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## *Management information system and decision making in manufacturing companies*

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*Abstract: Management information system (MIS) is taking a crucial role in manufacturing companies; those companies are using the MIS to assist in decision making and objectives achievement. Thus all activities and tasks are managed in an efficient way. In order to manage activities and tasks in manufacturing sectors, companies are supposed to develop and implement MIS to facilitate the decision making.*

*This study is based on pre-surveillance study from managers of four companies to understand how those companies are using the MIS process, its applications, output, work process, activities and decision making.*

*Observation and questionnaire were used to collect a necessary data and data was interpreted.*

*In this study there will be attempt to explain the benefit of MIS when it is used and the MIS need when it is not in use.*

*Keywords: MIS, decision making, information, data, management control.*

### I. INTRODUCTION

Management information system (MIS) concept has been evolved constantly for improving the business and supporting the management in its all areas in an organization. An organization data was the first concern for MIS and it is presenting in form and format of reports after processing. Understanding of data has been modified into information and the distinction between them was necessary for leading to the concept of system. Data is the fact that can be suitable for usage or process and information is processed data. This concept is similar to raw material and finished product which means there are three activities input, process and output. A system is computer software that should manage all reports, store data in a proper way and make it accessible for every authorized person in a particular organization.

Stored, viewed and accessible data give us an insight into database in which MIS is based on. A Database has brought a new general idea for MIS.

Management information system and its users have become independent and that delivered a new concept in MIS, it is called a decision making system.

In order to make an effective and efficient decision making, the managers require timely, accurate, complete, simple, and relevant information and MIS has that capabilities and tools to provide information to all levels of management and that will support in decision making in an organization.

MIS is defined as components of people, procedure, hardware and software interacting with each other to provide information for decision making

Role of the management information system :-

The MIS plays important role in an organization and ensures that an appropriate data is collected from various resources, process it, provides information and satisfies needs to all levels of management in many ways using different systems such as query system, analysis system, modeling system and others. The MIS is helpful in strategic planning , management control , operation control , and transaction processing and provides a various of applications in an organization such as finance , marketing , production , material , human resources and sales . Those applications help management in controlling, management planning, decision making and problem solving due to generating reports in the right place at the right time.

The MIS helps all levels of management. In operational level the MIS supports in day to day activities and help further in decision making and in middle management the MIS help in short term planning , target setting and controlling the management function and in top management the MIS assist in goal setting and strategic planning , thus MIS can help in problems identification and decision making process .

MIS and decision making:-

The most important objective in MIS is to provide relevant information to support the management in its strategic planning, management and operational control and transaction processing. Thus, the effective decision is depending on availability of information.. For example, if managerial objectives are absent or unclear, probably due to inadequate information, there is no basis for a search. Without information obtained through a search, there are no alternatives to compare, and without a comparison of alternatives the choice of a particular course of action is will lead to unwilling result. Thus when a designer develops a system; it should be in the way that the problem is indentified in precise manner and the designer should ensure that the system provides models for decision making and decision alternatives. In this way MIS can help the managers in making decision for several of tasks.

## **II. STATEMENT OF PROBLEM**

Currently in manufacturing companies, there is a rising require for information. The importance of information is being increased for all manufacturing industries activities. To handle all activities in an efficient way, managers are seeking and requiring for information that can help in decision making, problem solving, strategic planning and management control. In order to make those issues effective, information should be accurate, timely and relative.

This research is an attempt to find out the importance of management information system in decision making and how managers aware of The MIS impact on manufacturing companies.

## **III. OBJECTIVE OF THE STUDY**

1. To identify and study the constrains, advantages and the impact of MIS on decision making in manufacturing companies.
2. To study various MIS types, its application, the MIS processes, and reports.
3. To analyze the reports whether are adequate to provide information for decision making to the managers in manufacturing companies.

## **IV. THE STUDY HYPOTHESIS**

With the purpose of providing solutions to research the hypotheses test was done to conduct the research work.

H0: managers in manufacturing companies do not use MIS for decision making to handle management activities at all top, middle and operational level

H1: managers in manufacturing companies do use MIS for decision making to handle management activities at all top, middle and operational level

## V. THE STUDY QUESTIONS

- What is the organization structure and staffing pattern?
- Is MIS used in company for decision making?
- What are the types of MIS applications and reports used?
- Where MIS is helpful?
- Is MIS used in organization is the strength for decision making in day to day work process?
- Which department in particular is more dependent on MIS for decision making?
- Where we can find the importance of decision making at managers level for the departments?
- Who take a decision at the managerial level at task level?
- What is the impact of decision making in day to day activities?

## VI. RESEARCH METHODOLOGY

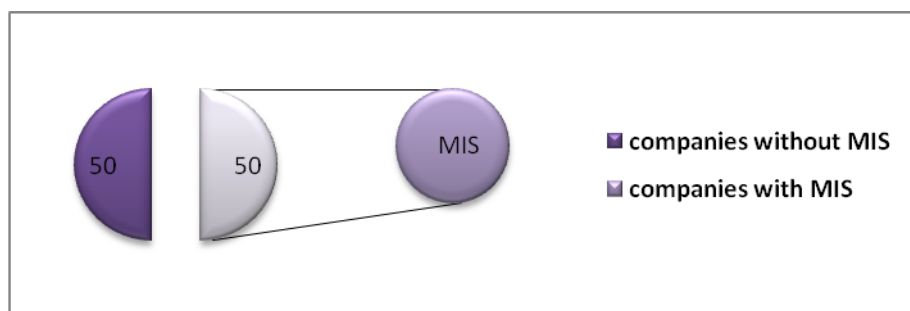
For this study which gives insight into the MIS and decision making in manufacturing companies, the questionnaire and observation were applied for understanding and collecting data for research. Four companies in Jalgaon and Dhule namely, WINLEY POLYMERS PVT. LTD, PHOENIX PLASTIC INDUSTRIES, OMSHREE GROUP and ISHWAR PAINTS were selected for Pre-Research surveillance to achieve the aim of it which is realizing the actual working process in manufacturing plant and observe the activities required decision making by the manager's basis.

It was unnecessary to study more companies due to the degree of satisfaction was accepted for the researcher. Managers were the target of study in all four companies and questionnaires was distributed to them and the return of respondent was positive. Two of the companies are using the MIS for decision making while others are not and that was the goal of this study. All the need data collected via questionnaire and interpreted. Along with questionnaires and observation the researcher perform an individual interview with managers and owners of companies.

## VII. DATA INTERPRETATION AND ANALYSIS

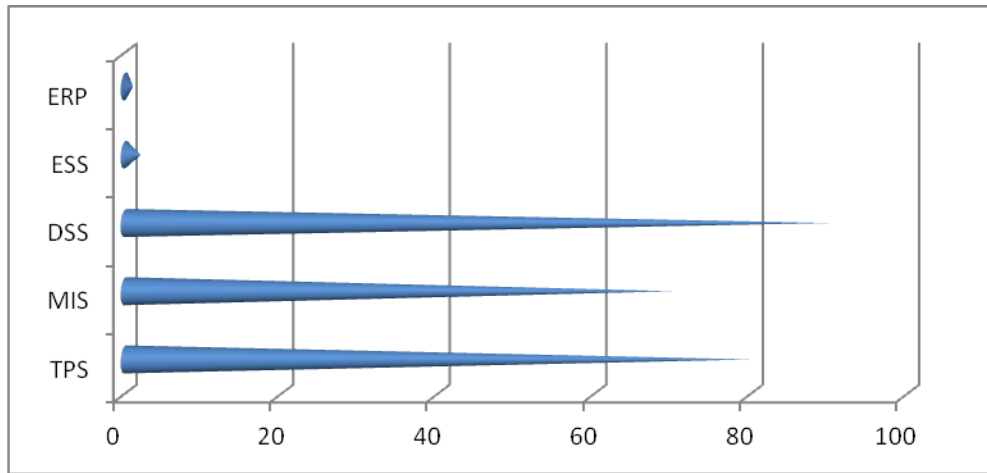
Is MIS used for decision making in the companies?

Types of companies	Companies using MIS	Companies not using MIS
Numbers of companies	2	2
No of Respondents	9	4



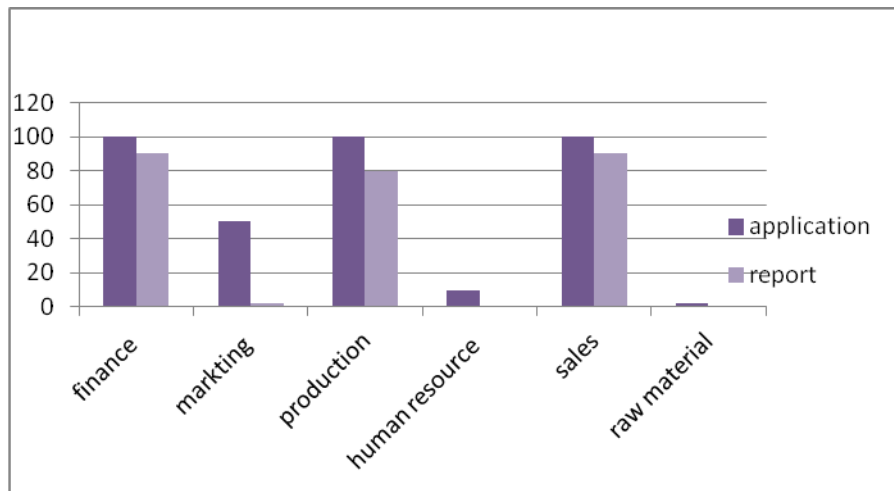
In two companies managers are implementing the MIS for decision making while the others are not implementing the MIS for decision making.

**Types of information systems used:**



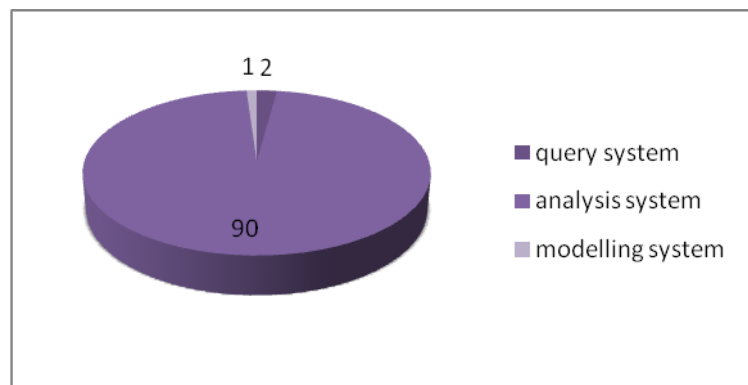
Five types of information systems are used by manufacturing companies studied for research, in that the two systems ESS and ERP used at very low level.

**Types and Ratio of MIS applications and reports used:**



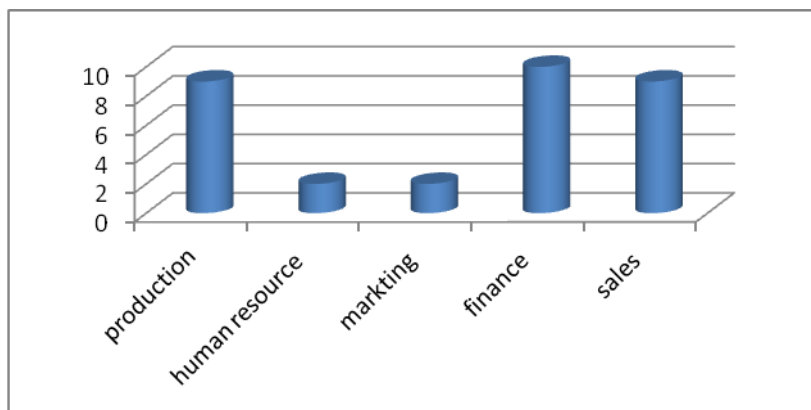
Finance, production and sales applications and reports are used maximum in manufacturing companies.

**Types of decision support systems are used:**



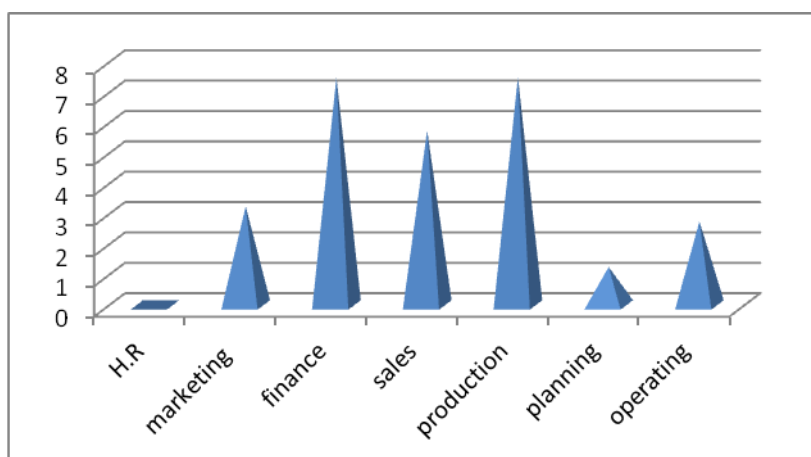
Analysis system is the most system used in manufacturing companies.

**Departments which are more dependent on MIS for decision making:**



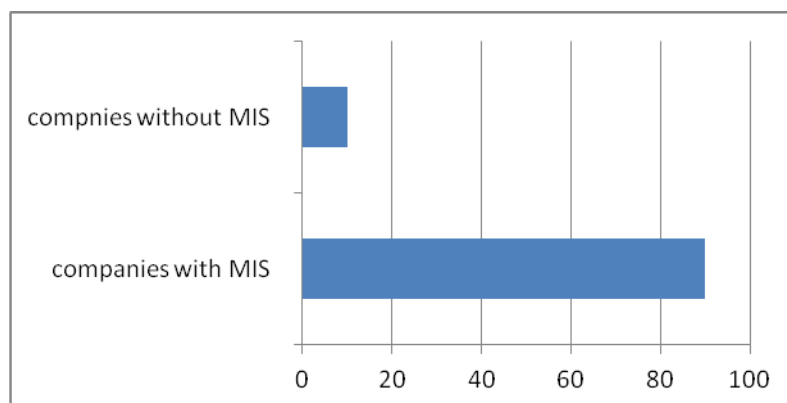
Production, sales and finance departments are more dependent on MIS for decision making

**The importance of decision making at mangers level for the departments:**



Finance, sales and production are almost the areas where can we find the importance of decision making.

**The awareness of MIS importance and its applications in the companies:**



The Managers at manufacturing units where MIS is used realized the importance of the MIS and found MIS as one of the important tool for right and timely decision.

**VIII. FINDING AND DISCUSSION**

For hypothesis testing, mangers in the companies PHOENIX PLASTIC INDUSTRIES and OMSHREE GROUP are using the MIS for decision making while in ISHWAR PAINTS and WINLEY POLYMERS PVT.LTD are not using the MIS for decision making .

It has been observed that the companies that use MIS are provided with the information in the form of reports that helps in feedback on daily operation. The output of MIS i.e. reports play important role for decision making by the users at Managers and Management level.

It was necessary to identify the MSME which stands for Micro, Small and Medium Enterprises while doing this study for getting insight into the companies' size that is or not implementing the MIS and that was one of the constraints faced by the researcher .

#### **Observation and Analysis of the pre-surveillance study in the Manufacturing Companies where MIS is used at Decision Making Level.**

The Managers and Management at manufacturing units realized the importance of the MIS and found MIS as one of the important tool for right and timely decision. The MIS reports provide opportunity for future growth and play an important role in risk management in controlling the margins and reduce the uncertainty in the business. Those reports provide hands on information about the rates, booking, purchase, stock, delivery, transportation /shipping to the client at their end. The MIS reports can be used by any responsible or authorised person deputed to use like – supervisors, managers or management members.

Availability of MIS provides required information to the managers for Decision Making in day to day activities.

Most of the small and medium companies use partial or need based MIS for their needs and priority. It was quite clear that the MIS is must for sales, purchase, inventory and finance management for decision making at managerial level and Finance, production and sales management systems are the type of MIS used maximum in manufacturing companies. Transaction processing system, Analysis system and decision support system are highly used for day to day and long term reports.

The MIS has direct or indirect impact on Increase in profit, time management, stress management, team work, increase individual performance, self satisfaction by effective and efficient decision making.

It was observed during the pre-survey that in the companies where MIS is used Managers don't face weakness in concern with MIS and The management in manufacturing companies believe that there are various opportunities in future in concern with MIS for increasing the managers efficiency and There are threats in future if MIS is not applied such as delays in service and delivery, missing growth opportunity or wrong decision.

#### **Observation and Analysis of the pre-surveillance study in the Manufacturing Companies where MIS is not available for Decision Making.**

In Micro and Small scale industries all the records are maintained manually or some time only for taxation purpose and the companies studied had no interest or need for MIS in their business. The management person lacks in computer and MIS knowledge and is not possible for company to recruit the IT person at this level of business. Computer can be used only for emailing if necessary

In some of the manufacturing units the use of MIS is avoided to reduce complication and mandatory procedures for some complicated government, legal and tax procedure maintenance. It was also observed that the owner is one man decision making and there are no records maintained other than invoice and bank cheque details.

Finance, sales and production are almost the areas where can we find the importance of decision making and useful in small scale industries.

Reducing cost, increasing in profit, and stress management at the day to day activities has impact on decision making.

## IX. SWOT ANALYSIS FOR MIS

Strength	Weakness
- cost sheet - open position - Performance - target analysis	- product planning - model design
Opportunity	<b>Thread</b>
Providing data for day to day analysis of work process, targets and various MIS reports.	- Wrong market research -Delay in services and delivery -Wrong or ineffective decision making - Financial management and market survey

**SWOT analysis for manufacturing units with focus to MIS utility and advantages conclude that**

- MIS as strength for management and managers in the areas such as cost sheet, open position, The companies using MIS and advance application at full or partial level for decision making has found performance and target analysis for decision making.
- With subject to use of MIS in decision making the companies found MIS as a weakness as the utility of MIS in the area of new product planning, model design for market is not as per expectations.
- MIS provides opportunity for future growth by providing data for day to day analysis of work process, targets and various MIS reports.
- If MIS is not utilized for Decision Making in Manufacturing companies of any level it will be a great thread for the companies in terms of competitions and with compare to competitors in market in the area of
  - ✓ Wrong market research
  - ✓ Delay in service and delivery
  - ✓ Wrong or ineffective decision making.
  - ✓ Financial management and market survey

## X. CONCLUSION AND SUGGESTION

This Pre Survey has studied the MIS and decision making in manufacturing companies in Jalgaon and Dhule ,India. The study attempted to clarify that the MIS plays a very crucial role on decision making in manufacturing companies. The MIS has impact on the way decisions are made in manufacturing companies by providing managers information at the right time for the right person. It was also realized that the MIS is very helpful in strategic planning, management control, operational control and transaction processing.

Micro, Small and Medium companies have become aware of importance of the MIS whether they implement it or not. The MIS is the perfect tool for producing information and that leads to an effective and efficient decision making.

In view of this, it is suggested for Micro and Small manufacturing industries to develop and implement the MIS to increase the effectiveness and efficiency of manager's decision making and assists in problems and issues solving when in dilemma. decision are taken at management level for them, Need Based MIS for Marketing, purchase and sales and that will help to get organized and provide analytical data to assess the growth on daily tasks for decision making. For those kind of companies , people should be highly trained in using the technology tools to improve individuals and organizations performance

It's also suggested for medium companies to complete their MIS applications such as marketing and raw materials to handle all management activities in efficient way.

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**Hamzah Abdulrahman Al habri** received his bachelor's degree in management information system from university of science and technology, YEMEN and master of computer management from Pune university, India. Pursuing Ph.D degree in computer management from North Maharashtra University. His interst area is Management information systems, System Analysis and Design and Database Management System.