S. S. Jain Subodh P. G. (Autonomous) College, Jaipur

BCA VI Semester

Management Information System

Unit – IV

Functional Management Information System:

- **A Study of Marketing Information System**

- **A Study of Personnel Information System**

- **A Study of Financial Information System**

- **A Study of Production Information System**

A Study of Marketing Information System

The Marketing Information System refers to the systematic collection, analysis, interpretation, storage and dissemination of the market information, from both the internal and external sources, to the marketers on a regular, continuous basis.

The marketing information system distributes the relevant information to the marketers who can make the efficient decisions related to the marketing operations viz. pricing, packaging, new product development, distribution, media, promotion, etc.

Every marketing operation works in unison with the conditions prevailing both inside and outside the organization, and, therefore, there are several sources (viz. Internal, Marketing Intelligence, Marketing Research) through which the relevant information about the market can be obtained.

A marketing information system (MIS) is a set of procedures and methods designed to generate, analyze, disseminate, and store anticipated marketing decision information on a regular, continuous basis. An information system can be used operationally, managerially, and strategically for several aspects of marketing.

A marketing information system can be used operationally, managerially, and strategically for several aspects of marketing management.

We all know that no marketing activity can be carried out in isolation, know when we say it doesn't work in isolation that means there are various forces could be external or internal, controllable or uncontrollable which are working on it. Thus to know which forces are acting on it and its impact the marketer needs to gathering the data through its own resources which in terms of marketing we can say he is trying to gather the market information or form a marketing information system.

This collection of information is a continuous process that gathers data from a variety of sources synthesizes it and sends it to those responsible for meeting the market places needs. The effectiveness of marketing decision is proved if it has a strong information system offering the firm a Competitive advantage. Marketing Information should not be approached in an infrequent manner. If research is done this way, a firm could face these risks:

1. Opportunities may be missed.
2. There may be a lack of awareness of environmental changes and competitors' actions.
3. Data collection may be difficult to analyze over several time periods.
4. Marketing plans and decisions may not be properly reviewed.
5. Data collection may be disjointed.
6. Previous studies may not be stored in an easy to use format.
7. Time lags may result if a new study is required.
8. Actions may be reactionary rather than anticipatory.

The total information needs of the marketing department can be specified and satisfied via need of an internal management of marketing intelligence network, which contains three components and advantages.

1. Continuous monitoring is the procedure by which the changing environment is regularly viewed.

2. Marketing research is used to obtain information on particular marketing issues.

3. Data warehousing involves the retention of all types of relevant company records, as well as the information collected through continuous monitoring and marketing research that is kept by the organization.

Depending on a firm's resources and the complexity of its needs, a marketing intelligence network may or may not be fully computerized. The ingredients for a good MIS are consistency, completeness, and orderliness. Marketing plans should be implemented on the basis of information obtained from the intelligence network.

Components of Marketing Information System

1. Internal Records: The Company can collect information through its internal records comprising of sales data, customer database, product database, financial data, operations data, etc. The detailed explanation of the internal sources of data is given below:

- The information can be collected from the documents such as invoices, transmit copies, billing documents prepared by the firms once they receive the order for the goods and services from the customers, dealers or the sales representatives.

- The current sales data should be maintained on a regular basis that serves as an aide to a the Marketing Information System. The reports on current sales and the inventory levels help the management to decide on its objectives, and the marketers can make use of this information to design their future sales strategy.

- The Companies maintain several databases such as:

  *Customer Database- wherein the complete information about the customer's name, address, phone number, the frequency of purchase, financial position, etc. is saved.

  *Product Database- wherein the complete information about the product's price, features, variants, is stored.

  *Salesperson database: wherein the complete information about the salesperson, his name, address, phone number, sales target, etc. is saved.

- The companies store their data in the data warehouse from where the data can be retrieved anytime the need arises. Once the data is stored, the statistical experts mine it by applying several computer software and techniques to convert it into meaningful information that gives facts and figures.

2. Marketing Intelligence System: The marketing intelligence system provides the data about the happenings in the market, i.e. data related to the marketing environment which is external to the organization. It includes the information about the changing market trends, competitor's pricing strategy, change in the customer's tastes and preferences, new products launched in the market, promotion strategy of the competitor, etc.

In order to have an efficient marketing Information System, the companies should work aggressively to improve the marketing intelligence system by taking the following steps:

- Providing the proper training and motivating the sales force to keep a check on the market trends, i.e. the change in the tastes and preferences of customers and give suggestions on the improvements, if any.

- Motivating the channel partners viz. Dealer, distributors, retailers who are in the actual market to provide the relevant and necessary information about the customers and the competitors.

- The companies can also improve their marketing intelligence system by getting more and more information about the competitors. This can be done either by purchasing the competitor's product, attending the trade shows, reading the competitor's published articles in magazines, journals, financial reports.

- The companies can have an efficient marketing information system by involving the loyal customers in the customer advisory panel who can share their experiences and give advice to the new potential customers.

- The companies can make use of the government data to improve its marketing Information system. The data can be related to the population trends, demographic characteristics, agricultural production, etc. that help an organization to plan its marketing operations accordingly.

- Also, the companies can purchase the information about the marketing environment from the research companies who carry out the researches on all the players in the market.

- The Marketing Intelligence system can be further improved by asking the customers directly about their experience with the product or service via feedback forms that can be filled online.

3. Marketing Research: The Marketing Research is the systematic collection, organization, analysis and interpretation of the primary or the secondary data to find out the solutions to the marketing problems. Several Companies conduct marketing research to analyze the marketing environment comprising of changes in the customer's tastes and preferences, competitor's strategies, the scope of new product launch, etc. by applying several statistical tools. In order to conduct the market research, the data is to be collected that can be either primary data (the first-hand data) or the secondary data (second-hand data, available in books, magazines, research reports, journals, etc.)

The secondary data are publicly available, but the primary data is to be collected by the researcher through certain methods such as questionnaires, personal interviews, surveys, seminars, etc.

A marketing research contributes a lot in the marketing information system as it provides the factual data that has been tested several times by the researchers.

4. Marketing Decision Support System: It includes several software programs that can be used by the marketers to analyze the data, collected so far, to take better marketing decisions. With the use of computers, the marking managers can save the huge data in a tabular form and can apply statistical programs to analyze the data and make the decisions in line with the findings.

Thus, the marketers need to keep a check on the marketing environment, i.e. both the internal (within the organization) and the external (outside the organization, so that marketing policies, procedures, strategies can be designed accordingly.

The information needed by marketing managers comes from three main sources:

1) Internal company information – E.g. sales, orders, customer profiles, stocks, customer service reports etc

2) Marketing intelligence – This can be information gathered from many sources, including suppliers, customers, and distributors. Marketing intelligence is a catchall term to include all the everyday information about developments in the market that helps a business prepare and adjust its marketing plans. It is possible to buy intelligence information from outside suppliers (e.g. IDC, ORG, MARG) who set up data gathering systems to support commercial intelligence products that can be profitably sold to all players in a market.

(3) Market research – Management cannot always wait for information to arrive in bits and pieces from internal sources. Also, sources of market intelligence cannot always be relied upon to provide relevant or up-to-date information (particularly for smaller or niche market segments). In such circumstances, businesses often need to undertake specific studies to support their marketing strategy – this is market research.

Advantages of Marketing Information Systems

A Marketing Information System offers many advantages:

1) Organized Data collection – Lots of data can be collected from the market. But the main word here is "Organized". Organizing data is very important else the data is meaningless. Thus MIS helps you to organize your database thereby improving productivity.

2) A broad perspective – With a proper MIS in place, the complete organization can be tracked which can be used to analyse independent processes. This helps in establishing a broader perspective which helps us know which steps can be taken to facilitate improvement.

3) Storage of Important Data – Several times in pharmaceuticals, when one drug is being produced they may need data of another drug which was produced years back. Similarly in Media, photographs are stored in archives. This storage of important data plays a crucial role in execution and thus proves again that MIS is not important only for information but also for execution.

4) Avoidance of Crisis – The best way to analyse a stock (share market) is to see its past performance. Top websites like money control thrive on MIS. Similarly MIS helps you keep tracks of margins and profits. With an amazing information system established, you can know where your organization is moving and probably avert a crisis long before it has taken place. Ignoring hints received from MIS reports is foolhardy.

5) Co-ordination – Consumer durables and FMCG companies have huge number of processes which needs to be co-ordinated. These companies depend completely on MIS for the proper running of the organization. There are dedicated people for marketing information systems in such organizations. This is mainly because of the speed required to access information and implement it.

6) Analysis and Planning – MIS is critical for planning. You cannot do planning without information. For planning, the first thing which is needed is the organizations capabilities, then the business environment and finally competitor analysis. In a proper MIS, all these are present by default and are continuously updated. Thus MIS is very important for planning and analysis.

7) Control – Just like MIS can help in a crisis, in normal times it provides control as you have information of the various processes going on and what is happening across the company. Thus it provides you with a sense of control.

8) Speed in obtaining sufficient information to make decisions.

9) Data amassed and kept over several time periods.

10) The ability to do a cost-benefit analysis.

Disadvantages – Maintenance, complexity and setting up a MIS are one of the major hindrances to marketing information systems. Furthermore, wrong information being fed in MIS can become cumbersome and appropriate filters need to be established.

The disadvantages of a Marketing information system are high initial time and labour costs and the complexity of setting up an information system. Marketers often complain that they lack enough marketing information or the right kind, or have too much of the wrong kind.

A Study of Personnel Information System

Pe**rsonnel information system** is the collection of **information** of its employees stored by an organization. At its most basic such **information** will usually comprise employees' names and addresses, length of service and attendance, and will be maintained by the Personnel Management department.

The Personnel Information system is a Computer based system for maintenance of the Service Registers of individuals in an organization. The details pertaining to personnel, postings, qualifications, departmental tests passed, training attended, family details etc are stored in this system. Retrieval of information is possible based on any individuals or on collective information grouped by certain

categories namely designation, retirement, length of service, place of working etc. providing suitable manpower in number and with ability, skills and knowledge as per demand of business organization from time to time.

Personnel management can be defined as obtaining, using and maintaining a satisfied workforce. It is a significant part of management concerned with employees at work and with their relationship within the organization.

According to Flippo, "Personnel management is the planning, organizing, compensation, integration and maintenance of people for the purpose of contributing to organizational, individual and societal goals."

According to Brech, "Personnel Management is that part which is primarily concerned with human resource of organization."

Goal of Personnel Management System: control personnel cost through continuous increase in manpower productivity by resorting some techniques.

1. Human Resource Development – training & upgrading the skills.

2. Motivation by leader & organization

3. Promotion and rewards for best performance

4. Power of handle team members/labors

5. Structuring the organization.

Input Transaction Document of Personnel Management System:

1. Personnel application form

2. Appointment letter

3. Attendance & Leave record

4. Resumes, Bio-data

5. Appraisal form / feedback form

6. Production/Productivity data on the jobs

7. Wage/Salary agreement

8. Records of complaints, accidents

9. Org. data on wage/salary structure

10. Org. data on manpower, skills, qualifications

11. Records of source of manpower – university, institution, companies

12. Records on manpower application trends in view of mechanization and computerization

Application of Personnel Management System: Viewer of the database are personnel managers, head of department and top level management.

1. Accounting Application:

- Attendance
- Manpower
- Leave
- Salary/wages, statutory deduction
- Accident
- Production data
- Skills
- Bio-data/Resume
- Family data

2. Query Application:

- Strength of section, departments, division
- Number of persons with a particular skill
- Attendance, and leave record of all employees
- Salary/wage of employees

3. Analysis Applications:

- Analysis of attendance by a class of employees
- Leave analysis by a group of employees
- Trends in the leave record
- Analysis of accidents and types

4. Control Applications:

- Probable absence v/s workload
- Projection of personnel cost against manpower increase
- Assessment of accident records against safety measures taken

Reports: After Processing on Information MIS application generates reports.

1. Statutory Compliance

2. Information Update

3. Operational Update

4. Decision Analysis

5. Action Update

1. Statutory Compliance:

- Attendance Muster
- Strength of the employees by category – permanent, trainees & apprentices
- Provident fund, ESI reports, Ledgers and Returns
- Accident reports

2. Information Update:

- Daily attendance report
- Employee strength
- Joining and transfers of the employees

3. Operational Update:

- Daily attendance to plan the workload
- Overtime versus work completed
- Projected absenteeism and distribution of workload

4. Decision Analysis:

- Analysis of attendance for season, festival and by skills, scheduling of the jobs accordingly.
- Overtime analysis by department, employees and job to decide the strength of personnel
- Analysis of accidents and deciding on safety measures and training

5. Action Update:

- Recruitment and additional manpower or subcontracting of jobs
- Acceptance of orders on the basis of workload
- Reduction, transfer & reorganization of employees to control costs

Nature of Personnel Management System:

1. Personnel management includes the function of employment, development and compensation- These functions are performed primarily by the personnel management in consultation with other departments.

2. Personnel management is an extension to general management. It is concerned with promoting and stimulating competent work force to make their fullest contribution to the concern.

3. Personnel management exist to advice and assist the line managers in personnel matters. Therefore, personnel department is a staff department of an organization.

4. Personnel management lays emphasize on action rather than making lengthy schedules, plans, work methods. The problems and grievances of people at work can be solved more effectively through rationale personnel policies.

5. It is based on human orientation. It tries to help the workers to develop their potential fully to the concern.

6. It also motivates the employees through it's effective incentive plans so that the employees provide fullest co-operation.

7. Personnel management deals with human resources of a concern. In context to human resources, it manages both individual as well as blue- collar workers.

Role of Personnel Manager

Personnel manager is the head of personnel department. He performs both managerial and operative functions of management. His role can be summarized as :

1. Personnel manager provides assistance to top management- The top management are the people who decide and frame the primary policies of the concern. All kinds of policies related to personnel or workforce can be framed out effectively by the personnel manager.

2. He advices the line manager as a staff specialist- Personnel manager acts like a staff advisor and assists the line managers in dealing with various personnel matters.

3. As a counsellor,- As a counsellor, personnel manager attends problems and grievances of employees and guides them. He tries to solve them in best of his capacity.

4. Personnel manager acts as a mediator- He is a linking pin between management and workers.

5. He acts as a spokesman- Since he is in direct contact with the employees, he is required to act as representative of organization in committees appointed by government. He represents company in training programmes.

Functions of Personnel Management System

Following are the four functions of Personnel Management:

1. Manpower Planning

2. Recruitment

3. Selection

4. Training and Development

Elements of Personnel Management System

Following are the elements of Personnel Management:

1. Organization- Organization is said to be the framework of many activities taking place in view of goals available in a concern. An organization can be called as a physical framework of various interrelated activities. Right from manpower planning to employees' maintenance, all activities take place within this framework. The nature of the organization is dependent upon its goal. The business concern goal is being profit- making. Clubs, hospitals, schools, etc. their goal being service. The objective of consultancy is providing sound advice. Therefore, it is organizational structure on which the achievement of goals of an enterprise depends upon. In personnel management, a manager has therefore to understand the importance of organizational structure.

2. Job- The second element, i.e., jobs, tells us the activities to be performed in the organization. It is said that the goals of an enterprise can be achieved only through the functional department in it. Therefore, seeing the size of organization today, the nature of activities is changing. In addition to the three primary departments, personnel and research department are new additions. Various types of jobs available are:

- Physical jobs
- Creative jobs
- Proficiency jobs
- Intellectual jobs
- Consultancy jobs
- Technical jobs

3. People- The last and foremost element in personnel management system is people. In a organizational structure, where the main aim is to achieve the goals, the presence of manpower becomes vital. Therefore, in order to achieve departmental goals, different kinds of people with different skills are appointed. People form the most important element because:

- The organizational structure is meaningless without it.
- It helps to achieve the goals of the enterprise.
- It helps in managing the functional areas.
- It helps in achieving the functional departmental goals.
- They make a concern operational.
- They give life to a physical organization.

The different types of people which are generally required in a concern are:

- Physically fit people
- Creative people
- Intellectuals
- Technical people
- Proficient and skilled people

In personnel management system, a personnel manager has to understand the relationship of the three elements and their importance in organization. He has to understand basically three relationships:-

- Relationship between organization and job
- Relationship between job and people
- Relationship between people and organization.

Relationship between organization and job helps making a job effective and significant. Relationship between job and people makes the job itself important. Relationship between people and organization gives due importance to organizational structure and the role of people in it.

Financial Management Information System

The World Bank's definition of a financial management information system, or FMIS, is simply the automation of financial operations. With that definition in mind, there are plenty of database management systems and financial accounting systems that are used to facilitate the process of automation. When all of these applications exist as modules in the same overall application, then the system is known as an integrated financial management information system or an IFMIS.

The financial management system is also known as the financial information system and exists to fulfil a very unique objective within the business: it is there to meet the financial obligations of the business as those obligations fall due. It seeks to do so while using the least possible amount of financial resources within the limits of some predetermined margin of safety.

The financial management system will produce certain outputs, including operating and capital budgets, accounting reports, working capital reports, forecasts of the cash flows, and analyses based on the considerations of various scenarios. The financial data itself may be analyzed in various ways, including trend evaluation, ratio analysis, and financial modeling. The twin processes of financial planning and forecasting, in turn, are made possible by combining the FMIS with a Decision Support System, or DSS.

Functions of Financial Management Information System

Essentially, a financial management information system exists to accumulate financial data and then analyze that data in order to allow the decision makers in the business to make better decisions. While each system will have certain strengths and unique features, there are certain functions of a financial information system common to most systems:

1. Collect information

The ideal FMIS is expected to collect information in a manner that is accurate, timely, complete, reliable, and consistent. The information that passes through the system should ultimately lead to results that can be trusted. Without sanitizing the collection process, that won't be possible.

2. Reports

The ideal financial management information system is expected to provide management reporting to accurate levels. These reports can then assist the management of the business to make high-level decisions for the direction of the business.

3. Support policy decisions

The ideal financial management information system is expected to support policy decisions in the organization. When policies are made, they should be backed up by accurate and reliable data, which should ultimately come from the FMIS.

4. Preparation and execution of budgets

The ideal financial management information system should support the preparation and execution of budgets within the business. The preparation of budgets should be based on financial reports emanating from the FMIS. Meanwhile, real-time data from the FMIS should inform the management about their execution of the budgets so they know whether they are within limits or exceeding them.

5. Financial statements

The ideal financial management information system should facilitate the preparation of financial statements. Financial statements are prepared for both internal use and for external stakeholders. They should be prepared using accurate and reliable information, which can be obtained from the financial management information system.

6. Information for budgeting, analysis and reporting

The ideal financial management information system should provide information for budgeting, analysis and reporting. These are three important high-level functions within any business and can only be effectively carried out if the data produced is accurate and reliable, as would be expected from a properly functioning financial management information system.

7. Audit trail

The ideal financial management information system should be able to provide an audit trail to facilitate the audit process. One of the uses of a financial information system is to record transactions. By maintaining records of every single transaction that occurs within a business, a financial management information system makes it possible to carry out an audit effectively.

The Building Blocks (elements) of an FMIS

There are many elements that make up an FMIS, each with its own function. Some of them have to do with the accounting functions of the organization; others are concerned with planning, others analysis, and others reporting. The following are the main elements you will find in most financial management information systems:

- The general ledger.
- The accounts payable.
- The accounts receivable.
- A budgetary accounting module.
- A payroll system.
- A procurement module.
- A project ledger module.
- An asset module.

Advantages of a Financial Management Information System

By its very nature, a financial management information system has numerous advantages that make operations easier for a business. Here are some of the most important benefits of an integrated financial management information system:

1. It makes the decision-making process faster: The information provided by the financial management information system has some important qualities: It is timely, reliable, accurate, and verifiable. That makes it much easier and faster to make decisions because the process of curing the information used to arrive at the decisions has been outsourced to the system. Because of the financial reporting capabilities of the financial management information system, it helps the management of the business to evaluate the economic advantages and disadvantages of various business strategies they are trying out. This brings about more certainty to the implementation of business strategies and decisions.

2. It helps in planning: Having an FMIS system implemented increases your capacity to schedule and forecast. With that capability, the process of allocating financial resources become much more effective, and the targets set become more realistic. You should always allow your financial capabilities to inform the scope of your plans and limit it accordingly. This capacity to plan realistically allows you to achieve your goals much faster.

3. It makes the business more efficient: With a financial management information system, your business stands a chance to become much more efficient. The system gives you all the information and control you need to prevent the misuse of the business's financial resources while giving you the ability to mitigate potential risks that you cannot foresee. Because of its reporting capabilities, a financial management information system also allows you to use past performance to inform your current as well as future strategies.

4. It gives you a competitive advantage: With a financial management information system, your business will have a competitive advantage over other businesses that do not have it. An FMIS is simply another way to leverage the immense power of information technology and bring more productivity to the business and more satisfaction to the customer. The business will be able to see everything that is going on in a financial sense and respond in a timely manner to remain a step ahead of its competitors at all times.

5. It allows for integration: With a financial management information system, the process of integration becomes much easier. The functions and resources of the business can all be controlled within a single system. This makes it easier and faster to process transactions and convey financial information. Redundant activities are eliminated, and shared services are centralized to save on operational costs. The end result is a more efficient business with a more robust bottom line.

Production Information System

Many companies are making efforts to improve their data integration and management systems. They understand effective product information management (PIM) is a key to business success. Getting it right brings a whole host of benefits to the company.

Whichever PIM solutions you choose should have several features. These include adequate data storage and retrieval mechanisms. It should be able to integrate with other systems in the business.

Moreover, it should provide reports on all the data you have. The system should be open access to allow for customization. Last, it should be scalable since the owner expects the business to continue growing.

Production:

Production is some process through which goods and services are created. Production / Operations are the heart for an organisation and add value to some object enhancing its usefulness. This is done by bringing men, machines and materials together as inputs to get the desired output.

In modern times the formulation of production strategy has become a complicated and difficult activity. In one man organisation / enterprise, like retail shops, owner can himself formulate operational plans, review the progress and can make modifications in his plans and method of work.

There is no communication problem as he can effectively communicate with himself to know the present state of activities in his organisation. But with evolution of large corporations, due to concepts of division of labour, introduced communication and co-ordination problems, the employees in these organisations perform non- interchangeable functions specializing in their own job, which is isolated from other jobs in the organisation.

The various departments in the organisation are created on a functional basis to secure income through sales and production, to control the flow of capital and to ensure the continuation of the process at a profit. The important functional groups are marketing, production, engineering, finance and personnel.

The production department performs the function of transferring input into some desired output. In other words, the role of production department is to manufacture the company's products in accordance with quality specifications and to produce goods at minimum cost. The production department performs a number of operations/activities carried out by a number of sections.
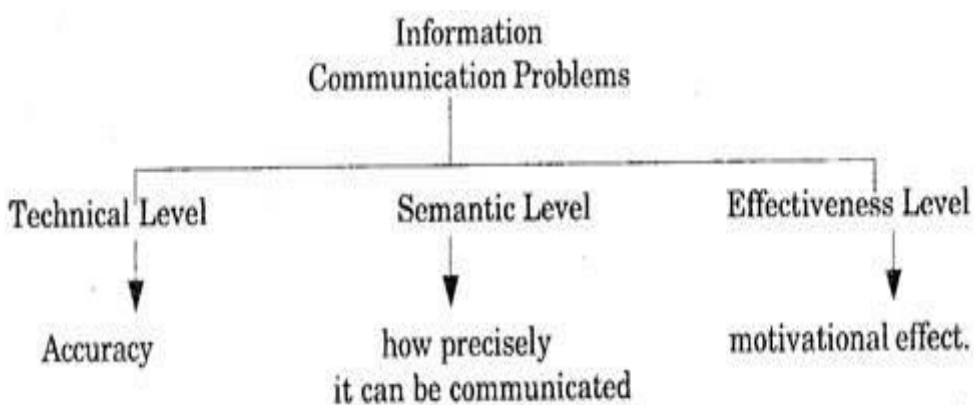
Each section performs some specialised activity and tries to optimize its level of performance. The common denominator related to the various activities of these sections of any type of production system is the flow of materials. A production organisation is characterised by the nature of inputs, transformation process and the output.

B. Information:

'Information is the glue that holds organisations together'. It has become an important input in all walks of life today. Information is data that is processed in a form, which helps the management to take decisions. The value of information is associated with decision-making and can be considered at a higher and active level than data.

If there were no choices/decisions information would be unnecessary. Information is alive as it is required to be updated all the time and is renewable. It can be easily expandable, substitutable and transportable.

The problem related with information is mainly of communication and can be classified in the following categories:

```
              Information
         Communication Problems
                   |
     _____
    |                |                   |
Technical Level  Semantic Level    Effectiveness Level
    |                |                   |
    v                v                   v
 Accuracy      how precisely      motivational effect.
            it can be communicated
```

C. System:

System is an abstract/physical set of elements, which operate together to accomplish an objective. A system may be defined as 'a purposeful collection of people, objects and procedures for operating within an environment. It is composed of interacting components operating under human control. Webster defines system as "a set / arrangement of things so related or connected to form a unity of organisation". Every organisation can be visualised as a system comprising of various departments/sections as sub-systems.

D. Production System:

Using the generalized concept of production as a basic process which converts the resource inputs into some useful form of outputs. We can term the various components of the production process as a system. Inputs to the System may be labour, material, equipment, facilities, information etc. The output may be in terms of finished products or services. The conversion process is some combination of men, machines, equipment, material and other facilities performing various operational activities in some pre-designed order/ sequence.

E. Information System:

The system objective should be clearly stated in terms of the functions it is to perform i.e. what managers can do and how effectively they would be able to function after their information requirements have been met e.g. objective of system may be to optimise the production by identifying the variance so that these could be closely monitored.

An information system matches for significant events to happen and triggers an intelligent response in all sections of the system to a significant development in any part. It is not merely a communicating network but also generates intelligent response. It has a methodology of decision models built in it and is available to alternative.

The design of information system in fact starts with identification of the information needs of the users. Manager needs specific elements of information pertaining to the parameters that influence his decisions and the decision methodology for optimum decisions. These parameters are defined by the problem description.

The organized flow of relevant information and the decision methodology needed for a specific decision has to be built into the information system. The responsibility of the information system is just to observe. Classify and store any item/data, which might be potentially useful to the decision maker.

An Alternative View of Information System:

An information system is designed in a number of small modules. Some modules are used only once while others might be used in a large number of applications. The reuse of common modules considerably reduces the programming and designing effort in an information system e.g. Sales forecast system can cater the needs for marketing, production and inventory operations.

There are three important components in any information system for decision making:

i. Inputs,

ii. Processing and

iii. Output.

The detailed composition of any information system can be explained with the help of following chart:

Composition of information System
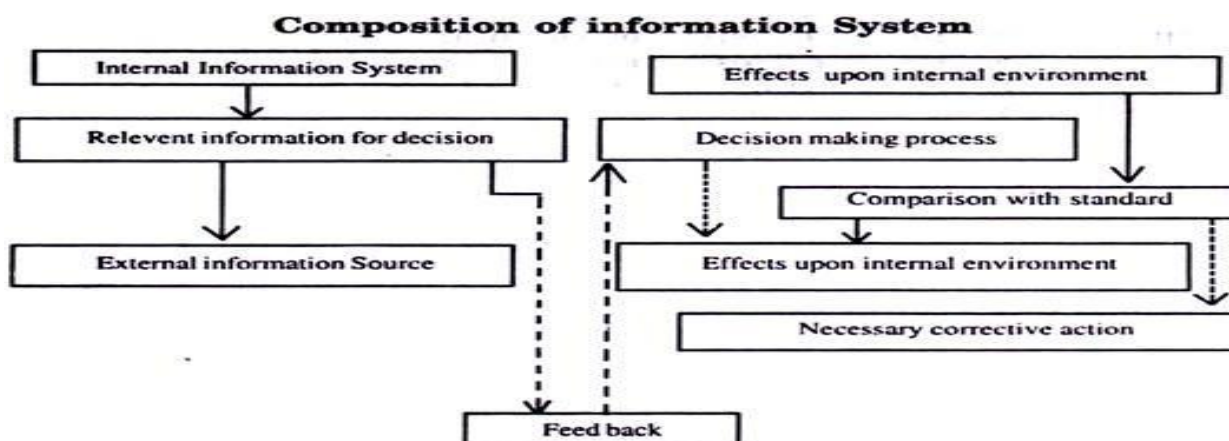
The aim of information system is to improve decision, lower costs, strengthen operation control, meeting customer demand and improving the image of the organisation.

Production Information System:

Production information system performs an integrating role with in the production system of any organisation. Management of activities/operations in a production system is concerned with decision making related to different components of the system so as to accomplish the desired output.

These decisions can be divided as periodic-decisions viz. selection, design and updating of resources, transformation process and methods, and continual decisions about day-to-day operation and control of various activities/operations in the system. These decisions can also be divided in planning, implementation and control categories.

Production information system is a network to generate necessary information and process it to make various decisions related to some production system. It consists of communication channels and information processing centres collecting information from its sources of origin, storing, updating, collating and processing it and then supplying the processed information to the various users of the system.

A production information system can be viewed as an independent group of sub-systems each related to its successor, each performing a different function though yet united with others for achievement of the overall objective. It interacts with both its internal and external environments.

The components of the system can be described as:

1. Long Term Planning:

This implies planning the conversion system specifying the sequence of operations, capacity of the system, plant location and its layout aspects. The decisions derived have long term impact and are difficult to undo once implemented. Information for taking such decisions is compiled periodically for determination of appropriate product mix.

2. Annual Production Plan:

These are meant to plan the use of transformation process. These plans are drawn from sales programmes by optimizing inventory-carrying costs, costs on labour with hiring and firing of personnel etc. These plans are revised periodically.

3. Inventory Control:

It is generally expressed in terms of money and number of units produced. It deals with preparation of master inventory and production schedules.

4. Production Scheduling:

These decisions are to determine: what to make, when to make, how to make, how much time is required to make it, production plan, bill of materials and operations sheets providing the necessary information for the preparation of production schedules.

5. Dispatching:

Time standards are formulated through operation/route sheets supplied by planning and engineering departments. Cost standards are calculated through cost cards and job tickets and the quality standards are prescribed by design & engineering sections.

Thus production information system is a matter of planning and generating records for decision-making.

MacNeice has subdivided these records into three types:

A. Records of Basic Information:

(i) Blue Prints,

(ii) Bill of materials,

(iii) Time value of fundamental operations and

(iv) Production routing.

B. Records showing of available items:

(i) Raw material records

(ii) Work in process

(iii) Semi-processed stock

(iv) Finished goods stock

(v) Information about tools, jigs, fixtures, gauges and personnel available

(vi) Machinery and equipment details

C. Historical Records:

(i) Records of production,

(ii) Records of waste and reject,

(iii) Records of machine performance,

(iv) Records of sales and

(v) Records of absenteeism.

The nature of these records can vary for different type of plants and production systems as well as according to the situation and needs of the management. In a small organisation the preparation and maintenance of these records is the job of shop floor.

But it becomes an important function in medium and large scale organisations having separate section for collection and preservation of such records. Usually this Work is done by dispatchers who continually observe the actual implementation and compare it with the programme previously intimated.

Characteristics of Production Information System:

1. It should always be tailored to the need of a particular organisation. It can never be specific or general.

2. The involvement of top management in the formulation of production information system is essential.

3. Data base should be wide.

4. It must be flexible and should be supplied timely.

5. Data should be capable of easy interpretation & presentation.

6. The cost of procuring the information must not over-ride the relative advantage accrued.

In production system most of the information needs are in the area of:

(i) Production, Planning and Control,

(ii) Materials management viz. purchase, stores and inventory Control etc. with an objective to optimise production by identifying the variances so that these could be closely monitored.

Benefits of Production Information Management System

Good product information management is essential due to the current dynamic business environment. No matter your industry, managing data well gives you an edge over your competitors.

Here are 5 benefits of a good PIM system:

1. Better Product Data Management

As the business grows, there'll be many new products coming in. As such, it can become difficult to keep track of all that product information. This leads to disorganization, which, in turn, affects customer experience.

A reliable PIM system can help you sort that out. It will organize and manage all product information. It will also make it easier to share that data across different channels.

2. Improving Customer Experience

PIM solutions give customers consistent access to detailed and relevant product information. This reduces instances of product returns or complaints. It also reduces shopping cart abandonment.

It makes new products available to customers much faster than in normal circumstances. Customers can also see how much stock is available if they want to buy something. Plus, the information enables the business agents to serve customers better.

Customers can search what they want and head to the checkout section to buy it. This gives them more control rather than having an agent pushing them to buy.

3. Boosts Time Efficiency

"Time is money" as the saying goes. With PIM software, you save time on tasks and focus on important work. It reduces constant and manual data entry work. It makes it easy to search for products and update the inventory.

Moreover, it is easier to clean data and streamline information. As a result, employees have more time on their hands to deal with other profitable tasks. It also reduces the data management frustration that may affect the work environment.

4. Ensures Cost-Savings

Implementing a good PIM system reduces operational and supply chain costs. Information accuracy reduces management risks and prevents the costs of bad product data. Companies are able to replace out of stock items before customers start complaining.

In addition, suppliers use the PIM data to audit and improve their delivery methods. This boosts customer experience and allows suppliers to reduce their competition.

5. Offers Easier Integration

PIM solutions are easier to integrate than business enterprise systems. For example, an ERP needs more customization than a PIM. This flexibility means you can customize PIM to manage all your data processes. In turn, this will cut costs on management and marketing new products.