ABSTRACT

We are undergoing an information revolution, a time of broad technological change, in which unprecedented "information power" is available to employee. The world is becoming increasingly turbulent. Therefore, efficient monitoring requires more information, making computers an integral part of our corporate life. Effective and efficient information technology and its absorption will be crucial for meeting the challenges of organizational prosperity in the 1990's and early 2000's.

Information is the primary asset for a company, requiring focussed attention of the management. Information must be fused into the business. It is a fundamental resource in itself which get consumed in an activity and reemerges as value addition in the product in-process and/or in itself, aggregating all the previous information about the process or activity down the process line. When some new information originates, it is refined in the enterprise depending upon the level of its usage. Organizations are dealing with tumultuous business conditions the world over. In a climate beset by regulation, de-regulation, mergers, acquisitions and other guerrilla elements businesses find themselves compelled to pay heed to their core processes and their service and product offerings. Such reengineered companies find themselves rapidly expanding their customer base both demographically and geographically. This translates to more information requirements. So, this is the age of information where the amount of available information doubles every five years.

Information is the international currency upon which fortunes will rise and fall. As more and more information comes at the door faster than we can cope with it, we spend more and more time trying to process it for our own advantage. It is now a social norm for organizations to be seen as efficient in their information processing to
enable their managers in decision making. In the "organizational information market", the classic economic equation of supply and demand is often defeated. Because the information gathers/processors rarely adjust their output to suit the real need of the users.

A fundamental problem for all decision makers is the absence of complete information about the decision environment. If all possible actions, events and conditional outcomes could be predicted with complete confidence, the decision making would be a simple, mechanical exercise of calculating the optimal action according to some predetermined criteria. In practice, the decision environment is characterized by uncertainty or the absence of perfect and complete information. Decisions must be made on the basis of estimates and expectations, the former of which may be inaccurate, while the latter are often unfulfilled. Many executives believe that their decisions should be asked primarily on solid facts and careful analysis, but others rely on indication and experience, apparently indifferent to their information needs.

The individuals, however, most involved with and dependent on information are those charged with the responsibility of managing and operating organizations that is, management and employees. The trend towards greater complexities becomes a requirement for survival rather than just a desirable goal to improve efficiency. Since information is the only truly shared resource for planning, executing and monitoring, it provides the organization with a potent weapon with which they can beat the competition. This means that information system becomes a part of business process and makes it unique.

As managers continue to invite and strive to segment their markets even more finely and offer a plethora of products and services it is the information system that
helps in keeping costs under control, provides feedback from the market, allows a faster reaction time, permits flexible manufacturing, caters to design, and managers use it as the weapon.

Large manufacturers are fighting for narrowly segmented, geographically depressed, cost sensitive markets against numerous competitors who are continuously inventing information technology to support and manage their efforts. Any improvement in forecasting, distribution models, materials management and sourcing, production planning etc, is dependent on the information system that drives the organization and this is the battlefield for the modern corporation. A frequent availability of information, due to the usage of computers, has definitely led to better planning for many an organization. Computers have allowed them to have a more systematic approach both in terms of time saving and efficiency.

The manufacturing segment of the Indian corporate sector has been one of the larger buyers to date. This segment has been investing heavily in automation. Competition, globalization and growth of business are the forces propelling for computerization. For the manufacturing segment the most important criterion seems to be volume and growth of their business. Be it problems relating to large volumes like inventory control or efficient retailing or even product assembly there is virtually no area where information technology cannot fit in.

With the increasing importance of computers at all levels in the organization, the issue that needs to be addressed urgently, is that of the extent of computerization of the information systems.

The objective of this study was to evaluate the extent of computerization of the
information system in large scale, private sector, Indian manufacturing companies covering different management functions like strategic, marketing, finance, production and personnel.

Private sector Indian manufacturing companies with equity capital Rs. 1 crore or more were defined to be of large scale, and this constituted the population. The population was segmented into three categories on the basis of their equity. A sample of 100 companies was drawn from these three categories on the basis of stratified proportionate random sampling. A self reporting questionnaire was used to assess the extent of computerization.

The extent of computerization of the Information systems was gauged by, that of the three categories, the information needs of that level of management which is called upon to make a particular decision are being fulfilled by the information system, the form and cycle of processing that data within the required time period is being supported by the system, the type of data required is being provided by the information system, from what sources the data is being drawn by the information system and the level of difficulty encountered in implementing this information system.

The study has been presented in five chapters.

CHAPTER ONE traces the evolution of information processing, discusses the value of information, the context required by it, the cost when perfection is needed, its value outside the decision making process. It provides an overview of information covering such aspects as the definition both mathematical and otherwise, its types, attributes and quality. And focuses on how the information can be put into use as a
competitive weapon to achieve success in a highly dynamic environment.

CHAPTER TWO traces evolution of information systems through various stages, defines an information system along with the building blocks and design forces which have bearing on the design of an information system, covers various subsystems of an information system serving different organizational levels and functions. It offers a blueprint for building an information system in addition to the definition of Information Technology (IT), its role in meeting today's challenges effectively and the current scenario of state of information technology. This is followed by the integration of information system with business strategy and the context in which Information System/Information Technology (IS/IT) strategy is developed, how the planning of IS/IT can be linked to the business planning process in relation to the business environment and goals of the organization. Based on frameworks derived from the business strategic management the ways of achieving the linkage are outlined. The need for effective organizational processes to establish an integrated information system and business strategy is also considered.

CHAPTER THREE deals with different aspects of methodology of research. The section wise descriptions of the need for the study, objectives of the study, operational definitions, research design, modification and administration of the research questionnaire have been made. It also covers analysis and statistical procedure for interpreting the data, limitations of the study, reliability of data, dependability of the results, researcher's liability and scope of further study.

CHAPTER FOUR analyze and interprets the data collected for the study. The chapter is divided into five subsections depending upon the functional areas like strategic, marketing, production, finance and personnel. Graphical representation, statistical
treatment and their interpretation is done according to the functional areas.

CHAPTER FIVE provides an overview of the study and the conclusion drawn from it. References in the research study are documented at the end of the respective chapters. A Bibliography of books, journals, magazines, reports etc. used in the study have been attached at the end of the thesis followed by four appendices.

The major CONCLUSION of the study is that there is no significant difference in the extent of computerization of management information systems in large scale, private sector, Indian manufacturing companies. However, the information requirements of the management may change with the increase in the size of the company in terms of capital employed, the changes in the computerized management information system should be incorporated accordingly. The extent of computerization of management information systems cannot be linked with the equity capital employed by a large scale manufacturing company in the private sector.

DIRECTION FOR FUTURE RESEARCH:

i) Research is for studying computerization of management information systems in service sector.

ii) This study may further be extended by studying computerization of management information systems in small and medium scale companies.

iii) To gain further insight, a study can be done on the basis of industry which can reveal the extent of computerization of information systems within a particular type of industry.
iv) A research is required to compare computerized management information systems between public and private sectors.

v) A study can be done to know the extent of computerization of management information systems used by a particular level of management.

vii) The extent of computerization of management information systems can also be studied on the basis of the geographical location.

viii) Research is needed to find out investments in computerised management information systems with respect to turn over, profits, sales, number of employees etc.

ix) Research is needed to consolidate the findings of researches related to the computerization of management information systems in India.

This study could help in understanding the data processing requirements of various levels of management with respect to the functional areas, the sources from where that data originates, its type, form and cycle of processing. It can help in designing a computerised management information system for manufacturing companies.