UNIT 1: MANAGEMENT ACCOUNTING

INTRODUCTION

Management accounting can be viewed as Management-oriented Accounting. Basically it is the study of managerial aspect of financial accounting, "accounting in relation to management function". It shows how the accounting function can be re-oriented so as to fit it within the framework of management activity. The primary task of management accounting is, therefore, to redesign the entire accounting system so that it may serve the operational needs of the firm. If furnishes definite accounting information, past, present or future, which may be used as a basis for management action. The financial data are so devised and systematically development that they become a unique tool for management decision.

DEFINITION

The Report of the Anglo-American Council of Productivity (1950) has also given a definition of management accounting, which has been widely accepted. According to it, "Management accounting is the presentation of accounting information in such a way as to assist the management in creation of policy and the day to day operation of an undertaking".

According to R.N. Anthony.

"Management accounting is concerned with accounting information that is useful to management".

Anglo American Council of Productivity.

"Management accounting is the presentation of accounting information is such a way as to assist management in the creation of policy and in the day-to-day operations of an undertaking".

According to J. Batty.

"Management Accounting is a term used to describe the accounting methods, system and techniques which, coupled

with special knowledge and ability, assists management in its task of maximizing profits or minimizing losses".

As per Institute of Cost and Works Accountants of India (ICWAI), "Management Accounting is a system of collection and presentation of relevant economic information relating to an enterprise for planning, controlling and decision-making".

According to American Accounting Association (AAA), "Management Accounting is the application of appropriate techniques and concepts in processing historical and projected economic data of an entry to assist management in establishing plans for reasonable economic objectives in the making of rational decisions with a view towards these objectives".

As per Certified Institute of Management Accountants (CIMA), United Kingdom, "Management Accounting is an integral part of management concerned with identifying, presenting and interpreting information used for formulating strategy, planning and controlling activities, decision-making, optimizing the use of resources, disclosure to shareholders and other external to the entity, disclosure to employees, and safeguarding assets".

SCOPE OF MANAGEMENT ACCOUNTING

Management Accounting has a very widespread scope. It covers a very wide area of accounting system, which is discussed as follows:

1. **Financial Accounting:** Financial Accounting provides the basic historical data to the Management Accounting which analyses and interprets those data and provides necessary

information to the management for its planning, controlling and decision-making. As Management Accounting does not maintain the basic financial records, the success of an effective and efficient Management Accounting Syst em depends on the existence of an effective Financial Accounting System. Therefore, Management Accounting System can be introduced into an organization where there exists a well-designed Financial Accounting System. Management Accounting applies the principles and practices of Financial Accounting.

- 2. Cost Accounting: On the one hand, Cost Accounting provides cost-related basic data to the Management Accounting, which analyses and interprets those costing data and provides necessary information to the management for the purpose of its controlling and decision-making. On the other hand, most of the Cost Accounting techniques like Standard Costing, Budgetary Control, Marginal Costing, Cost-Volume-Profit (CVP) Analysis, Differential Cost Analysis and Inventory Controlling, are used by Management Accounting in its process of planning, controlling and decision-making. Management Accounting uses the principles and practices of Cost Accounting.
- 3. **Forecasting and budgeting:** Management Accounting exercises the tool of forecasting and budgeting in the process of planning, controlling and decision-making. Forecasting makes an estimate of the probable event with a set of given or assumed information. Budgeting prepares a number of plans for any future project by setting definite goals. Forecasting helps to prepare the budget and budgeting helps to exercise the budgetary control technique on future projects. Both these tools are frequently used in Management Accounting.
- 4. **Statistical tools:** Various statistical tools like graphs, charts, diagrams, time series, sampling, index numbers and Regression Analysis are used in Management Accounting in the process of planning, controlling and decision-making.
- 5. **Operational research techniques:** Various operational research techniques like Linear Programming, Transportation Theory, Games Theory and Simulation Method are used in Management Accounting to resolve various problems prevailing under the existing situation in the process of decision-making.
- 6. **Financial analysis and interpretation:** Various financial analysis techniques such as Ratio Analysis, Fund Flow Analysis, Cash Flow Analysis, Comparative Financial Statement, Common-Size Statement and Trend Analysis are widely used in Management Accounting to analyse and interpret financial data to make them easily understandable and useable to the management. Successful application of Management Accounting depends a lot on these financial analysis and interpretation works.
- 7. **Tax accounting and tax planning:** Determination of taxable income and tax liability of the enterprise fall within the purview of the Management Accounting. In the process of decision-making, the analysis of implication of tax provisions on future projects also falls within the purview of Management Accounting. On the other hand, the management accountant must have a vast knowledge of tax laws and their accounting procedures, and also tax planning, to minimize the tax burden of the enterprise.
- 8. **Management Information System (MIS):** Management Information System (MIS) is a modern computerized information system, by which accurate processing and analysis of a large volume of data can be done within a very short time. This information system is used in Management Accounting to provide necessary and relevant information to the management in the process of its planning, controlling and decision-making.

- 9. **Internal control and internal audit:** Management Accounting highly depends on internal control system existing in the organization, like internal check and internal audit, to appraise the targeted performance and to identify the weaker area of the organization.
- 10. **Office system:** Management Accounting System should also be well conversant with the modern office management system like filing, indexing, copying, electronic data processing, information network system, and email and fax system.
- 11. **Legal provisions:** Management Accounting System should also be well informed about relevant and necessary legal provisions like Companies Act, Foreign Exchange Act, Securities Act, and Direct and Indirect Tax Laws. In the process of decision-making, management accountants should restrict their plan and action within the periphery of such legal provisions.
- 12. **Other areas:** Apart from the aforementioned areas, Management Accounting also includes various newly developed areas of accounting like Human Resource Accounting, Social Accounting, Environmental Accounting and Inflation Accounting, within the purview of its scope.

ROLE OR FUNCTION OF MANAGEMENT ACCOUNTING

The function of Management Accounting is to assist the management to perform its functions of planning, organizing, directing, controlling and decision-making. The major functions of Management Accounting are as follows:

- 1. **Collection of data:** Management Accounting does not maintain records of financial and cost data butt collects the basic financial data mainly from the records as maintained by financial and Cost Accounting for the purpose of preparing plans and actions of the management.
- 2. **Supply of modified data:** It modifies the collected raw data by classifying and compiling them for making them suitable for the purpose of their analysis and interpretation. It extracts the necessary and effective information from those basic data for the purpose of their analysis and interpretation.
- 3. **Analysis and interpretation of data:** It analyses and interprets those modified data and extracts the necessary and effective information for making them understandable and useable to the management in the process of its planning, controlling and decision-making. After analysing and interpreting all those data, it presents the results with necessary comments to the management.
- 4. Planning and forecasting: It formulates some definite plans for implementing policies of the management. It helps the management for formulating different short- and long-term policies by providing necessary and relevant information in relation thereto. In the process of formulating policies and for their proper execution, it makes the forecasting of some probable future happenings.
- 5. **Communication:** It provides a means of communicating plans and actions of the management over all areas of activities of the organization. It provides necessary and relevant information to all levels of management.
- 6. **Ensuring control:** It ensures a control over the performance of different sections of an enterprise. It uses various techniques like Budgetary Control, Standard Costing and Responsibility Accounting, and to identify the weaker areas of performance of activity and suggests appropriate remedial measures to overcome the prevailing problems.

- 7. **Helping in decision-making:** It helps the management in the process of its effective decision-making by providing necessary and relevant information in the relation thereto.
- 8. **Performance evaluation:** It evaluates the performance of activities of different divisions as well as the business as a whole of an enterprise by using its various tools and techniques.
- 9. **Preparation of reports:** It prepares reports of performances of different activities of the enterprise and provides to the management on regular intervals. These managerial reports are prepared as per the requirement of the management.

TOOLS AND TECHNIQUES OF MANAGEMENT ACCOUNTING

Management Accounting uses various tools and techniques for providing necessary and effective information to the management for performing its managerial functions. Various tools and techniques that are commonly used in Management Accounting are discussed as follows:

- 1. **Financial Statement Analysis:** It is a methodical and systematic analysis and interpretation of the data as disclosed in the balance sheet and income statement with a view to extract necessary and relevant information for proving them to the management for determining liquidity, solvency, profitability, activity and the managerial performance of the enterprise. Various tools of Financial Statement Analysis such as Ratio Analysis, Comparative Financial Statement, Common-Size Statement and Trend Analysis are frequently used in Management Accounting for analysis and interpretation of financial statements.
- 2. **Fund Flow Analysis:** It is a detailed analysis of inflows and outflows of fund (i.e., the working capital) of an enterprise during a particular accounting period. Such analysis is done by preparing a Fund Flow Statement at the end of an accounting period. The Fund Flow Statement exhibits inflows and outflows of fund from various activities of the enterprise during an accounting period. As working capital is considered as the life-blood of every business concern, efficient management of working capital is highly effective for the smooth running of all operating activities of the concern. For an effective and efficient management of the working capital of a concern, Fund Flow Analysis is frequently used as a tool of the Management Accounting.
- 3. **Cash Flow Analysis:** It is a detailed analysis of inflows and outflows of cash and cash equivalents (i.e., cash in hand, cash at bank and short-term investments) of an enterprise during a particular accounting period. Such analysis is done by preparing a Cash Flow Statement at the end of an accounting period. The Cash Flow Statement so prepared exhibits the inflows and outflows of cash from various activities of the enterprise during an accounting period. As the movement of cash is very much significant to every business c oncern, an efficient management of cash is highly effective for the liquidity planning of the concern. For an effective and efficient management of cash of a concern, Cash Flow Analysis is frequently used as a tool of Management Accounting.
- 4. **Costing techniques:** Various costing techniques such as Marginal Costing, Standard Costing and Differential Costing are frequently used as tools of Management Accounting in its process of cost control and decision- making.
- 5. **Budgetary control:** Budgetary control involves framing of budgets, comparison of actual results with budgeted estimates, ascertainment of any deviation of actual results from budgeted estimates by computation of variances and adoption of necessary remedial measures against such deviation. It is an essential tool widely used in the Management Accounting in the process of its controlling, planning and performance evaluation of an enterprise.

- 6. **Statistical and operational research techniques:** Various statistical and operational research techniques such as charts, graphs, index number, sampling, time series, Regression Analysis, Linear Programming, Games Theory, and Programme Evaluation and Review Technique (PERT) are frequently used as tools of Management Accounting in its process of performance evaluation and decision-making.
- 7. **Responsibility Accounting:** It involves preparation of budget for various responsibility centres and assignment of specific responsibilities to the concerned individual managers for carrying out the budget directions. In the process of cost control, responsibility accounting is widely used as a tool of Management Accounting.
- 8. **Management Reporting:** It involves preparation and submission of reports of performance of various activities of a concern to the management on regular intervals for its effective planning, controlling, performance evaluation and decision-making. Management Reporting is widely used as an essential tool in Management Accounting.

PRINCIPLES OF MANAGEMENT ACCOUNTING

Besides the basic accounting principles which are accepted generally throughout the accounting profession, the following are the additional conventions/ principles which are now generally regarded as essential part of management accounting:

- 1. **Designing and controlling:** accounting information records reports statements and other evidence of past present or future results should be designed and complied to meet the needs of the particular business and or specific problem.

 This implies a certain flexibility of system. When a particular problem is to be solved the system should be capable of producing the relevant data. If necessary there must be departure from double entry principles. Accounting and operational research principles should be linked together. Information should be modified and that if these principles are carried too far, the cost of the management accountancy system may become excessive. It is partly for this reason that a systematic rather than and method is used for accumulating costing data.
- 2. **Management by exception:** The "principles of management by exception" is followed when presenting information to management.

 This assumes that plans are predetermined and then actual results are compared with expected results. If there are no deviations there is no necessity to report. When there are
 - variations from predetermined plans, management is informed precily of what is going wrong. In this way, the information presented to management is kept to the minimum, yet at the same time all important fact are being revealed. What is more management has less to read and study and therefore should have more time to take action.
- 3. **Control at source Accounting:** Cost are best controlled at the points at which they are incurred –"control at source accounting".
 - Recognition of this convention is acknowledge trough the preparation of departmental operating statement and the design of costing system which control individual workers material issues and the usage of services. The inculcation of cost consciousness is also an essential part of this convention.
- 4. **Accounting for Inflation:** A part cannot be said to be earned unless capital is maintained intact in real terms. This convention recognises that the monetary unit is not stable. Attempts to overcome the effects of changes in the value of money have been made via revaluation accounting but as yet there is no general acceptance of the theory. However there is strong

evidence that more accountants are modifying their views to meet the dynamic state of business and the economy.

- 5. **Use of ROI:** Return on capital employed is used as the criterion for measuring the efficiency of the business. For this purpose the capital employed should be calculated by reference to current replacement values.
- 6. **Utility:** Management accounting system and related forms should be used only as long as they serve a useful purpose.
- 7. **Integration:** There should be integration of all management information so that fullest use is made of the fact available and at the time, the accounting services should be provided at minimum cos.
- 8. **Absorption of overhead cost:** Overhead cost should be apportioned to cost centres and absorbed to product on the basis of benefit received for fixed costs or responsibilities incurred for variable cost. The method or methods selected should bring about the desired result of recovering the overhead in the most equitable manner. However this is subject to what is stated on this matter later in the chapter on "Marginal Costing Profit Planning".
- 9. **Utilisation of Resources:** Management accountancy should Endeavour to show whether or not the resources of the business are being utilised in the most effective manner.
- 10. **Controllable and Uncontrollable Costs:** When tracing responsibility a clear distinction should be made between those costs which are controllable and those which are uncontrollable by the management of the business or department concerned.
- 11. **Forward-Looking Approach:** Management accountant should seek to anticipate problems and prevent them. There should be a forward-looking approach, and actual costs should be employed only as measures of achievements realised. This principal recognizes the importance of budgetary control and standard Costing.
- 12. **Appropriate Means:** The most of accumulating, recording and presenting the accountancy information should be selected.
 - This normally implies that mechanization should be adopted as much as possible. It does not mean that every business should employ a computer. The machines selected should be of a size and type that can economically be insufficient work for a computer then clearly this should not be acquired.
- 13. **Personal Contacts:** Personal contact with departmental managers, Foremen, and others cannot be entirely by reports and statements.

The above list of conventions is fairly long. However, it is not exhaustive on account of the subject of management accounting being growing one. It may be possible that in the times to come many more suitable conventions may be developed by the management accountants all over the world which may take the form of universally acceptable management accounting principles.

DIFFERENCE OF FINANCIAL ACCOUNTING, COST ACCOUNTING AND MANAGEMENT

Points	Financial A/C ting	Cost A/C ting	Management A/C ting
Meaning	Financial accounting is a branch of accounting in which Accounting transaction are systematically recorded with objective to know the profit or loss of the business at the end of the year & to know the financial position of the business.	Cost accounting ting is a special branch of accounting in which costing & cost accounting principles techniques & methods are applied with objective to know the total cost of production cost per unit & cost control & cost reduction.	is a special branch of accounting in which accounting is presented in such a way that it is useful to the management in performing its various function like planning organizing controlling and decision making.
Scope	The scope of financial accounting is very limited to financial transaction only.	The scope of cost accounting is wider than financial accounting as it includes other transaction also.	The scope of management accounting is widest because it includes all monitory transaction.
Qualification	The financial accounting does not required any specific qualification but generally in big organization the financial accounting work is done by CA.	The cost accounting work generally performed by cost Accountant with qualification recognized by ICWA.	The management accounting work is generally performed by staff of senior level management having knowledge of accounting with a status of management accountant.
Period	The financial accounting all transaction are recorded of 1 year & the information is revealed of 1 year at the end of the year.	The cost accountings generally collect & present the data 1 year.	The management accounting is concerned with future & prepares data as per the management of the management which can be less than 1 year.
Usefulness	Financial accounting is useful to know the profit or loss of the business & to know the financial position of the business at the end of the year.	Cost accounting is useful to know the total cost of production as well as cost per unit & to do cost control & cost reduction.	Management accounting is useful to the management in performing various function like planning organizing controlling & decision making.
Legal position	Financial accounting is compulsory required to be prepared by the various provisions of company's act & income tax act.	Cost accounting is not compulsory except for certain industries govern by the provision of sec 33-b	Management accounting is not a tall compulsory & it is only prepare for being helpful to the Management.
Status	The financial accountant status is not too high within the organization.	The cost accountant status is higher than financial accountant within the organization.	Management accountant is having highest status within the organization.

Accuracy of	In financial accounting	In cost accounting also	In Management
Amount	accurate figure are	up to certain extent	Accounting figures are
	absolutely necessary.	accuracy is required in	approximated & less
		accounting figure.	accuracy in figures is
			required.

THE MANAGEMENT ACCOUNTANT

Management Accounting provides significant economic and financial data to the management and the Management Accountant is the channel through which this information efficiently and effectively flows to the management. The Management Accountant has a very significant role to perform in the installation, development and functioning of an efficient and effective management information system. He designs the framework of the financial and cost control reports that provide each management level with the most useful data at the most appropriate time. He educates executives in the need for control information and ways of using it. This is because his position is unique with respect to information about the organization. Apart from top management no one in the organization perhaps knows more about the various functions of the organization than him. He is, therefore, sometimes described as the Chief Intelligence Officer of the top management. He gathers information, breaks it down, sifts it out and organizes it into meaningful categories. He separates relevant and irrelevant information and then ranks relevant information in an intelligible form to the management and sometimes also to those who are interested in the information in the information outside the company. He also compares the actual performance with the planned one and reports and interprets the results of operations to all levels of management and to the owners of the business. Thus, in brief, management accountant or controller is the person who designs the management information system for the organization, operates it by means of interlocked budgets, computes variances and exhorts others to institute corrective measures.

Mr. P.L. Tandon has explained beautifully the position of the management accountant in the following words. "The management accountant is exactly like the spokes in a wheel, connecting the rim of the wheel and the hub receiving the information. He processes the information and then returns the processed information back to where it came from".

Dr. Don barker sees a very bright future for the management accountants. According to him, "Management Accountants will be presented with many opportunities for innovative actions in the global economic environment. In addition to their role of providing accurate, timely and relevant information, management accountants will be expected to participate as business consultants and partners with management in the strategic planning process".

Thus, there are tremendous possibilities for management accountants to shine as a professional group in the years to come. To fit in this role, it is necessary that the management accountants develop effective communication abilities, adopt a structured approach, a flexible accommodation and keep themselves aware with the latest evolving technologies in the profession.

FUNCTIONS OF MANAGEMENT ACCOUNTANT

It is the duty of the management accountant to keep all levels of management informed of their real position. He has, therefore, varied functions to perform. His important functions can be summarized as follows:

- 1. **Planning:** He has to establish, coordinate and administer as an integral part of management, an adequate plan for the control of the operations. Such a plan would include profit planning, programmes of capital investment and financing, sales forecasts, expenses budgets and cost standards.
- 2. **Controlling:** He has to compare actual performance with operating plans and standards and to report and interpret the results of operations to all levels of management and the owners of the business. This id done through the compilation of appropriate accounting and statistical records and reports.
- 3. **Coordinating:** He consults all segments of management responsible for policy or action. Such consultation might concern any phase of the operation of the business having to do with attainment of objectives and the effectiveness of the organizational structures and policies.

4. Other functions:

- He administers tax policies and procedures.
- He supervises and coordinated the preparation of reports to governmental agencies.
- He ensures fiscal protection for the assets of the business through adequate internal control and proper insurance coverage.
- He carries out continuous appraisal economic and social forces and the government influences, and interprets their effect on the business.

It should be noted that the functions of a Management Accountant are more of those of a 'staff official'. He, in addition to processing historical data, supplies a good deal of information concerning the future operations in line with the management's needs. Besides serving top management with information concerning the company as a whole, he supplies detailed information to the line officers regarding alternative plans and their profitability, which help them in decision-making. As a matter of fact the Management Accountant should not bother himself regarding the decision taken by the line officials after tendering advice unless he has reasonable grounds to believe that such a decision is going to affect the interests of corporation adversely. In such an event also he should report it to the concerned level of management with tact, firmness combined with politeness.

LIMITATIONS OF MANAGEMENT ACCOUNTING:

Despite the fact that Management Accounting acts as a very useful tool to the management in the process of performing its managerial functions, it suffers from the following limitations:

- **1. Reliance on accounting data:** Management Accounting collects the basic data mainly from the records as maintained by financial and Cost Accounting. Hence, it starts to work on the basis of the data as supplied by the other branches of accounting. If those basic data are incorrect, then the entire effort of the management accountant becomes useless.
- **2. Based on historical data:** It guides the management in the process of decision-making for the future activities on the basis of the historical data as supplied by Financial Accounting and Cost Accounting. Therefore, Management Accounting uses historical data for making future decisions, which may not always result in a correct decision.
- **3. Wide scope:** It covers a very vast area and also includes a number of related fields such as Financial Accounting, Cost Accounting, Statistics, Operational Research, Law and Economics, to become more effective to the management. It is really very difficult to

develop such a Management Accounting System where all the related people are not well-equipped with full knowledge of all these related areas.

- **4. Highly expensive:** The installation of a sound Management Accounting System in a concern is highly expensive as it essentially requires a wide network of management information system. Moreover, the operating expense of the Management Accounting department is also very high. As a result, small concerns generally cannot afford to install this system.
- **5. Complicated application:** It is such a system where a number of different tools and techniques are applied. It also uses a number of accounting and non-accounting subjects for analysis and interpretation of data. Accordingly, its proper application is really complicated when compared to other branches of accounting. A management accountant may try to avoid such a complicated approach of decision-making.
- **6. Lack of objectivity:** It uses both quantitative as well as qualitative data for analysis and interpretation, and also prepares reports on the basis of such interpretation. The interpretation of information as provided by Management Accounting in the form of reports may be influenced by a personal bias of the interpreter, which may reduce the utility of Management Accounting.
- **7. Not a substitute of management:** It merely provides necessary and relevant information to the management to perform their managerial functions of planning, controlling and decision-making in an effective and efficient manner, but certainly is not a substitute for the management itself. It acts only as a decision-making tool to assist the management, but cannot take the ultimate decision on its own.
- **8. Developing stage:** It is still in its developing stage as it is relatively a recent area in the field of accounting. It follows some concepts and conventions which are not yet generally accepted. Many experiments have been still in progress on this area of accounting.

ADVANTAGES OF MANAGEMENT ACCOUNTING

The advantages of management accounting are summarized below:

- 1. **Helps in Decision Making: Management** accounting helps in decision making such as pricing, make or buy, acceptance of additional orders, selection of suitable product mix etc. These important decisions are taken with the help of marginal costing technique.
- 2. **Helps in Planning:** Planning includes profit planning, preparation of budgets, programmes of capital investment and financing. Management accounting assists in planning through budgetary control, capital budgeting and cost-volume-profit analysis.
- 3. **Helps in Organizing: Management** accounting uses various tools and techniques like budgeting, responsibility accounting and standard costing. A sound organizational structure is developed to facilitate the use of these techniques.
- 4. **Facilitates Communication: Management** is provided with up-to-date information through periodical reports. These reports assist the management in the evaluation of performance and control.

- 5. **Helps in Co-ordinating:** The functional budgets (purchase budget, sales budget, and overhead budget etc.) are integrated into one known as master budget. This facilitates clear definition of department goals and coordination of their activities.
- 6. **Evaluation and Control of Performance:** Management accounting is a convenient tool for evaluation of performance. With the help of ratios and variance analysis, the efficiency of departments can be measured. Management accounting assists the management in the location of weak spots and in taking corrective actions.
- 7. **Interpretation of Financial Information:** Management accounting presents information in a simple and purposeful manner. This facilitates quick decision making.
- 8. **Economic Appraisal:** Management accounting includes appraisal of social and economic forces and government policies.

DECISION MAKING-MEANING AND PROCESS

MEANINGS:-

Decision making is a process of selecting the best among the different alternatives. It is the act of making a choice. There are so many alternatives found in the organization and departments. Decision making is defined as the selection of choice of one best alternative. Before making decisions all alternatives should be evaluated from which advantages and disadvantages are known. It helps to make the best decisions. It is also one of the important functions of management. Without other management functions such as planning, Organizing, directing, controlling, staffing can't be conducted because in this managerial function decision is very important.

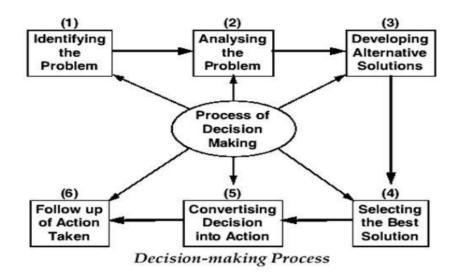
DEFINITION

According to *Stephen P. Robbins,* "Decision making is defines as the selection of a preferred course of action from two or more alternatives."

STEPS INVOLVED IN DECISION MAKING PROCESS

Decision-making involves a number of steps which need to be taken in a logical manner. This is treated as a rational or scientific 'decision-making process' which is lengthy and time consuming. Such lengthy process needs to be followed in order to take rational/scientific/result oriented decisions. Decision-making process prescribes some rules and guidelines as to how a decision should be taken / made. This involves many steps logically arranged. It was Peter Drucker who first strongly advocated the scientific method of decision-making in his world famous book 'The Practice of Management' published in 1955. Drucker recommended the scientific method of decision-making which, according to him, involves the following six steps:

- 1. Defining / Identifying the managerial problem,
- 2. Analyzing the problem,
- 3. Developing alternative solutions,
- 4. Selecting the best solution out of the available alternatives,
- 5. Converting the decision into action, and
- 6. Ensuring feedback for follow-up.



- 1. *Identifying the Problem:* Identification of the real problem before a business enterprise is the first step in the process of decision-making. It is rightly said that a problem well-defined is a problem half-solved. Information relevant to the problem should be gathered so that critical analysis of the problem is possible. This is how the problem can be diagnosed. Clear distinction should be made between the problem and the symptoms which may cloud the real issue. In brief, the manager should search the 'critical factor' at work. It is the point at which the choice applies. Similarly, while diagnosing the real problem the manager should consider causes and find out whether they are controllable or uncontrollable.
- 2. *Analyzing the Problem:* After defining the problem, the next step in the decision-making process is to analyze the problem in depth. This is necessary to classify the problem in order to know who must take the decision and who must be informed about the decision taken. Here, the following four factors should be kept in mind:
 - Futurity of the decision,
 - The scope of its impact,
 - Number of qualitative considerations involved, and
 - Uniqueness of the decision.
- 3. *Collecting Relevant Data:* After defining the problem and analyzing its nature, the next step is to obtain the relevant information/ data about it. There is information flood in the business world due to new developments in the field of information technology. All available information should be utilised fully for analysis of the problem. This brings clarity to all aspects of the problem.
- 4. **Developing Alternative Solutions:** After the problem has been defined, diagnosed on the basis of relevant information, the manager has to determine available alternative courses of action that could be used to solve the problem at hand. Only realistic alternatives should be considered. It is equally important to take into account time and cost constraints and psychological barriers that will restrict that number of alternatives. If necessary, group participation techniques may be used while developing alternative solutions as depending on one solution is undesirable.
- 5. **Selecting the Best Solution:** After preparing alternative solutions, the next step in the decision-making process is to select an alternative that seems to be most rational for solving the problem. The alternative thus selected must be communicated to those who are

likely to be affected by it. Acceptance of the decision by group members is always desirable and useful for its effective implementation.

- 6. *Converting Decision into Action:* After the selection of the best decision, the next step is to convert the selected decision into an effective action. Without such action, the decision will remain merely a declaration of good intentions. Here, the manager has to convert 'his decision into 'their decision' through his leadership. For this, the subordinates should be taken in confidence and they should be convinced about the correctness of the decision. Thereafter, the manager has to take follow-up steps for the execution of decision taken.
- 7. *Ensuring Feedback:* Feedback is the last step in the decision-making process. Here, the manager has to make built-in arrangements to ensure feedback for continuously testing actual developments against the expectations. It is like checking the effectiveness of follow-up measures. Feedback is possible in the form of organised information, reports and personal observations. Feed back is necessary to decide whether the decision already taken should be continued or be modified in the light of changed conditions.

Every step in the decision-making process is important and needs proper consideration by managers. This facilitates accurate decision-making. Even quantitative techniques such as CPM, PERT/OR, linear programming, etc. are useful for accurate decision-making. Decision-making is important as it facilitates entire management process. Management activities are just not possible without decision-making as it is an integral aspect of management process itself. However, the quality of decision-making should be always superior as faulty/irrational decisions are always dangerous.