an equity partnership, forecast the future return on your investment using financial analytical methods learnt during the course.
## Proposal

To Invest in the Firm Happy Holidays (Private) Limited

### Table of Contents

1.0 Overview ..........................................

2.0 Company Direction ..................................

3.0 Environmental Trends ...............................

4.0 Competitor Analysis ............................... 

5.0 Market Analysis .................................... 

6.0 Internal Assessment ............................... 

7.0 Strategic Focus ....................................

8.0 Crafting Strategies ............................... 

8.1 Corporate Strategies ............................. 

8.2 Business Strategies ............................... 

8.3 Functional Strategies ............................. 

8.4 Operational Strategies ...........................

9.0 Linking Strategies to Financials ............... 

10.0 Implementation ..................................

11.0 Monitoring and Feed Back ..................... 

12.0 Concluding Remarks ...........................

Annexure One - Location Map 
Annexure Two - Accommodation Capacity and Occupancy Rates 
Annexure Three - Projected Profit and Loss Account 
Annexure Four - Projected Balance Sheet 
Annexure Five - Projected Cash Flows 
Annexure Six - Key Financial Highlights 

*Chapter 14 – Financial Impact of Marketing Decisions*
1. Overview

The proposal forwarded herewith is to build a theme hotel encompassing the sheer variety of the ecology and bio diversity in Sri Lanka offering an experience, beyond the traditional sun & sand. It is proposed to build a theme hotel in Rajawella situated 18 km away from Kandy, along the Kandy Mahiyangana Road.

The concept under discussion attempts to offer

- Guests a unique experience of leisure in harmony with nature.
- Re position Sri Lankan tourism industry beyond beaches and extend into nature, culture and adventurous experiences.
- To facilitate the discovery of new knowledge on bio diversity of the Asian natural environment through the proposed research center to be built along with our hotel.
- To contribute towards the preservation of the natural environment.

The promoters of this unique concept are three outstanding individuals who are equally capable and committed in delivering this experience to the intended audience. The combination of skills in hospitality management and information technology of the promoters, would give this venture a kick-start ahead of its other counterparts.

The proposal will give the potential investor an insight of the direction, a detailed study of the market, environmental and competitive trends, the intended strategies, and the financial prospects. Investing in this project would give potential investors to be a part of a concept, which would give returns beyond normal expectations.

The company is incorporated as a private limited company under the name of "Happy Holidays (Private) Limited"

2. Company Direction

Vision of Happy Holidays

Our vision is to offer our valued guests a total experience, to enliven their senses, to instil a complete sense of relaxation and to fulfil even their unexpressed desires in a totally natural and truly Sri Lankan environmental setting.

We believe in providing personalized attention by exceeding the expectations of our guests through a highly motivated team of individuals who are equally committed and have a sense of passion for nature.

2.2 Theme

Our theme is to allow our guests and individuals or groups who are interested in nature to “Truly discover a living experience”

2.3 Long Term Goals

The goals that we have set for ourselves in the long term are
• To be a leading Eco tourist solution provider in the Asian Region
• To create an opportunity to enhance and discover knowledge on bio diversity on the Asian natural environment
• To be recognized as a highly personalized and flexible (No rules – in harmony with nature) eco tourist destination
• To create a niche market for eco tourism and be strongly associated towards repositioning the image of the tourist industry of Sri Lanka from sun & sand to a multi facet destination.

3. Environmental Trends

Political Trends

• The approach by the present government towards peace in the North and East war.

This new initiative by the government has led Sri Lanka to be perceived as a safe destination. This would allow the risk adverse high spending travelers to choose Sri Lanka as a travel destination.

• Eco Tourism identified as a major drive in the growth of the tourist industry in Sri Lanka

The Ceylon Tourist Board in its pursuit in taking Sri Lanka’s tourism to new heights has identified eco tourism as a high potential growth segment in the leisure travel market. In line with this, there are many incentives, encouragements and relaxation of policies available from the government to promoters of eco tourism.

• Further Relaxation of Visa regulations to enter Sri Lanka with friendly countries.

To the list of 78 countries, which do not require a pre travel visa to enter the country, a further list of SAARC countries were added as an initiative of the government to promote Sri Lanka as a regional leisure destination.

• Tourism industry recognized as an important industry for economic revival.

The government and the related NGOs who are interested in the industry, have identified the development of infrastructure (expansion of the Katunayake airport, tax incentives to increase room capacity around tourist attractions, rejuvenate the hotel training school etc) to encourage more tourist inflows to the country.

Economic Trends

• Further deregulation in the airline industry around the world

This would cause higher competition among the airlines giving tourists more benefits for air travel. This in turn would boost the tourism industry around the world.
• **Shortcomings in the local infrastructure to support tourism**

Poor condition of the road network, inadequate money exchanging points, shortage of efficient communication tools (internet cafes, public IDD booths) and the informal taxi networks could be identified as shortcomings which require attention.

• **Sri Lanka moving towards industrialization**

The ambitious goals in expanding Sri Lanka’s industry backbone have affected the land area designated for wildlife and nature conservation. For example, the land available for wildlife and forest coverage has reduced from 25% to 13% within the last decade. This trend will have a tremendous impact in promoting Sri Lanka as an eco destination with depleting forest coverage.

**Natural Environment Trends**

• **Sri Lanka as one of the most bio diverse destinations in the world**

With 07 world heritage sights, 242 known species of butterflies, 435 recorded birds, 92 species of mammals, 107 species of fish, 54 species of amphibia, 125 species of reptiles and snakes, 07 wild life sanctuaries and 05 forests with luxuriant under growth and tall majestic trees, the world’s first sanctuary for lost and abandoned elephants, over 103 cascading waterfalls and rivers and 2500 years of history are a few out of many other eco tourist attractions available.

• **Tourism cluster**

The industry leaders have now formed a forum to promote the diversity of our destination emphasizing more towards nature. There had been an over emphasis in promoting Sri Lanka as a beach destination, which possibly attracted mostly the lower end of the tourism market. These tourist industry analysts are of the opinion that the bio diversity of Sri Lanka would give more opportunities in attracting the high spending niche categories in nature, culture and adventure travel.

**Social Trends**

• **Low environmental consciousness among Sri Lankans**

The above attitudes of our people will be detrimental to an industry, which tries to promote tourism on a bio diversity platform. The efforts made in promoting nature-based tourism within such a culture would indicate that Sri Lanka’s inability to “walk the talk”.

• **High population density in Sri Lanka**

This is yet another problem the industry faces in promoting eco based tourism. The more people around, higher the chances of affecting the ecological balance.
• **New trends for leisure among Sri Lankans**

This is very relevant among the upper middle class and the **YUPPIES**? in Sri Lanka. This will create an opportunity to meet the unfilled capacities in the industry.

• **Increased interest towards research on bio diversity**

Among the research in the areas of natural sciences, there is recent trend in discovering the inner truths of the world that we live in. Special interest has been drawn on the interface between man and nature. Specific research into wildlife, nature and bio diversity has given new knowledge in promoting this industry.

**Technological and regulatory trends**

• **Internet recognized as an effective tool in promoting the tourism industry**

The development of Internet based communications can be used to promote tourism all over the world enabling the tourists to engage in retrieving online information, making reservations by skipping tour operators.

• **Use of less sophisticated guest management systems in Sri Lanka**

Sri Lankan hotels lack basic guest management facilities like automated message retrieval, Internet accessibility from rooms etc. This deprives our hotels in delivering satisfaction, cost effectively to the customer.

• **Industry regulations**

Since the contribution made by the industry has been identified as vital to the economic growth in Sri Lanka, there is a tendency in relaxing the regulations pertaining to the industry. Such significant regulations could be the approval given by the Ceylon Tourist Board to the institutions to run as accredited hotels. However due to the environmental sensitivity of the eco tourism sector, there are still stringent regulatory bodies like Central Environmental Authority, Wild Life Conservation Department, Forest Department and Irrigation Department, that are in force to monitor and approve the activities in preserving the environment. The above trends will indicate various industry opportunities and threats and these will give us insights in crafting strategies in order to achieve our desired goals.

4. Competitor Analysis

**Global Competition for Eco Tourism**

<table>
<thead>
<tr>
<th>Country</th>
<th>Attractions</th>
<th>Growth</th>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepal</td>
<td>Trekking, Mountain climbing, Himalayan range</td>
<td>255%</td>
<td>Natural Himalayan mountain range</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>Natural Protected Areas, White water rafting</td>
<td>66%</td>
<td>Beaches, corals, mountains, volcanoes, tropical rain forests</td>
</tr>
<tr>
<td>Kenya</td>
<td>Wild Life, National archives, Camel safaris, <strong>Peal</strong> gardens</td>
<td>45%</td>
<td>Wild life in abundance, rain forest</td>
</tr>
</tbody>
</table>

(Source – Eco Tourism Statistical Fact Sheet WTO 2000)
The above countries have been identified as the major competing destinations for eco tourism in the world. This is substantiated by the fact that out of the 104 million eco tourists around the world in year 2000 about 42% was attracted by the above destinations. When analysing the country profile of these tourists, Singapore, Malaysia, Hong Kong, Taiwan, South Korea, Japan, Western Europe and North America accounted for more than 82% of arrivals.

Local Competition for Eco Tourism

The following companies have been identified as major players in the eco tourist industry in Sri Lanka

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Attractions</th>
<th>Occupancy</th>
<th>Strengths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kandalama</td>
<td>Soft adventure, bird watching, nature trials, trekking, culture, birds and plants</td>
<td>62%</td>
<td>Location, rich variety of trees and birds</td>
</tr>
<tr>
<td>Ella Adventure Park</td>
<td>Adventure, white water rafting, trekking, Mountain climbing, abseiling</td>
<td>100%</td>
<td>Location, mountains, cabana network</td>
</tr>
<tr>
<td>Culture Club</td>
<td>Culture, nature walks</td>
<td>55%</td>
<td>Access to the cultural triangle</td>
</tr>
<tr>
<td>Ranweli</td>
<td>Birding, butterfly watching, nature walks, fishing, cycling, boating and canoeing</td>
<td>52%</td>
<td>Location</td>
</tr>
</tbody>
</table>

5. Market Analysis

Total tourist industry of the world

<table>
<thead>
<tr>
<th>Region</th>
<th>Arrivals (in Mn )</th>
<th>Growth % (99/00)</th>
<th>Market share %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>27.7</td>
<td>4.5</td>
<td>3.7</td>
</tr>
<tr>
<td>Americas</td>
<td>129.2</td>
<td>5.7</td>
<td>19.6</td>
</tr>
<tr>
<td>Asia &amp; Pacific</td>
<td>118.3</td>
<td>16.3</td>
<td>14.0</td>
</tr>
<tr>
<td>Europe</td>
<td>403.2</td>
<td>6.0</td>
<td>58.2</td>
</tr>
<tr>
<td>Middle East</td>
<td>19.9</td>
<td>9.6</td>
<td>2.3</td>
</tr>
<tr>
<td>World</td>
<td>698.4</td>
<td>7.4</td>
<td></td>
</tr>
</tbody>
</table>

Source – Tourism Statistical Fact Sheet WTO 2000)

Based on the above information, the world tourism market was 698 million tourists in 2000. The value of it was 476 billion USD. It grew at the rate of 7.4%. According to the analysts, they say in the year 2000, the industry growth recorded its highest growth rate.

Out of the 698 million who travelled the world, Asia and the Pacific received 118.3 million recording the highest growth rate of 16.3%. It accounted for a 14% market share in the tourist industry in 2000.
Tourist arrivals to Sri Lanka

<table>
<thead>
<tr>
<th>Year</th>
<th>Total arrivals to Sri Lanka</th>
<th>Growth</th>
<th>Share from Asia %</th>
<th>Share from world %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>381,063</td>
<td>21.5%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1999</td>
<td>436,440</td>
<td>14.5%</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2000</td>
<td>400,414</td>
<td>-8.2%</td>
<td>0.33%</td>
<td>0.05%</td>
</tr>
</tbody>
</table>

Source – Ceylon Tourist Board, 2000

The growth rates in Sri Lanka were on the reducing side and in 2000 it went into a negative figure. The problems that the country was associated with - the war, the bomb blasts in Colombo and the negative images caused by the overseas propaganda were some of the major causes. Sri Lanka received only for 0.33% of the total tourists who arrived to the Asian region and from the world figures it accounted only for less than 0.05%.

Total tourist arrivals to Sri Lanka by regions

<table>
<thead>
<tr>
<th>Rank</th>
<th>Region</th>
<th>1999</th>
<th>2000</th>
<th>Growth between years</th>
<th>Average growth 10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Western Europe</td>
<td>275,871</td>
<td>261,011</td>
<td>-5.3%</td>
<td>10.9%</td>
</tr>
<tr>
<td>2</td>
<td>Asia</td>
<td>114,261</td>
<td>91,409</td>
<td>-19.9%</td>
<td>8.3%</td>
</tr>
<tr>
<td>3</td>
<td>North America</td>
<td>18,534</td>
<td>17,352</td>
<td>-6.4%</td>
<td>4.8%</td>
</tr>
<tr>
<td>4</td>
<td>Australasia</td>
<td>15,132</td>
<td>18,222</td>
<td>20.4%</td>
<td>9.5%</td>
</tr>
<tr>
<td>5</td>
<td>Others</td>
<td>12,642</td>
<td>12,420</td>
<td>-1.7%</td>
<td>8.4%</td>
</tr>
<tr>
<td></td>
<td>World</td>
<td>436,440</td>
<td>400,414</td>
<td>-8.2%</td>
<td>9.4%</td>
</tr>
</tbody>
</table>

Source – Ceylon Tourist Board, 2000

Sri Lanka received the highest number of tourists from Western Europe. In the first 10 countries in Western Europe which accounted for the highest number of arrivals were in order UK, Germany, France, Netherlands, Italy, Belgium, Switzerland, Austria, Sweden & Finland. The first 5 countries accounted for more than 83% from the region. 90% of them travel for pleasure purposes. Asia, India, Japan and Pakistan accounted for more than 56% of arrivals. 32% of visitors from India, 79% from Pakistan and 87% from Japan were for pleasure travel. 38% of the Indians travelled for business purposes. In the year 2000 there has been a significant drop (19%) in the tourist arrivals from Asia. Out of the other markets, Australasia seems to show promise in terms of immediate & long term growth of arrivals.

Tourist based on interest of travel (only the pleasure category)

<table>
<thead>
<tr>
<th>Year</th>
<th>Sun &amp; sand</th>
<th>Eco Tourists</th>
<th>Cultural locations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>72%</td>
<td>5%</td>
<td>24%</td>
</tr>
<tr>
<td>1999</td>
<td>74%</td>
<td>8%</td>
<td>18%</td>
</tr>
<tr>
<td>2000</td>
<td>71%</td>
<td>9%</td>
<td>20%</td>
</tr>
</tbody>
</table>

Source – analysis based on the occupancy of major attractions

Based on the above we see that the majority of pleasure travellers come to Sri Lanka for the sun and sand experience. However there seems to be a gradual increase in eco based tourism within Sri Lanka over the last three years. Cultural travel is yet another important area in our tourist travels.
Profile of tourists from major destinations (00- top 10 destinations & USA)

<table>
<thead>
<tr>
<th>Destination</th>
<th>Pleasure travellers</th>
<th>Average duration of stay (days)</th>
<th>Age 20-39 category</th>
<th>Number of holiday makers in the Executive and Professional category</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td>81,110</td>
<td>10.7</td>
<td>53,232</td>
<td>18,291</td>
</tr>
<tr>
<td>Germany</td>
<td>68,205</td>
<td>12</td>
<td>46,944</td>
<td>12,912</td>
</tr>
<tr>
<td>India</td>
<td>10,609</td>
<td>7.5</td>
<td>24,297</td>
<td>5,055</td>
</tr>
<tr>
<td>France</td>
<td>25,260</td>
<td>10.4</td>
<td>16,542</td>
<td>4,323</td>
</tr>
<tr>
<td>Netherlands</td>
<td>22,443</td>
<td>12.3</td>
<td>14,607</td>
<td>6,630</td>
</tr>
<tr>
<td>Italy</td>
<td>16,557</td>
<td>9.3</td>
<td>12,699</td>
<td>5,670</td>
</tr>
<tr>
<td>Australia</td>
<td>15,213</td>
<td>9.5</td>
<td>10,122</td>
<td>1,767</td>
</tr>
<tr>
<td>Japan</td>
<td>8,957</td>
<td>8.8</td>
<td>6,759</td>
<td>3,717</td>
</tr>
<tr>
<td>Belgium</td>
<td>10,203</td>
<td>13.4</td>
<td>6,597</td>
<td>2,238</td>
</tr>
<tr>
<td>Pakistan</td>
<td>7,965</td>
<td>7.9</td>
<td>8,157</td>
<td>1,668</td>
</tr>
<tr>
<td>USA</td>
<td>8,924</td>
<td>9.7</td>
<td>5,823</td>
<td>3,189</td>
</tr>
<tr>
<td>Total</td>
<td>275,446</td>
<td>10.1</td>
<td>205,779</td>
<td>65,460</td>
</tr>
<tr>
<td>Total entire category</td>
<td>360,887</td>
<td>10.1</td>
<td>269,842</td>
<td>94,239</td>
</tr>
</tbody>
</table>

6. Internal Assessment

Capabilities & Resources
The following resources and capabilities are at our disposal.

a) Management skills

Two of the promoters are professionally qualified in hospitality management, and the IT expertise of the third promoter would be an added advantage in delivering a unique experience in nature, in a digital environment.

b) Physical assets

- 30 Million in cash reserves
- Selected location for the hotel - Rajawella. This is situated 15 kilometers off from Kandy along side the Kandy - Mahiyangana road. It is a unique location to promote eco tourism.

c) Capabilities and skills

- Intended work force who has a passion for the environment.
- Minimum entry qualification of staff to be set as environmental related qualifications
- Proposed e-commerce systems
d) **Alliances and corporative ventures**

- Networking with eco tourist promoter organizations and societies,
- Networking with academic institutions and research centres interested in discovering new knowledge of the biodiversity of the Asian region,
- Proposed alliance with an investing partner who has experience in the eco tourist industry in Sri Lanka

e) **Competencies required**

- Knowledge about the natural environment
- Ability to translate the Sri Lankan natural environment and its culture, into the minds of the guests in their own backgrounds giving a total natural experience
- Our research centre’s ability to discover and disseminate knowledge about our environment.

f) **Competencies required by our strategic partners**

- Experience in the nature based hotel industries
- Access and experience in marketing nature-based tour programmes.
- Operational excellence
- Access and good relationship with the supplier base.

**Strengths**

- Educational background of promoters
- Selected location of the hotel – Rajawella
- Proposed research centre
- Unique theme of providing truly nature based experience
- Bio diversity in Sri Lanka
- Youthful exuberance of the promoters.

**Weaknesses**

- No record of experience in the industry of the promoters
- Inadequate funds available with promoters
- Inadequate infrastructure available in the locality selected.
- No clear evidence to indicate the prevalence of knowledge on the natural environment of Sri Lanka of the promoters.
# Mapping the SWOT

<table>
<thead>
<tr>
<th>Trends</th>
<th>Strengths</th>
<th>Weakness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sri Lanka as a destination offering Bio diversity</td>
<td>Uniqueness of our concept</td>
<td>Lack of experience in the industry</td>
</tr>
<tr>
<td>Limited financial resources</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Environmental Trends

<table>
<thead>
<tr>
<th>Present peace process making SL a safer destination</th>
<th>Opportunity</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Eco tourism identified as a major driver of growth for Sri Lankan Tourism</td>
<td>Opportunity</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Sri Lanka moving towards industrialization</td>
<td></td>
<td>Threat</td>
</tr>
<tr>
<td>Phenomenal increase in eco tourism in the world</td>
<td>Opportunity</td>
<td>Opportunity</td>
</tr>
<tr>
<td>Low environmental consciousness among Sri Lankans</td>
<td>Threat</td>
<td></td>
</tr>
<tr>
<td>New trends for leisure for Sri Lankans</td>
<td>Opportunity</td>
<td></td>
</tr>
<tr>
<td>Increased interest towards research on bio diversity</td>
<td>Opportunity</td>
<td>Threat</td>
</tr>
<tr>
<td>Internet recognized as an effective tool in promoting tourism</td>
<td>Opportunity</td>
<td></td>
</tr>
<tr>
<td>Use of less sophisticated guest management systems in hotel networks in Sri Lanka</td>
<td></td>
<td>Threat</td>
</tr>
</tbody>
</table>

## Competitive Trends

| Less no. of competitors in the eco industry                             | Opportunity                                                               | Threat                                                                   |
| Low switching cost                                                      |                                                                           |                                                                         |
| Cost and resource advantage of existing competitors                    |                                                                           | Threat                                                                   |
| Learning curve and experience curve effects                             |                                                                           |                                                                         |
| Threat of substitutes                                                   | Threat                                                                   |                                                                         |
| Bargaining power of guests                                              |                                                                           |                                                                         |
Key Summary of the SWOT analysis.

In looking at the strengths, the uniqueness of the concept seems to convert most of the environmental trends into opportunities.

01. Sri Lanka as a destination offering bio diversity seems to be the next source of strength in exploring the opportunities posed by the environment.

02. The knowledge in the hospitality trade and the expertise in IT of the promoters is yet another strength for Happy Holidays.

Focusing on the weaknesses

01. Lack of experience in the industry seems to be the biggest threat that Happy Holidays has to face. The promoters’ lack of knowledge in the natural environment of Sri Lanka is the threat in taking advantage of the growing trends in eco tourism

02. The limited financial resources may lead to threats of exploiting technology and knowledge related opportunities.

The strengths of Happy Holiday have been able to convert most of the environmental trends into company specific opportunities. On the other hand, the company’s weaknesses have made it vulnerable to major threats in the competitive environment.

7. Strategic Focus

Strategic focus of Happy Holidays.

Looking at the tourist industry in Sri Lanka, most of the hotels offer a very basic experience based on the sun and the sand. Due to the basic nature of the offer, these hotels tend to compete on price in getting a competitive edge. On another note, we see a growing trend in world tourism trends towards nature-based travel. Also taking into consideration Sri Lanka’s bio diversity and the eco tourist segments’ quest to learn, experience and value the environment, we believe that there is a unique opportunity in offering a truly eco based experience.

Our focus is to differentiate ourselves by taking advantage of this unique opportunity by creating a niche through

- A highly personalized service
- Facilitating the discovery of first hand knowledge about nature through the intended research facility
- Giving our guests an opportunity to be enlivened by nature by creating an environment within our facility.

We intend to build our core competencies in discovering nature and translating it to delight our guests.
Target Market

The target market for Happy Holidays is profiled as follows:

Customer Profile

<table>
<thead>
<tr>
<th>Research Centre</th>
<th>Hotel</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>20 – 35 years</td>
</tr>
<tr>
<td>Income</td>
<td>Dependents, sponsored</td>
</tr>
<tr>
<td>Occupation</td>
<td>Students, researchers, environmentalists</td>
</tr>
<tr>
<td>Duration of stay</td>
<td>10 – 21 days</td>
</tr>
<tr>
<td>Life style</td>
<td>Objective oriented, explorative</td>
</tr>
<tr>
<td>Beliefs</td>
<td>Passionate for nature</td>
</tr>
<tr>
<td>Expectation</td>
<td>Value for money, results, learning environment</td>
</tr>
<tr>
<td>Area of interest</td>
<td>Ecology, Botany, zoology</td>
</tr>
</tbody>
</table>

The above reflects the typical profile of our target segment. As per research findings, the eco tourist does not expect accommodation, food or nightlife that meets the standards of comfort or luxury held by other groups of tourists. For the eco tourist, living among local conditions, customs and food “enrich” their experience. 60% of eco tourists prefer to travel as couples. They are dissenting travellers looking for knowledge based holidays who are also willing to pay more than the general tourist.

Geographical Markets

Further to the above profiling, our target market is geographically identified as follows.

<table>
<thead>
<tr>
<th>Region</th>
<th>Countries</th>
<th>Rationale for Selection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Western Europe</td>
<td>UK, Germany, France, Netherlands &amp; Italy</td>
<td>High spenders, Market information supporting targeted age group, The first 5 highest tourist arrivals to Sri Lanka</td>
</tr>
<tr>
<td>Asia &amp; Pacific</td>
<td>India</td>
<td>Geographical &amp; cultural proximity and high potential upper segment</td>
</tr>
<tr>
<td></td>
<td>Japan, Singapore, Malaysia, Hong Kong, Taiwan, South Korea</td>
<td>Regular Eco tourists &amp; high spenders</td>
</tr>
<tr>
<td>North America</td>
<td>USA</td>
<td>Untapped potential market, connections of promoters &amp; high spenders</td>
</tr>
<tr>
<td>Domestic Market</td>
<td></td>
<td>Emerging upper class and Yuppies, Emerging leisure trends, balancing off capacity</td>
</tr>
</tbody>
</table>
8. Crafting Strategies

8.1 Corporate Strategies

- Construct a hotel at a location which has access to eco tourist attractions.

The selected location is at Rajawella. A detailed description of the location’s strategic advantages is discussed under operational strategies.

Operate an eco tourist research centre

This is a centre established by the hotel in facilitating individuals or groups who are interested in discovering facts and enhancing their knowledge about our natural environment. The focus will be to extend this to Asia without restricting it only to Sri Lanka. The centre will be well equipped with a library on nature, which will have a wide array of books, latest publications & research work, interactive web facilities connecting other similar research centres around the world. It will give opportunities for researchers who are reading their research on their own with an obligation of sharing their findings into our library. The centre will have affiliations with universities both local and abroad and will have a regular membership base. It will coordinate academic work within its base and publish them on a regular basis. The members and accredited students will get benefits in the hotel for lodging, food and for tours.

8.2 Business Strategies

a) Differentiation strategies adopted

- The establishment of a research centre as a dated and current knowledge base on nature related issues in Asia along with the hotel. The provision of leisure and knowledge experience in one location, is a unique differentiating factor that we intend to offer to our guests.

- Location – Rajawella recognized as one of the most unpolluted areas in the central region in Sri Lanka. Also it has wide access from four main roads which is unique from other eco destinations.

- Unique choice of key attractions around the selected location offering as per the requirement of every single guest. The choices available are listed under product offerings.

- Personalized service offered to every single guest of the hotel and the research centre. From the time of airport pick up, to the choice of attractions, tour guides with language preferences, until departure every guest is given individual attention.

- The provision of interpreters, who are specialized in environmental science.
• Integration with the local environment in view of the development of the community in terms of provision of employment and as a source of supply

• Giving back more than what we take from our nature in terms of stressing the significance of conserving our natural environment through thoughts and action.

b) Alliances

• An alliance with a strategic partner who has experience in the nature based leisure industry in Sri Lanka. It is recommended that we tie up with a party who has experience in the industry and with existing marketing capabilities, taking advantage of their existing channels of distribution and financial strengths.

• Universities and research institutes who are interested in nature based research. Alliances with the Peradeniya University for assistance in research supervision, is also considered. We are looking to make alliances with foreign universities, giving opportunities for the undergraduate and postgraduate students to carry out research work on nature related studies in our centre.

• Associating with nature based interest groups.

• Long term agreements with tour companies

c) Product Market Reach

1. Researchers - Guided and unguided explorations
2. Foreign Guests - Standard and customized tour Packages
3. Local Guests - Packages to suit Unutilized room capacity

8.3 Functional strategies

a) Marketing strategies

Product strategies

Foreign Guests

• Standard packages for couples for five to eight day tours. Customized packages are also offered as per requirement of the customers. Arrangements could be made to find out the choice set of such customers prior to arrival.

• Also there would be special seasonal packages including attractions with migration of birds, influx of butterflies, other migrants in lagoons, orchid hunting seasons etc.

• Outlet to purchase natural products like recycled paper, mementos, pictures on nature and culture of Sri Lanka.

• Organizing special talk shows on environment by prominent authorities on the subject.
Domestic Guests

- Product offerings to the domestic markets – Weekend packages to accommodate local nature lovers.
- Packages for forums carried out on environmental issues

Research Centre

- Research centre product offerings include
  - A Fully equipped library
  - Availability of supervisors from universities
  - An Interactive web site
  - Collection of videos, CDs and tapes on the Asian natural environment.
  - Publications and research findings on the Asian natural environment.

Pricing Strategies

Foreign Guests

To have a Premium pricing strategy for the hotel. Also the pricing would be incremental over the years. The starting price would be USD 150 per night and it is intended to increase it up to 210 USD within the first five years for the foreign guests.

Offer price discounts for online reservations.

Domestic Guests

- Pricing policy for the local guests would also be premium on a local context. Starting price would be USD 80.

Research Centre

- Concessionary pricing policy for researchers that come to the research centre. Starting range is 60 USD. Prices will be revised from the third year.

Distribution & Sales Strategies

Foreign Guests

- Distribution expertise of our strategic partner. We intend to use the existing distribution channels of our strategic partner in bringing in guests within the first two years of our operation.
- Web site of our company – The interactive web site will provide facilities reserving of online. Pricing and other attractions will also be included.
• Our hotel intends to obtain membership in “The International Eco tourism Society” and various other eco tourists’ interest groups and societies around the world. Through this we intend to tap the membership base of these societies and carry out a direct marketing campaign to attract them to our hotel.

• We intend to use foreign tour operators that specialize in eco-tourism in the countries listed under point 5.5, as a specific target strategy in capturing tourists from yielding countries.

• The contacts of the three promoters to be used to make our concept reach the eco tourists in USA.

• Getting listed in mail order catalogues in Western Europe under Eco based travel section. Very popular medium in selling tourism in Europe

Domestic Guests

• To have a sales counter in our strategic partner’s Colombo office

Research Centre

• Intended researchers to be targeted from the Western and the North American markets. Listed in 8b through the alliance university system.

Promotional Strategies

Foreign guests

• Running selective adverts in Eco tourist magazines

• Inserting company profiles in the International Eco Tourism Society and other eco based societies’ communiqués and publications.

• Introduce a guest loyalty programme to attract the guests to revisit the facility on a continuous basis

• Direct mailers, e-mails to obtain membership in our association, through other member association data bases.

• Special offers for making reservations on the web site.

• Taking part in overseas eco tourism trade fairs.

• Promotional material and posters displayed on bulletin boards in the Sri Lankan consulate officers in the targeted list of countries in point 5.5.

• To offer free site seeing packages for guests who stay over 10 days in the hotel.

• To offer discounts to guests who make advance bookings.
Domestic guests

- Offering incentives for weekend packages through credit card providers.
- Offering combined packages with our strategic partner’s network
- Direct mailers to the target market with special offers to initiate purchase
- Organizing special events on Environmental Day and making sponsorships to local environmental projects.

Research centre

- To circulate a quarterly research journal on Asian ecology, based on the publications made by the researchers coming to our research centre.
- Formation of an association to deal with issues in relation to environmental conservation in Asia. The long-term objective of this program is to further associate ourselves as a major environmentally friendly eco tourist solution provider in the Asian region.
- Forming an internet – e group to share views relating environmental issues. The objective of this is to establish a network around the world to further our cause in promoting the environment and being the first in the minds of those potential groups.

The budget of Rs 12 million will be allocated at the inception to carry out the above promotional activities listed on a continuous basis.

HR Strategies

- Recruit high calibre individuals who have knowledge and passion for the natural environment.
- Managers and the executive grade need to possess the ability to speak English very fluently and at least one foreign Language.
- Recruit employees from the area who have knowledge of the local environment, into the lower ranks. By this, the company would be contributing towards local community development
- Employees to be trained in biodiversity programs either in a sit down programme in our research centre or on the job.
- All employees to undergo an intensive training on service excellence in providing a personalized experience to the guests.

Operational Strategies

a) Location Planning

Rajawella has easy access to several wild life sanctuaries (Victoria, Randenigala, Rantabe), a bird sanctuary at Rattota, access to several mini jungles, Victoria dam and Randenigala reservoir, Victoria Golf Course, cultural attractions of the Kandy city, Peradeniya Botanical gardens, frog village, Hunas oya falls and Uma oya, Raththana Ella falls, Hasalaka and Mahiyangana cultural interest, surrounded by mountains like Knuckles and Hunnasgiriya. and
the Pinnawela elephant orphanage. These attractions are listed in annexure one of this proposal.

b) Facility Planning

The hotel will be located in a 12-acre land at Rajawella. It will have 50 bedrooms, restaurant, bar, conference hall, sales centre, a swimming pool and an ‘open to nature’ area. The research centre will be situated adjoining the hotel. It will consist of a fully equipped library, an Internet café, 15 individual cubicles, a meeting room and a lecture hall.

The material and the books for the library are intended to be sourced from various institutes which would donate books and publications on nature.

c) Capacity Utilization Planning

The total accommodation capacity of the research centre and the hotel, the expected occupancy rates and the targeted pricing for the next five years are listed in annexure two of this proposal.

9. Linking the Strategies to Financials

a) Total capital requirement

The total capital requirement for the project is indicated as follows.

<table>
<thead>
<tr>
<th>Area of investment</th>
<th>Amount ( Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land on 99 year lease</td>
<td>8,000,000</td>
</tr>
<tr>
<td>Land development cost</td>
<td>5,000,000</td>
</tr>
<tr>
<td>Building ( Hotel and research centre)</td>
<td>40,000,000</td>
</tr>
<tr>
<td>Tools and utensils</td>
<td>2,500,000</td>
</tr>
<tr>
<td>Plant &amp; machinery</td>
<td>11,000,000</td>
</tr>
<tr>
<td>Guest management &amp; web site dev</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Furniture &amp; fittings</td>
<td>13,500,000</td>
</tr>
<tr>
<td>Vehicles ( one truck and one car )</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Library for the research centre</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Computers &amp; peripherals ( mainly research centre)</td>
<td>500,000</td>
</tr>
<tr>
<td>Interactive web site (research centre )</td>
<td>2,000,000</td>
</tr>
<tr>
<td>Initial marketing expenses</td>
<td>12,000,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100,000,000</strong></td>
</tr>
</tbody>
</table>

The above capital requirement would be financed as follows.

<table>
<thead>
<tr>
<th>Capital structure</th>
<th>Amount ( Rs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital in hand with promoters</td>
<td>30,000,000</td>
</tr>
<tr>
<td>Partner company Investment</td>
<td>25,000,000</td>
</tr>
<tr>
<td>Venture Capital Company</td>
<td>25,000,000</td>
</tr>
<tr>
<td>Easy Term Loan</td>
<td>20,000,000</td>
</tr>
<tr>
<td><strong>Total capital</strong></td>
<td><strong>100,000,000</strong></td>
</tr>
</tbody>
</table>
In financing the capital requirement, ordinary shares will be issued to the value of Rs 30 Million to the promoters, while Happy Holidays is expecting Rs. 25 million to be infused into the company from the strategic partner through an alliance.

The balance 45 million would be financed through debt capital. Rs. 25 million of this is to be financed from a venture capitalist and the balance to be negotiated with a bank for an easy term loan to be settled within a period of 20 years. The company will enjoy a 5 year tax holiday under the BOI scheme.

Land and building costs
The land would be acquired on a 99 year lease from the Central Provincial Council. The building consists approximately of 20,000 square feet and the estimated cost of Rs. 2000/= per square foot. This would include both the research centre and the hotel area.

b) Projected Profit and Loss account, Balance sheet and the cash flows.

Please refer annexure three, four and five for the projected P&L, balance sheet and the cash flows for the next five years of operations in Happy Holidays.

c) Key Financial Highlights.

The key ratios which evaluate the business performance over the next five years, are attached to annexure six of this report. In the analysis you may notice that the ROCE in the first two years are negative due to the higher proportionate of fixed operations costs compared with the total revenue projected.

d) Linking the Marketing Budget to the Financial Predictions

During the first year we have allocated Rs 12 million for marketing, which is expected to be deferred over a period of five years. The initial costs of developing the interactive web site, costs of printing brochures, costs of placing adverts in eco tourist magazines, costs of launching the hotel, gaining memberships in various eco tourist organizations and the direct mailer campaigns are a substantial part of our costs. Also approaching specialized tour operators and sponsoring them in our hotel, for familiarization tours and the initial investments of developing our distribution channels are also included in this planned expenditure.

10. Implementation

The next stage would be the presentation of this proposal to the strategic partner in investing along with us in this project. We will then pursue applying for a facility from a suitable financial institution to finance our balance fund requirements.

We will seek planning permission, environmental licensing and Ceylon Tourist Board approvals in blue printing our project.

The Project is to be completed and ready for operation within a period of one year.
11. Monitoring and Feedback

The following Balance Scorecard is developed to monitor and measure the performance of Happy Holidays.

<table>
<thead>
<tr>
<th>GOALS</th>
<th>MEASURES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial Perspective</strong></td>
<td></td>
</tr>
<tr>
<td>Revenue Growth</td>
<td>Sales turnover, sales per customer category, Occupancy rates on research centre and hotel</td>
</tr>
<tr>
<td>Return on investment</td>
<td>ROCE, profitability ratios</td>
</tr>
<tr>
<td>Asset Utilization</td>
<td>Occupancy rate in hotel and research centre, asset turnover ratio.</td>
</tr>
<tr>
<td><strong>Customer Perspective</strong></td>
<td></td>
</tr>
<tr>
<td>Customer satisfaction</td>
<td>Surveys and ratings on customer service.</td>
</tr>
<tr>
<td>Customer retention</td>
<td>Repeat customers, Loyalty programme of the hotel</td>
</tr>
<tr>
<td>Customer acquisitions</td>
<td>New customers through online reservations, membership bases, research centres, specialized tour operators</td>
</tr>
<tr>
<td><strong>Internal Business Perspective</strong></td>
<td></td>
</tr>
<tr>
<td>Service excellence</td>
<td>No of complaints, no of commendations, word of mouth recommendations</td>
</tr>
<tr>
<td>Technology capability</td>
<td>No of online reservations, No of support services introduced to aid research, Frequency of updating customer databases</td>
</tr>
<tr>
<td>New Product Introduction</td>
<td>No of new locations introduced, No of research papers published, No of new discoveries on natural environment</td>
</tr>
<tr>
<td><strong>Innovation and Learning</strong></td>
<td></td>
</tr>
<tr>
<td>Employee productivity</td>
<td>Revenue and profit per employee, No of guests per employee.</td>
</tr>
<tr>
<td>Employee satisfaction</td>
<td>Turnover rates, absenteeism, positive attitudes</td>
</tr>
<tr>
<td>Employee skills</td>
<td>New knowledge on nature, No of new locations found, No of innovative ways of servicing customers, No of service errors</td>
</tr>
</tbody>
</table>

12 Concluding Remarks.

We believe that the reader would have got a comprehensive idea of the concept presented, the intended course of action recommended and the feasibility of the project proposed. In addition, the financials presented would further reinforce the viability of this project and its attractiveness.

The promoter’s youthfulness and the enthusiasm coupled with their exposure to the hospitality and the Information Technology industry, would allow the hotel proposed to be a unique experience to the target market that it intends to serve. It is our view as consultants, that this project would be a viable and a prospective investment opportunity, giving return beyond industry standards in the long term.
Annexure One

Location map – Conceptual view
### Annexure 02
Accommodation Capacity and Occupancy Rates

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Accommodation Capacity</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>a) Hotel</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Rooms</td>
<td></td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
<td>35</td>
</tr>
<tr>
<td>Number of Guests per day</td>
<td>2</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
<tr>
<td>Number of Guest Nights</td>
<td>365</td>
<td>25,550</td>
<td>25,550</td>
<td>25,550</td>
<td>25,550</td>
<td>25,550</td>
</tr>
<tr>
<td><strong>b) Research Center</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of Rooms allocated for the research centre</td>
<td></td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Number of Guests</td>
<td>2</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Number of Guest Nights</td>
<td>365</td>
<td>10,950</td>
<td>10,950</td>
<td>10,950</td>
<td>10,950</td>
<td>10,950</td>
</tr>
<tr>
<td><strong>Occupancy Rates</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td>35%</td>
<td>40%</td>
<td>55%</td>
<td>70%</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>20%</td>
<td>20%</td>
<td>22%</td>
<td>25%</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>15%</td>
<td>20%</td>
<td>33%</td>
<td>45%</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>Research Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign (maximum allocated capacity)</td>
<td>10%</td>
<td>15%</td>
<td>18%</td>
<td>20%</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td><strong>Average Rate per Guest Night USD</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hotel</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local</td>
<td>80</td>
<td>80</td>
<td>90</td>
<td>100</td>
<td>115</td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>150</td>
<td>150</td>
<td>185</td>
<td>200</td>
<td>210</td>
<td></td>
</tr>
<tr>
<td>Research Centre</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Foreign</td>
<td>60</td>
<td>60</td>
<td>70</td>
<td>75</td>
<td>80</td>
<td></td>
</tr>
</tbody>
</table>
Annexure 03
Projected Profit and Loss Account

**PROFIT & LOSS ACCOUNT**

<table>
<thead>
<tr>
<th>YEAR</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales Revenue From Hotel</td>
<td>93,449</td>
<td>117,530</td>
<td>216,900</td>
<td>323,208</td>
<td>392,991</td>
<td></td>
</tr>
<tr>
<td>Sales Revenue From Research Centre</td>
<td>6,242</td>
<td>9,855</td>
<td>14,487</td>
<td>18,068</td>
<td>20,148</td>
<td></td>
</tr>
<tr>
<td>The Liquor Shop</td>
<td>4,985</td>
<td>6,369</td>
<td>11,569</td>
<td>17,064</td>
<td>20,657</td>
<td></td>
</tr>
<tr>
<td>Total Revenue</td>
<td>104,675</td>
<td>133,754</td>
<td>242,957</td>
<td>358,339</td>
<td>433,796</td>
<td></td>
</tr>
<tr>
<td>Net Profit Margin Before Marketing Expenses</td>
<td>5%</td>
<td>7%</td>
<td>10%</td>
<td>12%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Profit before Marketing Expenses</td>
<td>5,234</td>
<td>9,363</td>
<td>24,296</td>
<td>43,001</td>
<td>52,056</td>
<td></td>
</tr>
<tr>
<td>Marketing Expenses</td>
<td>7,500</td>
<td>10,500</td>
<td>13,000</td>
<td>10,500</td>
<td>10,500</td>
<td></td>
</tr>
<tr>
<td>Profit before Taxation</td>
<td>(2,266)</td>
<td>(1,137)</td>
<td>11,296</td>
<td>32,501</td>
<td>41,556</td>
<td></td>
</tr>
<tr>
<td>Taxation</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Profit After Tax</td>
<td>(2,266)</td>
<td>(1,137)</td>
<td>11,296</td>
<td>32,501</td>
<td>41,556</td>
<td></td>
</tr>
<tr>
<td>Interest</td>
<td>5,800</td>
<td>5,544</td>
<td>5,031</td>
<td>4,519</td>
<td>4,006</td>
<td></td>
</tr>
<tr>
<td>Profit after Interest and Tax</td>
<td>(8,066)</td>
<td>(6,681)</td>
<td>6,264</td>
<td>27,982</td>
<td>37,549</td>
<td></td>
</tr>
<tr>
<td>Dividend Distribution</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Retained Profits</td>
<td>(8,066)</td>
<td>(6,681)</td>
<td>(1,986)</td>
<td>16,982</td>
<td>26,549</td>
<td></td>
</tr>
</tbody>
</table>
## Annexure 04
Projected Balance Sheet

<table>
<thead>
<tr>
<th>Balance Sheet</th>
<th>Year</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fixed Assets at Cost</td>
<td>88,000</td>
<td>88,000</td>
<td>88,000</td>
<td>88,000</td>
<td>88,000</td>
<td>88,000</td>
<td></td>
</tr>
<tr>
<td>Cumulative Depreciation</td>
<td>-</td>
<td>9,136</td>
<td>18,272</td>
<td>28,908</td>
<td>39,544</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WDV</td>
<td>88,000</td>
<td>88,000</td>
<td>78,864</td>
<td>69,728</td>
<td>59,092</td>
<td>48,456</td>
<td></td>
</tr>
<tr>
<td>Deferred Marketing Expenses</td>
<td>12,000</td>
<td>12,000</td>
<td>9,000</td>
<td>6,000</td>
<td>3,000</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Current Assets</td>
<td>100,000</td>
<td>100,000</td>
<td>87,864</td>
<td>75,728</td>
<td>62,092</td>
<td>48,456</td>
<td></td>
</tr>
<tr>
<td>Stocks &amp; debtors</td>
<td>8,500</td>
<td>9,563</td>
<td>10,758</td>
<td>12,103</td>
<td>13,615</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Current Assets</td>
<td>5,972</td>
<td>6,868</td>
<td>7,898</td>
<td>9,083</td>
<td>10,445</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash Balance/(OD)</td>
<td>-</td>
<td>851</td>
<td>12,622</td>
<td>49,077</td>
<td>93,208</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current Liabilities</td>
<td>14,472</td>
<td>17,281</td>
<td>31,278</td>
<td>70,262</td>
<td>117,268</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trade Creditors</td>
<td>6,978</td>
<td>8,917</td>
<td>8,908</td>
<td>11,945</td>
<td>14,460</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Payable</td>
<td>3,133</td>
<td>14,264</td>
<td>21,911</td>
<td>31,034</td>
<td>39,132</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest Payable</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Current Assets</td>
<td>10,595</td>
<td>23,643</td>
<td>31,239</td>
<td>43,355</td>
<td>53,926</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net Assets</td>
<td>100,000</td>
<td>103,877</td>
<td>81,502</td>
<td>75,767</td>
<td>88,999</td>
<td>111,799</td>
<td></td>
</tr>
<tr>
<td>Share Capital &amp; Loans</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Share Capital</td>
<td>55,000</td>
<td>55,000</td>
<td>55,000</td>
<td>55,000</td>
<td>55,000</td>
<td>55,000</td>
<td></td>
</tr>
<tr>
<td>Long Term Loans</td>
<td>45,000</td>
<td>45,000</td>
<td>41,250</td>
<td>37,500</td>
<td>33,750</td>
<td>30,000</td>
<td></td>
</tr>
<tr>
<td>Retained Profits</td>
<td>(8,066)</td>
<td>(14,747)</td>
<td>(16,733)</td>
<td>249</td>
<td>26,798</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Employed</td>
<td>100,000</td>
<td>91,934</td>
<td>81,503</td>
<td>75,767</td>
<td>88,999</td>
<td>111,799</td>
<td></td>
</tr>
</tbody>
</table>
### Annexure 05
Projected Cash Flow

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 0</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Profit before tax</td>
<td>-</td>
<td>(2,266)</td>
<td>(1,137)</td>
<td>11,296</td>
<td>32,501</td>
<td>41,556</td>
</tr>
<tr>
<td>add: Depreciation</td>
<td>-</td>
<td>-</td>
<td>12,136</td>
<td>12,136</td>
<td>13,636</td>
<td>13,636</td>
</tr>
<tr>
<td>less: increase in working capital</td>
<td>-</td>
<td>(1,522)</td>
<td>876</td>
<td>(1,204)</td>
<td>1,691</td>
<td>1,002</td>
</tr>
<tr>
<td>less: tax paid</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>less dividends paid</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>(8,250)</td>
<td>(11,000)</td>
<td>(11,000)</td>
</tr>
<tr>
<td>Cash from operations</td>
<td>-</td>
<td>(3,788)</td>
<td>11,875</td>
<td>13,978</td>
<td>36,828</td>
<td>45,194</td>
</tr>
</tbody>
</table>

**Investing cash flows**
- Net purchase of fixed assets: 88,000
- Marketing Expenses: 12,000
- Free cash flow: (100,000)

**Financing cash flows**
- Loans 1: 25,000
- Loans 2: 20,000
- Share Issues: 55,000
- Interest Payments: 5,317
- Loan repayments: -3,750
- Net cash flow from financing: 100,000

| Net cash flow | - (5,971) | 13,690 | 12,802 | 37,640 | 45,493 |
| Opening cash balance | - (5,971) | 7,719  | 20,521 | 58,160 | 103,653 |

**Increase in working capital**
- Stocks & debtors: 8,500
- Trade creditors: 6,978
- Increase in working capital: 1,522

<table>
<thead>
<tr>
<th>Increase in working capital</th>
<th>8,500</th>
<th>1,063</th>
<th>1,195</th>
<th>1,345</th>
<th>1,513</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade creditors</td>
<td>6,978</td>
<td>1,939</td>
<td>(9)</td>
<td>3,036</td>
<td>2,515</td>
</tr>
<tr>
<td>Increase in working capital</td>
<td>1,522</td>
<td>(876)</td>
<td>1,204</td>
<td>(1,691)</td>
<td>(1,002)</td>
</tr>
</tbody>
</table>
### Key Financial Highlights

#### Results at a Glance

<table>
<thead>
<tr>
<th>Year</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>USD '000</td>
<td>1,102</td>
<td>1,338</td>
<td>2,314</td>
<td>3,258</td>
<td>3,772</td>
</tr>
<tr>
<td>Rs. '000</td>
<td>104,675</td>
<td>133,754</td>
<td>242,957</td>
<td>358,339</td>
<td>433,796</td>
</tr>
<tr>
<td>Profit Before Taxation</td>
<td>-2,266</td>
<td>-1,137</td>
<td>11,296</td>
<td>32,501</td>
<td>41,556</td>
</tr>
<tr>
<td>Average Occupancy Rate</td>
<td>45%</td>
<td>55%</td>
<td>73%</td>
<td>90%</td>
<td>95%</td>
</tr>
</tbody>
</table>

#### Calculate

**Profitability Ratios**

- Net Profit Margin
- Revenue on Total Assets (Times)
- Return on Total Assets (Times)
- ROCE

**Dividend Issue**

- Leverage Ratios
- Debt Equity Ratio
- Debt Assets Ratio
### THE LOAN SCHEDULE

#### LOAN 1

<table>
<thead>
<tr>
<th>Year</th>
<th>Opening balance</th>
<th>Disbursements</th>
<th>Repayments</th>
<th>Closing balance</th>
<th>Disbursement</th>
<th>Repayments</th>
<th>Total repayments</th>
<th>Interest</th>
<th>Total Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>25,000,000</td>
<td>0</td>
<td>0</td>
<td>25,000,000</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4,000,000</td>
<td>5,800,000</td>
</tr>
<tr>
<td>1</td>
<td>25,000,000</td>
<td>0</td>
<td>2,500,000</td>
<td>22,500,000</td>
<td>0</td>
<td>0</td>
<td>2,500,000</td>
<td>3,800,000</td>
<td>5,543,750</td>
</tr>
<tr>
<td>2</td>
<td>20,000,000</td>
<td>0</td>
<td>2,500,000</td>
<td>20,000,000</td>
<td>0</td>
<td>0</td>
<td>2,500,000</td>
<td>3,400,000</td>
<td>5,031,250</td>
</tr>
<tr>
<td>3</td>
<td>18,750,000</td>
<td>0</td>
<td>2,500,000</td>
<td>17,500,000</td>
<td>0</td>
<td>0</td>
<td>2,500,000</td>
<td>3,000,000</td>
<td>4,518,750</td>
</tr>
<tr>
<td>4</td>
<td>17,500,000</td>
<td>0</td>
<td>2,500,000</td>
<td>16,250,000</td>
<td>0</td>
<td>0</td>
<td>2,500,000</td>
<td>2,600,000</td>
<td>4,006,250</td>
</tr>
<tr>
<td>5</td>
<td>16,250,000</td>
<td>0</td>
<td>2,500,000</td>
<td>15,000,000</td>
<td>0</td>
<td>0</td>
<td>2,500,000</td>
<td>2,500,000</td>
<td>2,500,000</td>
</tr>
</tbody>
</table>

#### LOAN 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Opening balance</th>
<th>Disbursements</th>
<th>Repayments</th>
<th>Closing balance</th>
<th>Disbursement</th>
<th>Repayments</th>
<th>Total repayments</th>
<th>Interest</th>
<th>Total Interest</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>20,000,000</td>
<td>0</td>
<td>1,250,000</td>
<td>20,000,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,800,000</td>
<td>5,800,000</td>
</tr>
<tr>
<td>1</td>
<td>20,000,000</td>
<td>0</td>
<td>1,250,000</td>
<td>18,750,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,743,750</td>
<td>5,543,750</td>
</tr>
<tr>
<td>2</td>
<td>20,000,000</td>
<td>0</td>
<td>1,250,000</td>
<td>17,500,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,631,250</td>
<td>5,031,250</td>
</tr>
<tr>
<td>3</td>
<td>18,750,000</td>
<td>0</td>
<td>1,250,000</td>
<td>16,250,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,518,750</td>
<td>4,518,750</td>
</tr>
<tr>
<td>4</td>
<td>17,500,000</td>
<td>0</td>
<td>1,250,000</td>
<td>15,000,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,406,250</td>
<td>4,006,250</td>
</tr>
<tr>
<td>5</td>
<td>16,250,000</td>
<td>0</td>
<td>1,250,000</td>
<td>13,750,000</td>
<td>0</td>
<td>0</td>
<td>1,250,000</td>
<td>1,250,000</td>
<td>2,500,000</td>
</tr>
</tbody>
</table>

### Chapter 14 – Financial Impact of Marketing Decisions