CHAPTER II

THEORETICAL INTRODUCTION TO
INFORMATION SYSTEM WITH
SPECIAL REFERENCE TO COST AND
MANAGEMENT ACCOUNTING TECHNIQUES
In this chapter the importance of Cost and Management accounting techniques in the Information System is given.

2.1 IMPORTANCE OF COST & MANAGEMENT ACCOUNTING TECHNIQUES:

Management accounting involves application of appropriate techniques and concepts, which help management in establishing a plan for reasonable economic objectives. It helps in making rational decisions for accomplishment of these objectives. Any workable concept or technique, whether it is drawn from financial accounting, cost accounting, economics, mathematics or statistics, can be used in management accountancy. The data used in management accountancy should satisfy only one broad test, i.e. it should serve the purpose that it is intended for. A management accountant accumulates, synthesises and analyses the available data and presents it in relation to specific problems. He also helps in taking decisions and other day to day functions of the management. A management accountant reviews all the decisions and analyses the data from
management's point of view to determine how these decisions contribute to overall achievement of organisational objectives. The scope of management accounting is broader than the scope of cost accounting. In cost accounting, primary emphasis is on cost and it deals with its collection, analysis, relevance, interpretation and presentation for various problems of management. Management accountancy utilizes the principles and practices of financial accounting and cost accounting in addition to other modern management techniques for efficient operation of a company. The main thrust in management accountancy is towards determining policy and formulating plans to achieve desired objective of management. As such the decision making process becomes the prime function of the management. Any decision taken by the management should result in the profitable business opportunity for the organisation as a whole. A decision can be taken effectively and in proper way only when it is based on the cost aspect. The cost benefit analysis is required to be carried out in every alternative proposal before the management takes a final decision on it.

Cost accounting leads the way to cost control and cost reduction which ultimately results in the maximisation of profit.

In order to achieve benefits of cost accounting techniques the Government of India has prescribed compulsory
maintenance of cost accounting records for certain types of industries under section 209 (1) (d) of the Companies Act 1956. So far about 40 industries have been covered under this provision. Similarly section 233 B of the said act requires cost audit of such industrial units, the report of which is required to be submitted to Central Government. Such cost audit is to be carried out by practicing cost accountants.

In the globalised competitive industrial atmosphere use of cost control and cost reduction techniques has become very essential. Every industry should have cost consciousness in every aspect. "Beware of small expenses, A small leak may sink the ship", this slogan is perfectly applicable to the current industrial scenario.

It is observed that the major cause behind the industrial sickness is mismanagement of costs or lack of cost awareness. Barring few, almost all managerial decisions require consideration of impact on cost.

Information is the life blood of company management. The management people need certain additional cost and management accounting statements for taking proper decisions which will make their performance competitive at global level. These statements are:


i) Statement showing comparative purchase cost of raw material from different sources, so as to decide the cheapest source.

ii) Statement showing comparative cost of production at different plant locations, so that the most cost effective location is selected.

iii) Statement showing the sales realisation in different markets, so as to ensure more sales in highest realisable market.

iv) Statement of cost and financial results prepared on quarterly basis which benefits the management by improving transparency of company operations for the information of investors.

v) Statement of cost in respect of different products, factories or divisions, to know the performance segmentwise.

vi) Statement of changes in financial position i.e. fund flow statement to get the idea about wherefrom the funds have come in and what for the funds are applied.

vii) Statement of cost required for valuation of inventories on generally accepted accounting principles.
2.2 Definition of Management Information System.

Management Information System aims at the collection and distribution of information to managers so, they can evaluate the situation using their own judgement and then take the appropriate decisions.

The Management Information System is defined as "A group of people set up manuals and data processing equipments to select, store, process and retrieve data to reduce the uncertainty in decision making by yielding information for managers at the time they can most efficiently use it."

This definition clarifies the role of computers in the information system and decision making purpose. The 'information' part in the system includes any type of data that can be used in effective and efficient decision making process.

In today's complicated business world, Management Information System became computerised data processing system, generating reports for various needs and creating database for decision making process.

In any organisation, small or big, major time is spent for data collection, processing, documenting and
communicating to concerned people. Major portion of the overheads goes into this type of data collection and processing work in an organisation, which is unproductive. All people in the organisation are continuously looking for some information which they need to perform their task. Hence, information is people oriented and it varies with the nature of people in the organisation. The difficulty in handling this requirement of the people is on account of a couple of reasons. The information is a processed product fulfilling the imprecise need of the people. It takes time to search data and may require difficult processing path. Unless it is processed and communicated on time, it has no value. The scope and quantum of information is person dependent and it is difficult to conceive information as a well defined product for the entire organisation. Since people are instrumental to transact business, human error is possible in conducting the business transactions. As human error is difficult to control, the difficulty arises in ensuring hundred percent qualitative information in terms of completeness, accuracy, validity, timelines and meeting the decision making needs.

2.3 MIS AND COMPUTER:

The role of MIS can be compared with the role of heart in the body. The information is the blood and MIS is the heart. The heart plays the role of supplying pure blood
to all elements of the body including the brain. The heart works faster when needed to supply more blood. It regulates and controls incoming blood, processes it and sends it to the required destinations. It fulfills all needs of human body in general and also in particular. MIS plays exactly the same role in the organisation. The system ensures that appropriate data is collected from various sources and processed, and sent further to all needy destinations. The system is expected to fulfill the information need of an individual, group of individuals, management functions, managers and the top management. Since MIS plays a very important role in the organisation, it creates an impact on the organisation's functions, performance and productivity.

Translating the real concept of MIS into a reality is technically unfeasible proposition unless computer is used. The computer hardware and software is the foundation to Management Information System. MIS depends heavily on Hardware and Software Configuration.

The computer system provides security of data, storage of the data on magnetic media in an impersonal mode. The computer system provides facilities such as "READ ONLY" where you cannot delete or update. Computer helps the selected person to access the selected information through a scheme of password and layout access facility. The
confidential nature of data and information can be maintained in the computer system. With such facility, MIS becomes a safe application in the organisation.

In computer data processing, once the data has been converted into a machine readable form, the further processing is almost complete automatic as the computer is capable of performing all the data processing functions such as sorting, selecting, summarising, calculating etc. with very little human intervention. This is because the computer has the added capability of storing a series of instructions which in effect tells the computer regarding processing and operations of the data.

2.4 MANAGEMENT BY EXCEPTION:

Chartered Institute of Management Accountants (CIMA), defines 'Management by Exception' as "practice of focusing on activities requiring attention and ignoring those that appear to be running smoothly".

Pareto's principle of 80:20 is applicable to the management of enterprise. Several terms have been coined on this principle such as management by objectives, management by results, management of strategic areas. At the root of the management methodology is MANAGEMENT BY EXCEPTION. When management operates under the time constraint, it is the problem of each manager how to allocate time on several
demands made on him. It is therefore necessary for him to learn the situation where his attention is necessary. Such attention would lead to action, decision or wait and see approach. If all situation are informed in a routine manner, it consumes time and tends to be neglected over the period of time. An efficient manager looks for selective attention to manage within available time resource. The principle evolved therefore is of management by exception. The exception is decided on the basis of significant impact that the situation would make on performance, process and standards set in the managerial control system.

2.5 DECISION MAKING CONCEPTS:

The word decision is derived from latin root 'decido' meaning to cut off. The concept of decision, therefore, is settlement, fixed intention bringing to conclusive result, judgement, and resolution. A decision is a choice made by the decision maker to achieve some objectives in given situation. Business decisions are those, which are made in the process of conducting the business to achieve its objectives in a given environment. In concept whether one is talking about business decision or any other decision, one assume that the decision maker is a rational person who would decide with due regard to rationality in decision making.
The Simon model provides conceptual design of MIS and Decision making, wherein the designer is to design the system in such a way that the problem is identified in precise terms. That means data gathering to data analysis should be such that it provides diagnostics and also provides path to bring the problem to surface. In the design phase of the model, designer is to ensure that system provides models for decision making. These models should provide for generation of decision alternatives, test them and select one of them. In a choice phase, designer must help to select the criteria to select one alternative amongst many.

The concept of programmed decision making is the finest tool available to MIS designer, whereby he can transfer the decision making from decision maker to the MIS and still retain the responsibility and accountability with decision maker or manager. In case of non programmed decisions, MIS should provide decision support systems to handle variability in decision conditions. Decision support systems provide generalised model of decision making.

2.6 Management Information System and Cost Accounting:

The decisions taken only on the basis of financial accounting, has many times proved to be incorrect. The financial accounting system is having some limitations. It
considers the financial position and profitability of the organisation as a whole without looking into productwise, divisionwise or processwise performance. Cost accounting uses the concept of cost centre. It goes to the root level where the costs actually arise. It aims at cost analysis, cost control, cost reduction and profit maximisation. As such the MIS requires cost accounting data as an essential part of the system. The decisions can be taken effectively only on the basis of cost accounting data.

2.7 DECISION MAKING PROCESS:

The decision making process is best explained by Herbert A. Simon model. The model specifies three phase cycle of decision making. Intelligence phase identifies the problem, the design phase develops number of possible courses of action, and the choice phase helps to select one out of several courses of action. If the process does not lead to decision, then the cycle repeats from intelligence to choice till decision is reached.

2.8 DECISION TREE:

Many a times the problem can be resolved by taking series of decisions. The decision maker has several series or paths of decisions each having different resultant value. In such situation, the problem can be represented in a tree
format and each branch of a tree will be alternative path to make a decision.

2.9 COMPUTER INTEGRATED MANUFACTURING (CIM):

The importance of computer control production technology is being increasingly realised. Under Computer Integrated Manufacturing, all functions from designing to production are linked together under digital control. The introduction of Computer Integrated Manufacturing results in a highly automated factory where role of labour is largely restricted to computer programming, engineering support and maintenance of robotic machinery. Automatic instructions are passed through computer programme for transfer of work from one stage to another. CIM immensely decreases disruptions and loss of time due to minimum human intervention.

A well designed Computerised Cost Based Information System can accommodate all such management requirements as described above for the purpose of decision making.

Hence the study has been undertaken in order to design generalised Information System under computerised environment based on costs for the purpose of decision making.