

Topics Covered/Syllabus

- ↳ What is MIS?
- ↳ Decision support system
- ↳ System approach
- ↳ System view of business
- ↳ MIS organisation within the company
- ↳ Organisational theory and system approach
- ↳ Development of organisational theory
- ↳ Management information and system approach

1

CHAPTER

MANAGEMENT INFORMATION SYSTEM

1.1. WHAT IS MIS?

Q.1. What do you mean by Management Information System? Explain its role also? (KU 2015, 2014)

Ans. Management Information System is an organizational design so that it can be used by the managers in performing specific functions like *planning, directing, controlling and decision making*. Management Information System is used by the top level management of organization. It consists of various controls.

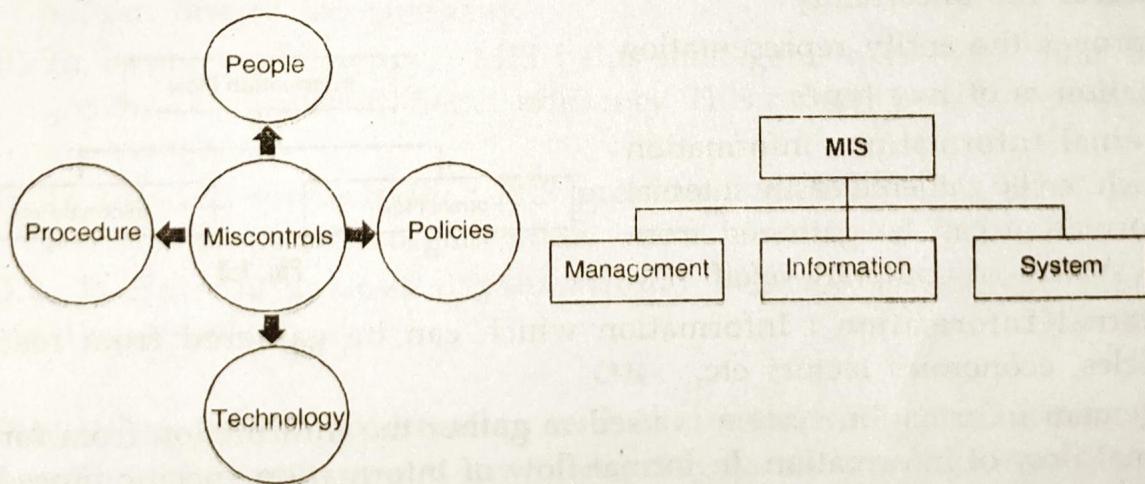


Fig. 1.1

1. Management
2. Information
3. System

These three terms are broadly explained below :

1. Management : *Management is the art of getting things done through the people and by the people.* Management is mostly performed by managers in any organization.

Operation performed by the managers :

- (i) **Play by setting strategies and goals** : Manager plan any job by setting-up objectives and strategies and then they choose best action for the completion of the task.
- (ii) **Organize the task** : Manager organize the only tasks which are required for the completion of the job and they simultaneously work for achieving them.
- (iii) **Control the performance** : The performance of MIS is controlled by managers by setting standards and it must be made sure that these standards aren't deviated.

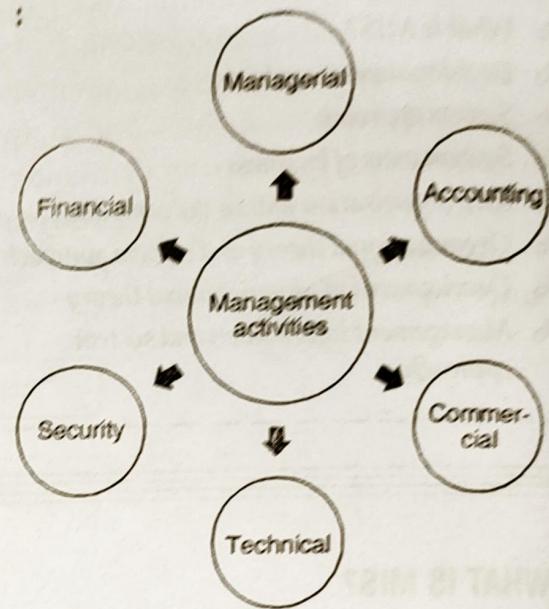


Fig. 1.2

2. Information : *Information can be defined as the any data or piece of data which is retrieved and processed which is further helping in the decision making.*

Characteristics :

- (i) Updates the knowledge level
 - (ii) Reduces the uncertainty
 - (iii) Improves the entity representation
- Information is of two types :
- (a) **Internal Information** : information which can be gathered easily. Internal information can be gathered from the system of company itself.
 - (b) **External Information** : Information which can be gathered from reading articles, economics factors etc.

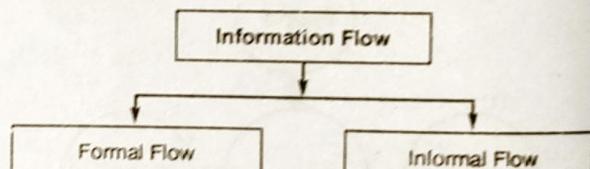


Fig. 1.3

Management information system is used to gather the information from formal and informal flow of information. In formal flow of information specific procedure is opted whereas in informal flow of information no such procedure is opted.

(iii) System : *A system is a set of the elements which works together to achieve common goal. It helps in optimizing the output of the organization.*

The system ensures that appropriate data is collected from the various sources, processed and sent further to all the needy destination. The system is expected to fulfill the information needs of an individual/ a group of individual.

Roles of MIS :

- (i) MIS satisfies the diverse needs through variety of systems such as query system.
- (ii) MIS helps in strategic planning, management control, operational control, and transaction processing.
- (iii) MIS helps in junior management personals in providing the operational data for planning, controls and help in further decision making.
- (iv) MIS helps the top level management in goal setting.
- (v) MIS helps in the role of information generation ,communication and problem identification.

Function of MIS :

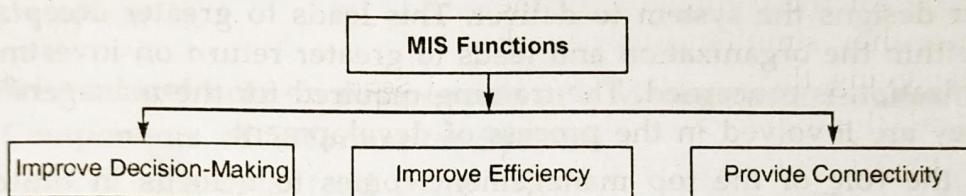


Fig. 1.4

The broad functions of MIS are as given below :

- (i) **To improve decision-making** : MIS helps management by providing background information on a variety of issues and helps to improve the decision-making quality of management. The fast and accurate information supplied by MIS is leveraged by the managers to take quicker and better decisions thereby improving the decision-making quality and adding to the bottom line of the company.
- (ii) **To improve efficiency** : MIS helps managers to conduct their tasks with greater ease and with better efficiency. This reflects in better productivity for the company.
- (iii) **To provide connectivity** : MIS provides managers with better connectivity with the rest of the organization.

Q.2. Explain how does organisational behavior influence management information system? (KU 2015, 2014)

OR

Discuss the role of information with the reference to organisation behavior?

Ans. The degree of success of any information management initiative or intervention in an organization depends upon the approach of the management of the organization towards such an initiative. If the approach is short term and the benefits or objectives envisaged is too narrow, then the information system remains only of marginal value.

On the other hand, if the management is fully convinced of the need for such a system and gives it wholehearted support and backing, then naturally the process

of information system development is adhered to in a more comprehensive manner, with proper planning, listing of objectives, proper analysis and design and proper implementation.

This result in a superior information system that can not only fulfill the information needs of the organization in the present but can also continue to serve the organization in times to come.

The objectives and deliverables planned for such a system is well structured and the user, i.e., the managers who are involved in the planning and designing stage of the development process of the information system.

There is no gap in the *expectations* and *deliverables*. This means that there is no misunderstanding between what the managers want from the system and what the developer designs the system to deliver. This leads to greater acceptability of the system within the organization and leads to greater return on investment as far as the organization is concerned. The training required for the managers is also much less if they are involved in the process of development.

Also, the role of the top management comes to a focus in the development process. The top management by giving its full support may choose to send a message to the entire organization that leads to greater acceptability of the system and a lesser resistance to change.

If the top management is ambivalent, problems of acceptability and conflict arise. Information systems are known to cause conflict, resulting from a resistance to change of mindset amongst employees.

This behavior may to an extent be controlled without human resource intervention if the top management support is not only given to the project but also made well known across the organization.

This means that communication is needed for the system and the support of the top management should be well communicated to the employees to gain greater acceptability and a smooth transition.

Most organizations choose to outsource the work of development of information systems to specialized IT firms. This brings to the fore the necessity to control the outsourcing process. The problem with the strategy of outsourcing the development work of information systems is that the outsourced agency may not understand the specific internal requirements of the organization.

Specialized IT consulting firms are available to control this process on behalf of the organization. Typically, the IT consulting firm studies the needs of the organization and prepares a design document in consultation with the users, i.e., the managers of the organization and then the IT development firm develops the system by adhering to the design.

Suitable control is exercised by the organization in which this information system will be implemented in the form of discussions, ratification of prototypes, etc., along with controls exercised by the IT consulting firm like comparison of design

with the actual development. This ensures that the product is prepared as per plan and that any deviations are noticed during the development stage and not during the implementation stage. This ensures that corrective measures can be taken to rectify the mistakes, if any, without much on cost or time.

In some cases, the organization may choose to develop the information system with its own resources. This is difficult as in today's world the technological development has been so great in these areas of information technology and communication technology that it may be almost impossible for normal organizations, i.e., whose main job is not IT consulting or IT development to garner the technical expertise of an IT development firm and then develop a system from scratch. This will not only be very costly for the organization but may lead to unreliable results. In such a case, the managerial objectives will be clear and well adhered to but the technical objectives may suffer.

Q.3. Write a brief note on components of a Management Information System?

Ans. Components of Information Systems :

(KU, 2015)

- (i) **Resources of people:** (end users and IS specialists, system analyst, program-mers, data administrators etc.).
- (ii) **Hardware:** (Physical computer equipment's and associate device, machines and media).
- (iii) **Software:** (programs and procedures).
- (iv) **Data:** (data and knowledge bases)
- (v) **Networks:** (communications media and network support).

These discussed in detail as in Fig. 1.5.

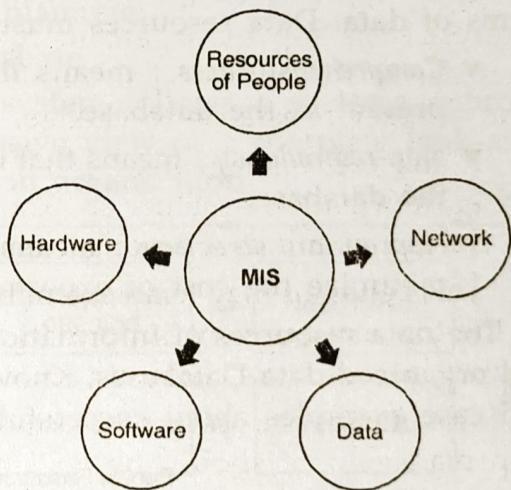


Fig. 1.5

(i) **People Resources :** (also called users or clients) are people who use an information system or the information it produces. They can be accountants, salespersons, engineers, clerks, customers, or managers. Most of us are information system end users. IS Specialists: people who actually develop and operate information systems. They include systems analysts, programmers, testers, computer operators, and other managerial, technical, and clerical IS personnel.

Briefly, systems analysts design information systems based on the information requirements of end users, programmers prepare computer programs based on the specifications of systems analysts, and computer operators operate large computer systems.

(ii) **Hardware Resources :** Machines as computers and other equipment along with all data media, objects on which data is recorded and saved. Computer systems: consist of variety of interconnected peripheral devices.

Examples are microcomputer systems, midrange computer systems, and large computer systems. Software Resources Software Resources includes all sets of information processing instructions. This generic concept of software includes not only the programs, which direct and control computers but also the sets of information processing (procedures).

(iii) **Software Resources includes :** System software, such as an operating system. Application software, which are programs that direct processing for a particular use of computers by end users. Procedures, which are operating instructions for the people, who will use an information system. Examples are instructions for filling out a paper form or using a particular software package.

(iv) **Data Resources :** Data resources include data (which is raw material of information systems) and database. Data can take many forms, including traditional alphanumeric data, composed of numbers and alphabetical and other characters that describe business transactions and other events and entities. Text data, consisting of sentences and paragraphs used in written image data, such as graphic shapes and figures; and audio data, the human voice and other sounds, are also important forms of data. Data resources must meet the following criteria:

- ▼ *Comprehensiveness* : means that all the data about the subject are actually present in the database.
- ▼ *Non-redundancy* : means that each individual piece of data exists only once in the database.
- ▼ *Appropriate structure* : means that the data are stored in such a way as to minimize the cost of expected processing and storage.

The data resources of Information system are typically organized into Processed and organized data-Databases. Knowledge in a variety of forms such as facts, rules, and case examples about successful business practices.

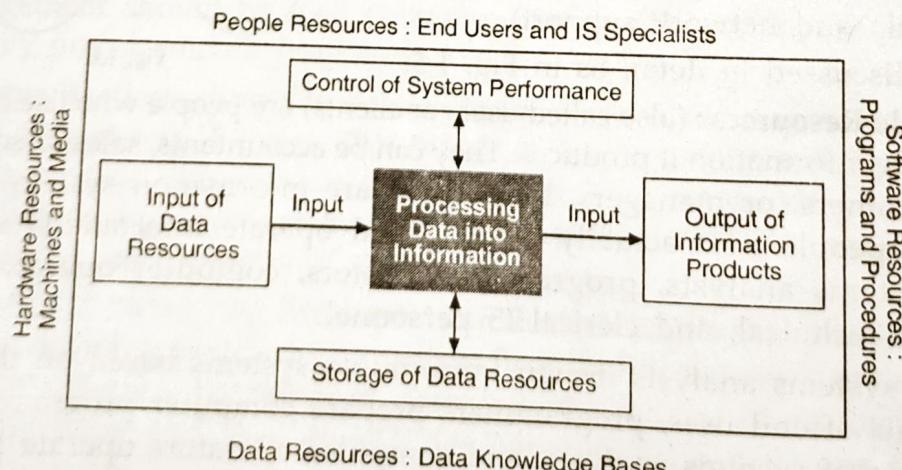


Fig. 1.6

Network Resources Telecommunications networks like the Internet, intranets, and extranets have become essential to the successful operations of all types of organizations and their computer-based information systems. Telecommunications

networks consist of computers, communications processors, and other devices interconnected by communications media and controlled by communications software.

The concept of Network Resources emphasizes that communications networks are a fundamental resource component of all information systems.

(v) **Network resources include :** Communications Media such as twisted pair wire, coaxial cable, fiber-optic cable, microwave systems, and communication satellite systems. Network support: This generic category includes all of the people, hardware, software, and data resources that directly support the operation and use of a communications network. Examples include communications control software such as network operating systems and Internet packages.

Q.4 Explain the Characteristic of Management Information System.

Ans. Characteristics of MIS :

- | | |
|-----------------------|------------------------|
| 1. Systems approach | 2. Management oriented |
| 3. Need based | 4. Exception based |
| 5. Future oriented | 6. Integrated |
| 7. Common data flow | 8. Long term planning |
| 9. Sub system concept | 10. Central database |

1. Systems Approach : The information system follows a systems approach. Systems approach means taking a comprehensive view or a complete look at the interlocking sub-systems that operate within an organization.

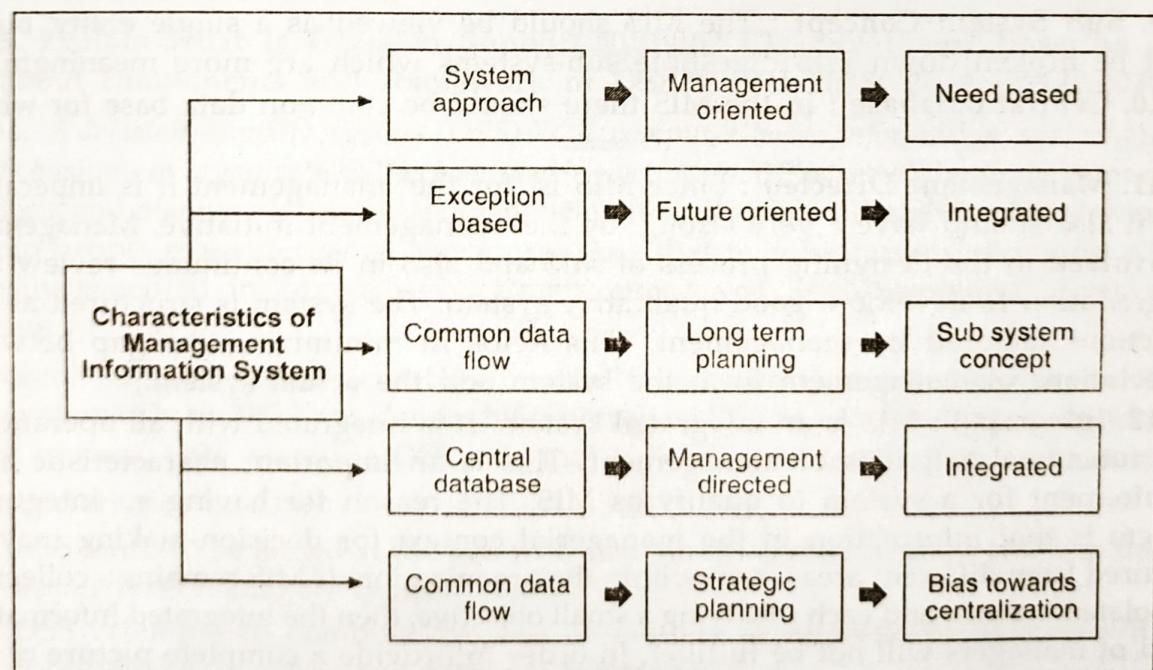


Fig. 1.7

2. Management Oriented : Management oriented characteristic of MIS implies that the management actively directs the system development efforts. For planning of MIS, top-down approach should be followed. Top down approach suggests that

the system development starts from the determination of management's needs and overall business objective. To ensure that the implementation of system's policies meet the specification of the system, continued review and participation of the manager is necessary.

3. Need Based : MIS design should be as per the information needs of managers at different levels.

4. Exception Based : MIS should be developed on the exception based also, which means that in an abnormal situation, there should be immediate reporting about the exceptional situation to the decision -makers at the required level.

5. Future Oriented : MIS should not merely provide past of historical information; it should provide information, on the basis of future projections on the actions to be initiated.

6. Integrated : Integration is significant because of its ability to produce more meaningful information. Integration means taking a comprehensive view or looking at the complete picture of the interlocking subsystems that operate within the company.

7. Common Data Flow : Common data flow includes avoiding duplication, combining similar functions and simplifying operations wherever possible. The development of common data flow is an economically sound and logical concept, but it must be viewed from a practical angle.

8. Long Term Planning : MIS is developed over relatively long periods. A heavy element of planning should be involved.

9. Sub System Concept : The MIS should be viewed as a single entity, but it must be broken down into digestible sub-systems which are more meaningful.

10. Central database : In the MIS there should be common data base for whole system.

11. Management Directed : Since MIS is 'for the' management it is imperative that it also should have a very strong 'by the' management initiative. Management is involved in the designing process of MIS and also in its continuous review and up gradation to develop a good qualitative system. The system is structured as per directions factored by management. This helps in minimizing the gap between expectations of management form the system and the actual system.

12. Integrated : MIS is an integrated system. It is integrated with all operational and functional activities of management. This is an important characteristic and requirement for a system to qualify as MIS. The reason for having an integrated system is that information in the managerial context for decision-making may be required from different areas from within the organization. If MIS remains a collection of isolated systems and each satisfying a small objective, then the integrated information need of managers will not be fulfiller. In order to provide a complete picture of the scenario, complete information is needed which only an integrated system can provide.

13. Common data flows : Through MIS the data being stored into the system, retrieved from the system, disseminated within the system or processed by the

system can be handled in an integrated manner. The integrated approach towards data management will result in avoiding duplication of data, data redundancy and will help to simplify operations.

14. Strategic planning : MIS cannot be designed overnight. It requires very high degree of planning which goes into creating an effective organization. The reason for this kind of planning is to ensure that the MIS being built not only satisfies the information need of the managers today but can also serve the organization for the next five to ten years with modifications.

15. Bias towards centralization : MIS is required to give 'one version of the truth', i.e., it must supply the correct version of the latest information. There is a requirement for the data repository to be centralized.

Centralized data management helps MIS to exercise version control as well as provide an integrated common view of data to the managers.

In a non-centralized system, data will get entered, updated and deleted from the system from different locations. In such a case it becomes difficult to provide correct information to managers.

For example, in a decentralized System if a person superannuates from an organization and his superannuating is only recorded in the human resource system but not communicated to the finance department system, then it is quite likely that his salary may be generated by the finance system for the next month.

1.2 DECISION SUPPORT SYSTEM

Q.5. Explain what is Decision Support System? Classify them? Describe in brief about components and framework of DSS? (KU 2015, 2014, 2012, 2011)

Ans. A decision support system (DSS) is a computer-based information system that supports business or organizational decision-making activities. DSSs serve the management, operations, and planning levels of an organization (usually mid and higher management) and help people make decisions about problems that may be rapidly changing and not easily specified in advance—i.e. Unstructured and Semi-Structured decision problems.

Decision support systems can be either fully computerized, human-powered or a combination of both. While academics have perceived DSS as a tool to support decision making process, DSS users see DSS as a tool to facilitate organizational processes.

Characteristics of DSS :

1. DSS tends to be aimed at the less well structured, underspecified problem that upper level managers typically face.
2. DSS attempts to combine the use of models or analytic techniques with traditional data access and retrieval functions.
3. DSS specifically focuses on features which make them easy to use by noncomputer people in an interactive mode.
4. DSS emphasizes flexibility and adaptability to accommodate changes in the environment and the decision making approach of the user.

Typical information that a decision support application might gather and present includes:

1. Inventories of information assets (including legacy and relational data sources, cubes, data warehouses, and data marts,
2. comparative sales figures between one period and the next,
3. Projected revenue figures based on product sales assumptions.

Components of Decision Support System :

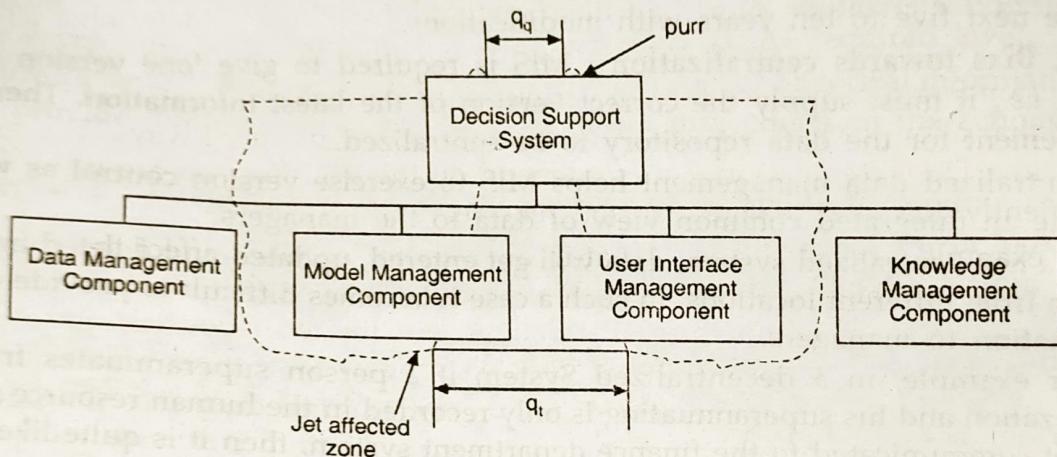


Fig. 1.8

(i) Data management component : The data management component performs the function of storing and maintaining the information that you want your Decision Support System to use. The data management component, therefore, consists of both the Decision Support System information and the Decision Support System database management system. The information you use in your Decision Support System comes from one or more of three sources:

(ii) Organizational information : You may want to use virtually any information available in the organization for your Decision Support System. What you use, of course, depends on what you need and whether it is available. You can design your Decision Support System to access this information directly from your company's database and data warehouse. However, specific information is often copied to the Decision Support System database to save time in searching through the organization's database and data warehouses.

(iii) External information : Some decisions require input from external sources of information. Various branches of federal government, Dow Jones, Compustat data, and the internet, to mention just a few, can provide additional information for the use with a Decision Support System.

(iv) Personal information : You can incorporate your own insights and experience your personal information into your Decision Support System. You can design your Decision Support System so that you enter this personal information only as needed, or you can keep the information in a personal database that is accessible by the Decision Support System.

(v) **Model Management Component** : The model management component consists of both the *Decision Support System models* and the *Decision Support System model management system*. A model is a representation of some event, fact, or situation. As it is not always practical, or wise, to experiment with reality, people build models and use them for experimentation. Models can take various forms.

Businesses use models to represent variables and their relationships. For example, you would use a statistical model called analysis of variance to determine whether newspaper, TV, and billboard advertising are equally effective in increasing sales.

Decision Support Systems help in various decision-making situations by utilizing models that allow you to analyze information in many different ways. The models you use in a Decision Support System depend on the decision you are making and, consequently, the kind of analysis you require.

For example, you would use what-if analysis to see what effect the change of one or more variables will have on other variables, or optimization to find the most profitable solution given operating restrictions and limited resources. Spreadsheet software such as *excel* can be used as a Decision Support System for what if analysis.

(vi) **User Interface Management Component** : The user interface management component allows you to communicate with the Decision Support System. It consists of the user interface management system. This is the component that allows you to combine your know-how with the storage and processing capabilities of the computer.

The user interface is the part of the system you see through it when enter information, commands, and models. This is the only component of the system with which you have direct contract. If you have a Decision Support System with a poorly designed user interface, if it is too rigid or too cumbersome to use, you simply won't use it no matter what its capabilities. The best user interface uses your terminology and methods and is flexible, consistent, simple, and adaptable.

(vii) **Data management** : The Decision Support System stores customer and product information. In addition to this organizational information, Lands' End also needs external information, such as demographic information and industry and style trend information.

(viii) **Model management** : The Decision Support System has to have models to analyze the information. The models create new information that decision makers need to plan product lines and inventory levels. For example, Lands' End uses a statistical model called *regression analysis* to determine trends in customer buying patterns and forecasting models to predict sales levels.

(ix) **User interface management** : A user interface enables Lands' End decision makers to access information and to specify the models they want to use to create the information they need.

(x) **Knowledge Management Component** : The knowledge management component, like that in an expert system, provides information about the relationship among data that is too complex for a database to represent. It consists of rules that can constrain possible solution as well as alternative solutions and methods for

evaluating them when analyzing the impact of a price reduction, a decision support system should signal if the forecasted volume of activity exceeds the volume that the projected staff can service. Such signaling requires the Decision Support System to incorporate some rules-of-thumb about an appropriate ratio of staff to sales volume. Such rules-of-thumb, also known as heuristics, make up the knowledge base.

Classification of DSS : This can be classified are as follows :

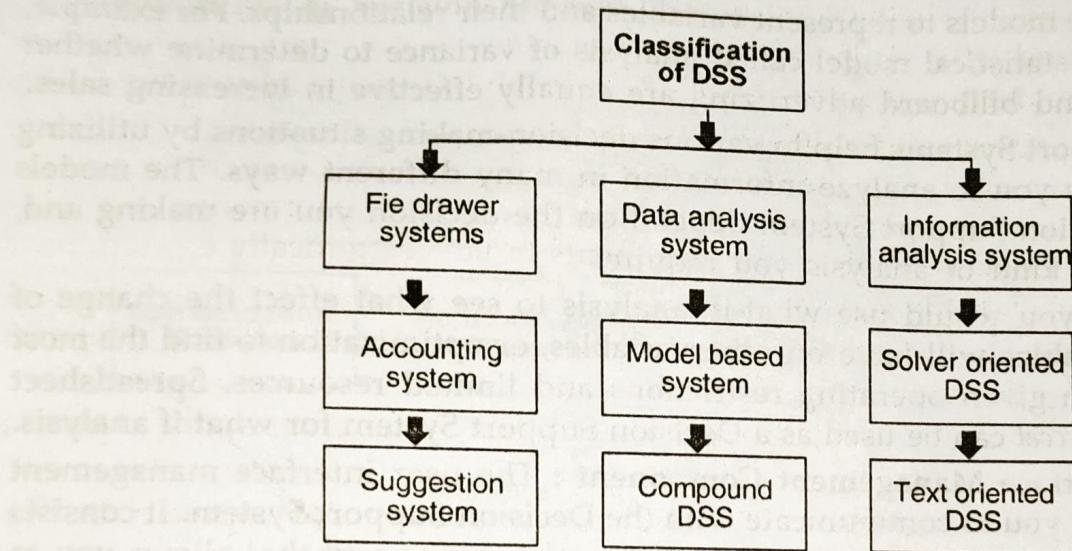


Fig. 1.9

- (i) **File Drawer Systems :** This is a system which provide the user with organized information regarding specific demands. This system provides on-line information. This is very useful system for decision making.
- (ii) **Data Analysis Systems :** These decision systems are based on comparative analysis and makes use of a formula. The cash flow analysis, inventory analysis and personnel inventory systems are examples of the analysis systems. This use of simple data processing tools and business rules are required to develop that system.
- (iii) **Information Analysis System :** In this system the data is analyzed and the information reports are generated. The decision makers use these reports for assessment of the situation for decision-making. The sales analysis, accounts receivables system, market research analysis are examples of such systems.
- (iv) **Accounting Systems :** These systems are not necessarily required for decision making but they are desirable to keep track of the major aspects of the business. These systems account items such as cash, inventory, and personnel and so on.
- (v) **Model Based Systems :** These systems are simulation models or optimization models for decision making. It provides guidelines for operation or management. The product decision mix decisions, material mix, job scheduling rules are the examples. It is the most important type of DSS.

- (vi) **Solver Oriented DSS** : It is performing certain computations for solving a particular type of problem. The solver could be economic order quantity procedure for calculating an optimal ordering quantity.
- (vii) **Suggestion System** : There are used for operational purposes. They give suggestion to the management for a particular problem. This model helps in making required collection of data before taking a suitable decision.
- (viii) **Compound DSS** : It is a system that includes two or more of the above five basic structures explained above. It can be built by using a set of independent DSS, each specializing in one area.
- (ix) **Text oriented DSS** : A Text oriented DSS supports a decision maker by electronically keeping trade of textual represented information that have a bearing on decision. It allows documents to be electronically created, revised and viewed as needed.

The information technologies such as documents emerging, hypertext and intelligent agents can be incorporated into this type.

DSS systems are not entirely different from other systems and require a structured approach.

Such a framework includes people, technology, and the development approach.

The Early Framework of Decision Support System consists of four phases:

Intelligence searching for conditions that call for decision.

Design developing and analyzing possible alternative actions of solution.

Choice selecting a course of action among those.

Q.6. Write a short note on Application of Decision Support System (DSS).

(KU 2011)

Ans. Applications of DSS are as follows :

1. One is the clinical decision support system for medical diagnosis. There are four stages in the evolution of clinical decision support system (CDSS). The primitive version is standalone which does not support integration. The second generation of CDSS supports integration with other medical systems. The third generation is standard-based while the fourth is service model-based.
2. Other examples include a bank loan officer verifying the credit of a loan applicant or an engineering firm that has bids on several projects and wants to know if they can be competitive with their costs.
3. DSS is extensively used in business and management. Executive dashboard and other business performance software allow faster decision making, identification of negative trends, and better allocation of business resources.
4. Due to DSS all the information from any organization is represented in the form of charts, graphs i.e. in a summarized way, which helps the management to take strategic decision. For example, one of the DSS applications is the management and development of complex anti-terrorism systems.

5. A growing area of DSS application, concepts, principles, and techniques is in agricultural production, marketing for sustainable development. For example, the DSSAT4 package, developed through financial support of USAID during the 80s and 90s, has allowed rapid assessment of several agricultural production systems around the world to facilitate decision-making at the farm and policy levels. There are, however, many constraints to the successful adoption of DSS in agriculture.
6. DSS are also prevalent in forest management where the long planning horizon and the spatial dimension of planning problems demands specific requirements. All aspects of Forest management, from log transportation, harvest scheduling to sustainability and ecosystem protection have been addressed by modern DSSs. In this context the consideration of single or multiple management objectives related to the provision of goods and services that traded or non-traded and often subject to resource constraints and decision problems.
7. The Community of Practice of Forest Management Decision Support Systems provides a large repository on knowledge about the construction and use of forest Decision Support Systems.
8. A specific example concerns the Canadian National Railway system, which tests its equipment on a regular basis using a decision support system. A problem faced by any railroad is worn-out or defective rails, which can result in hundreds of derailments per year. Under a DSS, CN managed to decrease the incidence of derailments at the same time other companies were experiencing an increase.
9. Business planners will build a DSS system according to their needs and use it to evaluate specific operations, including:
 - (i) A large stock of inventory, where decision support system applications can provide guidance on establishing supply chain movement that works for a business.
 - (ii) A sales process, where decision support systems software is a "crystal ball" that helps managers theorize how changes will affect results.
 - (iii) Other specialized processes related to a field or industry.

Look at decision support systems designed to manage inventory : DSS can come in handy by evaluating stock held in a facility, or any other type of business asset that can be moved around or otherwise optimized. This is often one way a business can profit from "itemizing" its assets with DSS.

Use DSS for sales optimization and sales projections : Decision support technology can also be a tool that analyzes sales data and makes predictions, or monitors existing patterns. Whether it's big picture decision support tools, active or passive solutions, or any other kind of DSS tool, planners often tackle sales numbers using a variety of decision support resources.

Utilize DSS to optimize industry-specific systems : There are other uses for this powerful software option - to make good projections on the future for a business,

or to get an overall "bird's eye view" of events that determine company's progress. This can come in handy in difficult situations where a lot of financial projection may be necessary when determining expenditures and revenues.

Q.7. Write a short note on advantages and disadvantages of Decision Support System.

Ans. Advantages of DSS :

- (i) Improves performance and effectiveness of the user.
- (ii) Allows for faster decision-making.
- (iii) Reduces the time taken to solve problems.
- (iv) These combine to save money.
- (v) Has been seen to improve collaboration and communication within groups.
- (vi) Reduces training times because the experience of experts is available within the programs algorithms.
- (vii) Provides more evidence in support of a decision.
- (viii) May increase decision-maker satisfaction.
- (ix) Providing different perspectives to a situation.
- (x) Helps automate various business systems.

Disadvantages/limitations of DSS :

While decision support systems have been embraced by small business operators in a wide range of industries in recent years, entrepreneurs, programmers, and business consultants all agree that such systems are not perfect.

(i) Level of "user-friendliness" Some observers contend that although decision support systems have become much more user-friendly in recent years, it remains an issue, especially for small business operations that do not have significant resources in terms of technological knowledge.

(ii) Hard-to-quantify factors Another limitation that decision makers confront has to do with combining or processing the information that they obtain. In many cases these limitations are due to the number of mathematical calculations required. For instance, a manufacturer pondering the introduction of a new product can not do so without first deciding on a price for the product.

In order to make this decision, the effect of different variables (including price) on demand for the product and the subsequent profit must be evaluated. The manufacturer's perceptions of the demand for the product can be captured in a mathematical formula that portrays the relationship between profit, price, and other variables considered important.

Once the relationships have been expressed, the decision maker may now want to change the values for different variables and see what the effect on profits would be. The ability to save mathematical relationships and then obtain results for different values is a feature of many decision support systems.

This is called "what-if" analysis, and today's spreadsheet software packages are fully equipped to support this decision-making activity. Of course, additional factors must be taken into consideration as well when making business decisions.

Hard-to-quantify factors such as future interest rates, new legislation, and hunches about product shelf life may all be considered. So even though the calculations may indicate that a certain demand for the product will be achieved at a certain price, the decision maker must use his or her judgment in making the final decision.

Therefore, the way in which a DSS will be used must be considered within the decision-making environment.

(iii) Processing model limitations Another problem with the use of support systems that perform calculations is that the user/decision maker may not be fully aware of the limitations or assumptions of the particular processing model. There may be instances in which the decision maker has an idea of the knowledge that is desired, but not necessarily the best way to get that knowledge. This problem may be seen in the use of statistical analysis to support a decision. Most statistical packages provide a variety of tests and will perform them on whatever data is presented, regardless of whether or not it is appropriate. This problem has been recognized by designers of support systems and has resulted in the development of DSS that support the choice of the type of analysis.

Q.8. How does MIS help in the Decision Making Process? (KU 2014, 2011)

Ans. Management information systems MIS combine hardware, software and network products in an integrated solution that provides managers with data in a format suitable for analysis, monitoring, decision-making and reporting. The system collects data, stores it in a database and makes it available to users over a secure network.

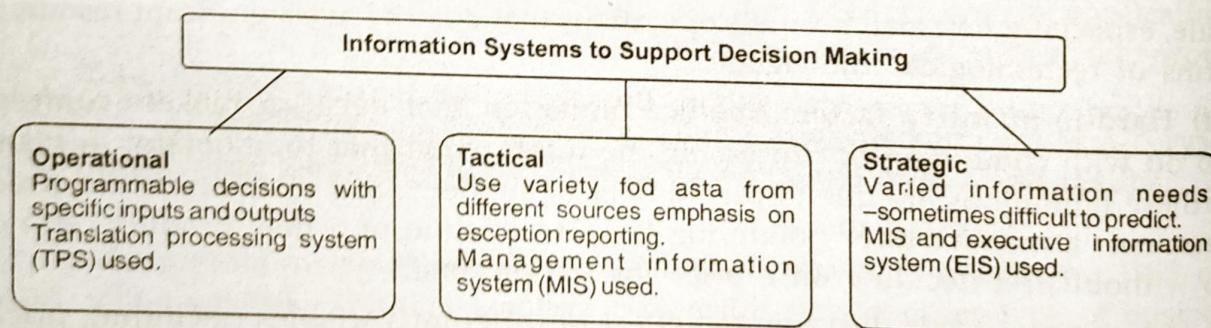


Fig 1.10

The type of information required by decision makers in a company is directly related to :

- The level of management decision making
- The amount of structure in the decision situations managers face

The levels of management decision making that must be supported by information technology in a successful organization (independently of its size, shape, and participants).

- 1. Strategic management :** As part of a strategic planning process top executives
 - (i) Develop overall organizational goals, strategies, policies.
 - (ii) Monitor the strategic performance of the organization and its overall direction in the political, economic, and competitive business environment
- 2. Tactical management :** Business unit managers and business professionals in self-directed teams
 - (i) Develop short- and medium-range plans, schedules, budgets and specify policies, procedures, and business objectives for their sub-units of the company.
 - (ii) Allocate resources and monitor the performance of their organizational sub-units, including departments, divisions, process teams, project teams, and other workgroups.
- 3. Operational management :** Operating managers and members of self-directed teams
 - (i) Develop short-range plans (e.g. weekly production schedules).
 - (ii) Direct the use of resources and the performance of tasks according to procedures and within budgets and schedules they establish for the teams and other workgroups of the organization.
- 4. Information Access :** Managers need rapid access to information to make decisions about strategic, financial, marketing and operational issues. Companies collect vast amounts of information, including customer records, sales data, market research, financial records, manufacturing and inventory data, and human resource records. However, much of that information is held in separate departmental databases, making it difficult for decision makers to access data quickly. A management information system simplifies and speeds up information retrieval by storing data in a central location that is accessible via a network. The result is decisions that are quicker and more accurate.
- 5. Data Collection :** Management information systems bring together data from inside and outside the organization. By setting up a network that links a central database to retail outlets, distributors and members of a supply chain, companies can collect sales and production data daily, or more frequently, and make decisions based on the latest information.
- 6. Collaboration :** In situations where decision-making involves groups, as well as individuals, management information systems make it easy for teams to make collaborative decisions. In a project team, for example, management information systems enable all members to access the same essential data, even if they are working in different locations.

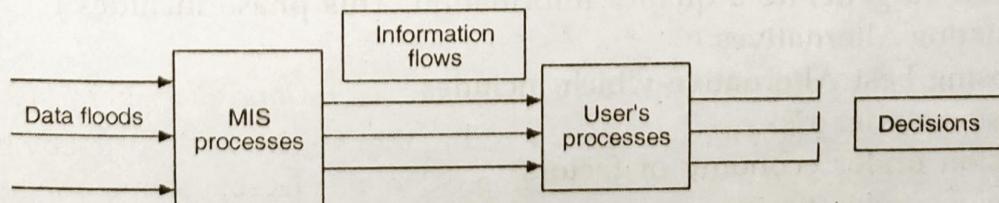


Fig. 1.11

7. Interpretation : Management information systems help decision-makers understand the implications of their decisions. The system's collate raw data into reports in a format that enables decision-makers to quickly identify patterns and trends that would not have been obvious in the raw data. Decision-makers can also use management information systems to understand the potential effect of change. A sales manager, for example, can make predictions about the effect of a price change on sales by running simulations within the system and asking a number of "what if the price was" questions.

8. Presentation : The reporting tools within management information systems enable decision-makers to tailor reports to the information needs of other parties. If a decision requires approval by a senior executive, the decision-maker can create a brief executive summary for review. If managers want to share the detailed findings of a report with colleagues, they can create full reports and provide different levels of supplementary data.

Q.9. Explain the models of the Decision Support System?

Ans. It consists of identifying the problems occurring in the organisation. Intelligence indicates why, where and what effect a situation occurs. Intelligence activity requires to inform managers how well the organisation is performing and let them know from where the problem exists. This phase includes :

(i) Intelligent phase :

Recognising the problem before deciding anything it is important to know, define or recognise what actually the problem is. Problem is defined as the difference between something that is expected and reality.

Analysing the problem After identifying what the problem is the decision maker must get a data and separate them from opinions

(ii) Design phase : This phase processes to understand the problem, to generate solutions and test solution for the feasibility. This phase includes :

Generating Alternatives normally a problem can be solved in many ways. If there is only one alternative no decision is required. But in any rational decision making process the manager should not jump on to work single proposal without considering all the alternatives.

(iii) Choice phase : Choice stage selecting an alternative course of action from those available to generate a quality information. This phase includes :

- (a) Evaluating Alternatives
- (b) Choosing best Alternative which includes
- (c) Decision under risk
- (d) Decision under economy of factors
- (e) Decision under timing
- (f) Decision under limitation of resources.

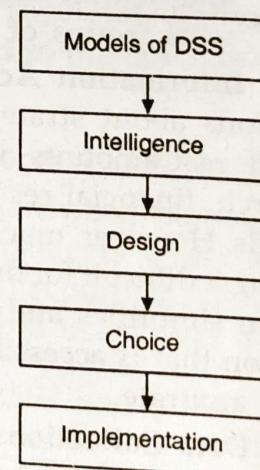


Fig. 1.12

(iv) **Implementation phase** : At the implementation stage manager can use a reporting system that delivers daily reports on the progress of a specific solution. Implementation phase includes :

Implementing the Decision a decision is not an end in itself. It is of no use to take even the best possible decision if it is not implemented. Therefore, every effort must be made to get the decision implementation.

Follow up of the decision: Follow up or feedback ensures that whether the decision taken has produced the desired results or not.

1.3 SYSTEM APPROACH

Q.10. Write a short note on system approach.

Ans. System approach is an approach that is basically designed to make use of the scientific analysis in complex organization. It consists of following operation:

- (i) Developing and managing operation system.
- (ii) Designing information system for decision making process.

A line of thought in the management field which stresses the interactive nature and interdependence of external and internal factors in an organization. A systems approach is commonly used to evaluate market elements which affect the profitability of a business.

Features of systems approach :

- (i) A system consists of interacting elements. It is set of inter-related and inter-dependent parts arranged in a manner that produces a unified whole.
- (ii) The various sub-systems should be studied in their inter-relationships rather, than in isolation from each other.
- (iii) An organisational system has a boundary that determines which parts are internal and which are external.
- (iv) A system does not exist in a vacuum. It receives information, material and energy from other systems as inputs. These inputs undergo a transformation process within a system and leave the system as output to other systems.
- (v) An organisation is a dynamic system as it is responsive to its environment. It is vulnerable to change in its environment.

In the systems approach, attention is paid towards the overall effectiveness of the system rather than the effectiveness of the sub-systems. The interdependence of the sub-systems is taken into account. Systems approach is considered both general and specialised systems. The general systems approach to management is mainly concerned with formal organisations and the concepts are relating to technique of sociology, psychology and philosophy.

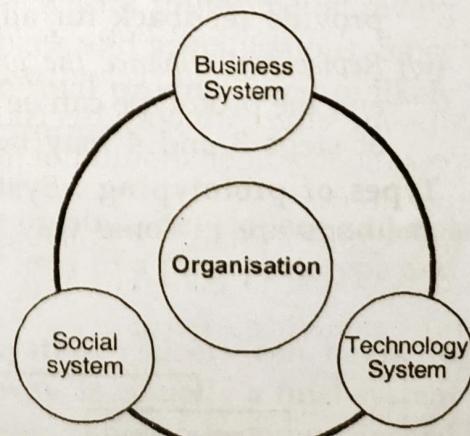


Fig. 1.13

Evaluation of System Approach : The systems approach assists in studying the functions of complex organisations and has been utilized as the base for the new kinds of organisations like project management organisation. It is possible to bring out the inter-relations in various functions like planning, organising, directing and controlling. This approach has an edge over the other approaches because it is very close to reality. This approach is called abstract and vague. It cannot be easily applied to large and complex organisations. Moreover, it does not provide any tool and technique for managers.

Q.11. What are different system approaches in development of MIS?

Ans. There are two basic approaches for development of MIS :

(i) **System development life cycle :** The system development life cycle have following steps of development :

- | | |
|---|----------------------------|
| (a) Systems Planning | (b) Systems Analysis |
| (c) Systems Design | (d) Systems Implementation |
| (e) Systems Operation and Support (System Maintenance). | |

(ii) **Prototyping :** Prototyping is the process of creating an incomplete model of the future full-featured system, which can be used to let the users have a first idea of the completed program or allow the clients to evaluate the program.

Advantages :

- The designer and implementer can obtain feedback from the users early in the project development.
- The client and the contractor can compare that the developing system matches with the system specification, according to which the system is built.
- It also gives the engineer some idea about the accuracy of initial project estimates and whether the deadlines can be successfully met.

The process of prototyping involves the following steps :

- Identify basic requirements.
- Develop initial prototype.
- Review : The customers, including end-users, examine the prototype and provide feedback for additions or changes.

(iv) *Revise and enhance the prototype* : Using the feedback both the specifications and the prototype can be improved. If changes are introduced then a repetition of steps 3 and 4 may be needed.

Types of prototyping : System prototyping are of various kinds. However, all the methods are in some way based on two major types of prototyping :

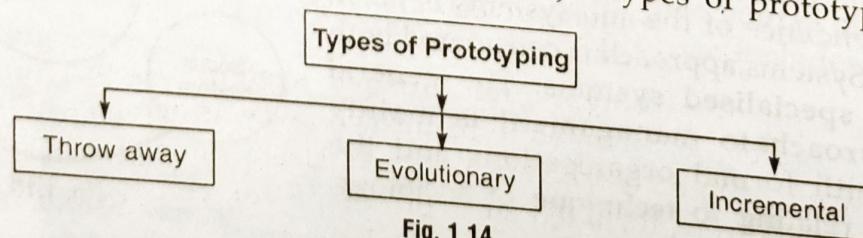


Fig. 1.14

- (i) **Throw away prototyping** : Throw away or rapid prototyping refers to the creation of a model that will eventually be discarded rather than becoming part of the finally delivered system. After preliminary requirements gathering is accomplished, a simple working model of the system is constructed to visually show the users what their requirements may look like when they are implemented into a finished system. The most obvious reason for using Throwaway Prototyping is that it can be done quickly.
- (ii) **Evolutionary prototyping** : Evolutionary Prototyping (also known as Breadboard Prototyping) is quite different from Throw away Prototyping. The main goal when using evolutionary Prototyping is to build a very good prototype in a structured manner so that we can refine it or make further changes to it. The reason for this is that the Evolutionary prototype, when built, forms the heart of the new system, and the improvements and further requirements will be built on to it. It is not discarded or removed like the Throwaway Prototype. When developing a system using Evolutionary Prototyping, the system is continually refined and rebuilt.
- (iii) **Incremental prototyping** : The final product is built as separate prototypes. At the end the separate prototypes are merged in an overall design.

Advantages of prototyping :

- (i) **Reduced time and costs** :

Prototyping can improve the quality of requirements and specifications provided to developers. Early determination of what the user really wants can result in faster and less expensive software.

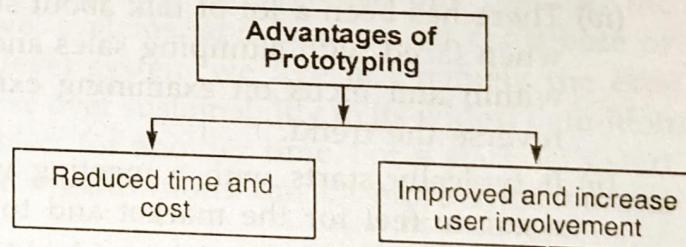


Fig. 1.15

- (ii) **Improved and increased user involvement** : Prototyping requires user involvement and allows them to see and interact with a prototype; allowing them to provide better and more complete feedback and specifications. Since users know the problem better than anyone, the final product is more likely to satisfy the users desire for look, feel and performance.

Disadvantages of Prototyping :

- (i) **Insufficient analysis** : Since a model has to be created, developers will not properly analyse the complete project. This may lead to a poor prototype and a final project that will not satisfy the users.
- (ii) **User confusion of prototype and finished system** : Users can begin to think that a prototype, intended to be thrown away, is actually a final system that merely needs to be finished or polished. Users can also become attached to features that were included in a prototype for consideration and then removed from the specification for a final system.

- (iii) Excessive development time of the prototype : A key property to prototyping is the fact that it is supposed to be done quickly. If the developers forget about this fact, they will develop a prototype that is too complex.
- (iv) Expense of implementing prototyping : The start up costs for building a development team focused on prototyping may be high. Many companies have to train the team for this purpose which needs extra expenses.

1.4 SYSTEM VIEW OF BUSINESS

Q.12. Write a short note on the "system view of business". (KU, 2011)

Ans.

- (i) The global economy seems so tightly inter-connected that a hiccup in one nation, or industry, creates a cough in another.
- (ii) Seemingly unrelated political, environmental or social events can impact global markets, availability of raw material, or hey, even the legality of trading with a particular country. It just seems to be so vast a relationship that it is almost incomprehensible.
- (iii) Guiding organizations through choppy waters is what leaders do. Some are more successful than others. You are charged with maintaining and growing the viability of the business regardless of events you seemingly have no control over. The question is how you go about that.
- (iv) There has been a lot of talk about strategic thinking and planning. However, when faced with slumping sales and rising costs, management tends to look within and focus on examining existing operations, to try to find ways to reverse the trend.
- (v) It typically starts with a meeting with sales and marketing, to get a more accurate feel for the market and to adjust sales projections.

The Systems View : This idea of looking outward, of looking beyond the walls of the company office building is not new. What is relatively new to many executives, is the idea of looking at the world as a collection of systems that create a whole and examining the relationships between those systems to determine how they affect the whole. Systems Theory, as applied to organizational management, puts forth the premise that all organizations are systems, and all systems are part of larger systems. How a subsystem fits the needs of the larger system ultimately determines if that subsystem prospers or is left to wither on the vine.

It's this concept that the adept leader can use to get a more "holistic" view of his organization. Understanding how the company relates to the larger system in which it exists and operates, and then how the company's internal systems contribute or detract from that larger relationship can provide a more relevant analysis.

It really isn't as esoteric as it may sound. Once you grasp the concept it will be easy to see how it applies to your organization. Let's spend a moment on a definition and then we can address application.

In Systems Theory, a system is defined in two ways :

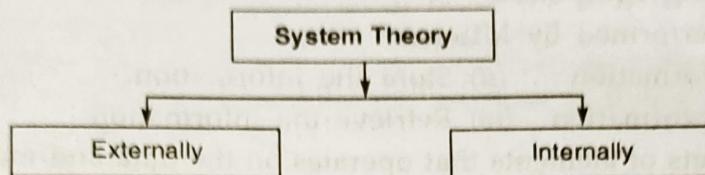


Fig. 1.16

- *Externally*, by its purpose. Each system has a role that it plays in the higher-level system in which it exists. Using the auto company example we can say that the auto company is a system whose role is to provide cars to the next higher-level system, the auto market. The auto market in turn has its multiple roles that it plays in the next higher-level systems of transportation and national economy and so on.
- *Internally*, by its subsystems and internal functions. Each system is made up of components and sub-systems that interrelate and contribute to the overall purpose of the parent system. In the auto company those components might consist of engineering, production, marketing, finance, human resources and sales all of which should be supporting the system's purpose of providing cars to the higher system, the auto market.

Ultimately, we all need to view ourselves and our respective organizations as parts and subsystems of the successively higher-level systems, our roles in the purposes of those successively higher-level systems, and how we all contribute or detract from the success of the highest-level system we live in, namely the ecosystem of earth. That will make the discourse over sustainability in its widest definition a whole lot easier, but that is another subject for another time. For a start, let's start thinking in systems, so that we and our organizations can be more effective and successful.

Through applying systems theory to management and leadership you will serve not only your company but your entire environment. That's what exceptional leaders do.

Q.13. What are the parameters which contribute to system view of business?

Ans. 1. Manufacturing system: The element of the manufacturing system are :

- People
- Machine
- Facilities

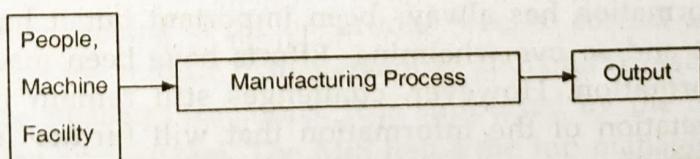


Fig.1.17

These elements of the manufacturing system mainly work to produce specific number of product. These elements work on some product specialization, schedule, raw material and electrical power that is converted into mechanical power

2. MIS : The main elements of MIS are :

- People
- Manual sets

(iii) Data processing equipment

The operation performed by MIS are:

- (i) Select the information (ii) Store the information
- (iii) Process the information (iv) Retrieve the information

MIS consists of sets of elements that operates on the data and matter to reduces the uncertainty in the decision making process.

3. Business organisation subsystem : The basic and only operating element of the business organisation subsystem are people. The operation performed by the business organization subsystem are:

- | | |
|------------------|----------------|
| (i) Financial | (ii) Design |
| (iii) Production | (iv) Marketing |

The common goals of the whole process are:

- | | |
|---------------|-------------|
| (i) Data | (ii) Energy |
| (iii) Matter. | |

1.5 MIS ORGANISATION WITHIN THE COMPANY

Q.14. Discuss an organisation needs for MIS in any company. (KU 2010)

Ans. To facilitate the management decision making at all levels of company, the MIS must be integrated. MIS units are company wide. MIS is available for the Top management. The top management of company should play an active role in designing, modifying and maintenance of the total organization wide management information system.

Information system and Information technology have become a vital component of any successful business and are regarded as major functional areas just like any other functional area of a business organization like marketing, finance, production and HR. Thus it is important to understand the area of information system just like any other functional area in the business.

MIS is important because all businesses have a need for information about the tasks which are to be performed. Information and technology is used as a tool for solving problems and providing opportunities for increasing productivity and quality.

Information has always been important but it has never been so available, so current and so overwhelming. Efforts have been made for collection and retrieval of information. However, challenges still remain in the selection analysis and interpretation of the information that will further improve decision making and productivity.

(i) MIS for a Business Organization : Support the Business Process :Treats inputs as a request from the customer and outputs as services to customer. Supports current operations and use the system to influence further way of working.

(ii) Support operation of a business organization : MIS supports operations of a business organization by giving timely information, maintenance and enhancement which provides flexibility in the operation of an organizations.

- (iii) **To support decision making :** MIS supports the decision making by employee in their daily operations. MIS also supports managers in decision making to meet the goals and objectives of the organization. Different mathematical models and IT tools are used for the purpose evolving strategies to meet competitive needs.
- (iv) **Strategies for an organization :** Today each business is running in a competitive market. MIS supports the organization to evolve appropriate strategies for the business to assented in a competitive environment.

Q.15. How will you elaborate on “MIS : An organisation within the company”?

(KU 2010)

OR

Descrete the working of MIS with in a company. How do information system evolve?

Ans. The role of the MIS in an organization can be compared to the role of hear in the body. The information is the blood and MIS is the heart. In the body the heart plays the role of supplying pure blood to all the elements of the body including the brain. The heart works faster and supplies more blood when needed. It regulates and controls the incoming impure blood, processes it sends it to the destination in the quantity needed. It fulfills the needs of blood supply to human body in normal and also in crisis.

The MIS plays exactly the same role in the organization. The system ensures that an appropriate data is collected from the various sources, processed, and sent further to all the needy destinations. The system is expected to fulfill information needs of an individual, a group of individuals, the management functionaries; the managers and the top management.

The MIS helps the clerical personnel in the transaction processing and answers their queries on the data pertaining to the transaction, the status of a particular record and references on a variety of documents. The MIS helps the junior management personnel by providing the operational data for planning, scheduling and control, and helps them further in decision making at the operations level to correct an out of control situation. The MIS helps the middle management in short term planning, target setting and controlling the business functions. It is supported by the use of the management tools of planning and control. The MIS helps the top management in goal setting, strategic planning and evolving the business plans and their implementation.

The MIS plays the role of information generation, communication problems and helps in the process of decision making. The MIS, therefore, plays a vital role in the management, administration and operations of an organization.

1.6 ORGANISATIONAL THEORY AND SYSTEM APPROACH

Q.16. Explain in brief the organisation structure and functions of MIS.
 (Expected)

Ans. Organizations are set up in specific ways to accomplish different goals, and the structure of an organization can help or hinder its progress toward accomplishing these goals. Organizations large and small can achieve higher sales and other profit by properly matching their needs with the structure they use to operate. There are three main types of organizational structure: functional, divisional and matrix structure.

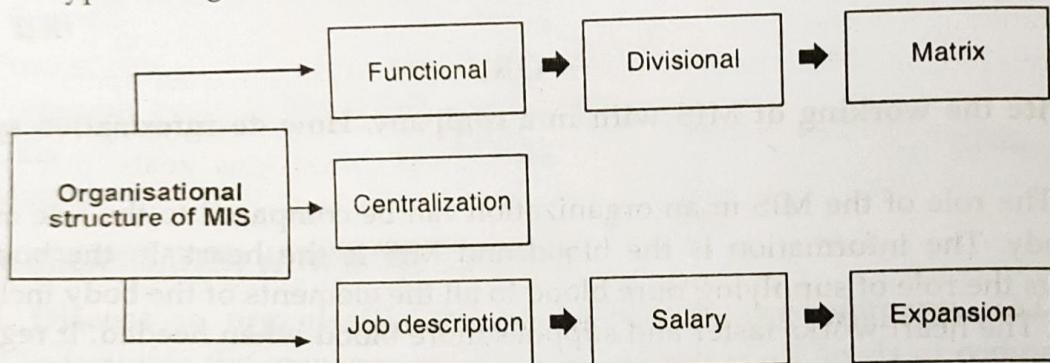


Fig.1.18

- (i) **Functional Structure :** Functional structure is set up so that each portion of the organization is grouped according to its purpose. In this type of organization, for example, there may be a marketing department, a sales department and a production department. The functional structure works very well for small businesses in which each department can rely on the talent and knowledge of its workers and support itself. However, one of the drawbacks to a functional structure is that the coordination and communication between departments can be restricted by the organizational boundaries of having the various departments working separately.
- (ii) **Divisional Structure :** Divisional structure typically is used in larger companies that operate in a wide geographic area or that have separate smaller organizations within the umbrella group to cover different types of products or market areas. For example, the now-defunct Tecumseh Products Company was organized divisionally—with a small engine division, a compressor division, a parts division and divisions for each geographic area to handle specific needs. The benefit of this structure is that needs can be met more rapidly and more specifically; however, communication is inhibited because employees in different divisions are not working together. Divisional structure is costly because of its size and scope. Small businesses can use a divisional structure on a smaller scale, having different offices in different parts of the city, for example, or assigning different sales teams to handle different geographic areas.

- (iii) **Matrix :** The third main type of organizational structure, called the matrix structure, is a hybrid of divisional and functional structure. Typically used in large multinational companies, the matrix structure allows for the benefits of functional and divisional structures to exist in one organization. This can create power struggles because most areas of the company will have a dual management—a functional manager and a product or divisional manager working at the same level and covering some of the same managerial territory.
- (iv) **Centralization :** Although there are many types of organizational structures developed to meet each organization's needs, all of them provide a hierarchy that reports to a centralized location and group of executives. The highest ranking member of an organizational chart is one or several top executives referred to as the president, chief executive officer or chief operating officer.
- (v) **Job descriptions :** When an organizational structure is designed, job descriptions can be developed to not only meet an organization's goals, but allow for organizational and employee growth. Internal equity and employee retention are a key to successful operations. Recruitment is also one of the highest investments for organizations, so ensuring employees have promotional opportunities and job security can assist in reducing recruitment costs.
- (vi) **Salary :** Organizational structure is also a fundamental core to create salary structures for an organization. Once the structure is established, salary ranges can be created for each job in the organization. In most cases, each job is aligned to a salary grade, and each grade has a specified salary range. This allows an organization to meet its financial goals and ensures salaries are distributed fairly within financial budgets.
- (vii) **Expansion :** If an organization expands, the organizational structure allows room for growth. This can include adding additional layers of management, new divisions, expanding one or several functional areas or appointing additional top executives. When the structure is reorganized for expansion, it provides the foundation to edit salaries and job descriptions quickly and efficiently with minimal disruption to an organization's operations.

Fuction of MIS : The broad functions of MIS are as given below :

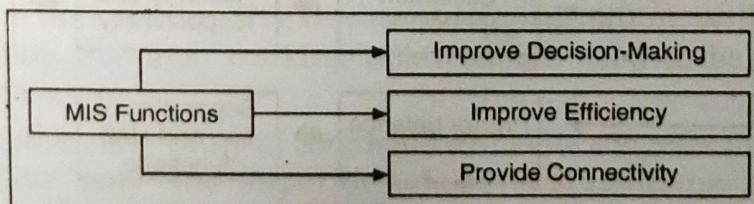


Fig. 1.19

1. **To improve decision making :** MIS helps management by providing background information on a variety of issues and helps to improve the decision-making quality of management. The fast and accurate information supplied by MIS is leveraged by the managers to take quicker and better decisions thereby

improving the decision-making quality and adding to the bottom line of the company.

2. **To improve efficiency :** MIS helps managers to conduct their tasks with greater ease and with better efficiency. This reflects in better productivity of the company.
3. **To provide connectivity :** MIS provides managers with better connectivity with the rest of the organization.

1.7 DEVELOPMENT OF ORGANISATIONAL THEORY:

Q.17. What are the parameters on which organisation is structured?

Ans. There are some principles which are common to all organisations that are established in a classical form i.e. the form where there is hierarchy of authority and responsibility and it flows downwards. The principles of Organisation offer guidance for the creation of a sound, efficient and effective Organisation structure. In other words, these principles are the sound criteria for efficient organising. They ensure smooth and orderly working of a business enterprise.

Principles of organising are not given in a serial order by any authority on management. Management thinkers (Henry Fayol, F.W. Taylor, U.L. Urwick and others) have laid down certain statements regarding organising function of management. Such statements are treated as principles of organisation. Well accepted principles of organisation/organising are as explained below.

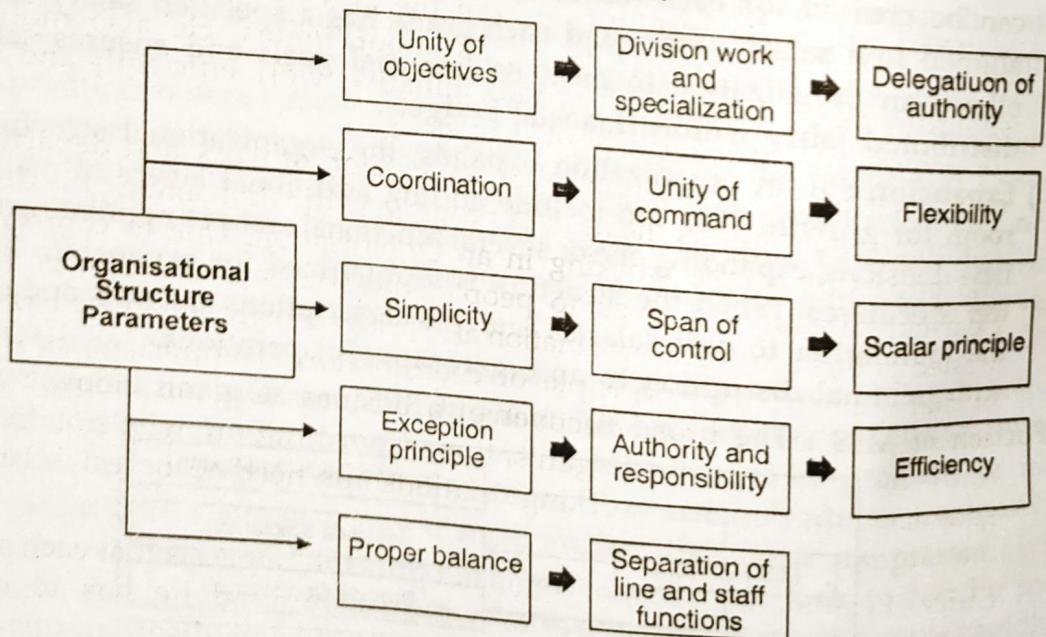


Fig. 1.20

1. **Unity of objectives :** Objectives of the enterprise influence the Organisation structure and hence the objectives of the enterprise should first be decided clearly and firmly. In addition, there should be unity among the objectives decided. This gives clear direction to the whole Organisation and it will be

geared for the achievement of such objectives. The Organisation acts as a tool for achieving the objectives. The objectives may be divided into departmental objectives and organizational objectives. There should be unity of objectives as such unity gives one clear direction to the whole Organisation. In addition, objectives should be made clear to all concerned persons so as to enable them to do their best to achieve the objectives.

2. **Division of work and specialization :** Division of work leads to specialization. Every department of an Organisation should be given specialized functions. This will raise the overall efficiency and quality of work of an Organisation. At the same time, specialization and departmentation should not have any adverse effect on the total integrated system. Coordination must be established among the departments and activities. Specialization is necessary for raising the efficiency of the whole Organisation structure. The functions given to each department should be preferably only of one category. Employees should be assigned duties to different departments as per their qualifications, qualities and so on.
3. **Delegation of authority :** There should be proper delegation of authority in every Organisation, particularly in large organisations. The basic idea behind delegation is to see that decision-making power is placed at a proper place. Delegation should go to the lower levels of management. Every one should be given authority which is adequate to accomplish the task assigned to him. Delegation is useful for getting the things done through others. A successful manager normally does not perform the jobs by himself. He delegates the authority and responsibility to his subordinates. He also motivates his subordinates and see that they take initiative, work efficiently and contribute for achieving organizational objectives.
4. **Coordination :** Organisation involves division of work and departmentation. This naturally suggests the need of proper coordination among the departments and efforts of people working in an Organisation. Due to coordination one clear-cut direction is given to people/ departments and efforts will not be wasted or misdirected. Coordination also brings integration in the basic functions of management. The principle of coordination is important as it facilitates achievement of overall objectives of a business Organisation. It also brings unity of action in the Organisation. Coordination will not be available automatically. For this, working relationships need to be established within the Organisation.
5. **Unity of command :** Unity of command principle suggests that each subordinate should have only one superior whose command he has to obey. Dual subordination is undesirable as it leads to confusion, disorder, uneasiness and indiscipline. An employee should not have more than one boss to whom he has to report and also function as per his orders and instructions. Reporting to more than one boss leads to confusion.

6. **Flexibility :** According to the principle of flexibility, the Organisation structure should be flexible and not rigid. Such structure is adaptable to changing situations and permits expansion or replacement without any serious dislocation and disruption. There should be an in-built arrangement to facilitate growth and expansion of an enterprise.
7. **Simplicity :** The Organisation structure should be simple for clear understanding of employees. The structure should be easy to manage. Internal communication will be easy due to simplicity of Organisation. The Organisation structure should be simple as far as possible. The levels of management should also be limited.
8. **Span of control :** The span of control, as far as possible, should be small and fair. This means a manager should not be asked to keep supervision on large number of subordinates. The span of control should be narrow and manageable. It should be properly balanced.
9. **Scalar principle (Chain of command):** The principle of chain of command suggests that the line of authority from the chief executive to the first line of superior should be clearly defined. The line of authority should be properly defined so as to avoid any confusion as regards the line of authority. This principle suggests that as far as possible, the chain of authority should be short and should not be broken.
10. **Exception Principle :** The executives at the higher level are busy in important matters and have limited time for the study of routine administrative matters. It is not desirable to take routine matters to the top level managers frequently. Very crucial and exceptionally complex problems should be referred to the top executives and routine matters should be dealt with by the junior executives at the lower levels. Moreover, time of top executives is saved. They can use their time for dealing with more important and complex problems.
11. **Authority and responsibility :** Authority acts as a powerful tool by which a manager can achieve a desired objective. Authority of every manager should be clearly defined. Moreover, it should be adequate to discharge the responsibilities assigned. The superior should be held responsible for the acts of his subordinates. He cannot run away from the responsibility simply by delegating authority to his subordinates. In fact, the responsibility of the superior for the acts of his subordinates is absolute.
12. **Efficiency :** The Organisation structure should enable the enterprise to function efficiently. This will enable the enterprise to accomplish its objectives quickly and also at the lowest cost. For this, the structure introduced should be suitable to the nature, size, activities etc. of the Organisation. A suitable Organisation structure ensures full and purposeful utilisation of available human and material resources and ensures efficiency.
13. **Proper balance :** Proper balance is necessary in different aspects of the Organisation. This means there should be reasonable balance in the size and functions of departments, centralisation and decentralisation of the Organisation.

span of control, chain of command and finally in between human and material resources. This principle of balance suggests that the top management should see that the vertical and horizontal dimensions of the Organisation are fairly balanced.

14. **Separation of line and staff functions :** Line functions should be separated from the staff functions even when they are supplementary in character. Line functions are directly connected with operations while staff functions are auxiliary to the line functions. These functions should be coordinated when necessary but normally they should be kept separate.

1.8. MANAGEMENT INFORMATION AND SYSTEM APPROACH

Q.18. Write a short note on "Management Information and System approach".
(Expected)

Ans. Information systems when used for providing information to managers for their decision-making needs become a management information system. The goal of such information systems is to provide relevant information to management so that it helps in its functioning.

Since, decision-making is the most important task performed by the management at different levels, information that helps managers to take decisions is the most important objective of any management information system. Other information that is relevant for managers in helping them in their planning, controlling, organizing and directing activity is the secondary objective of any MIS. However, an information system is normally not dynamic enough to alter itself to a degree that it can handle changing requirements from users.

Hence, information systems are planned to take care of every possible eventuality as far as type of information is concerned. Management may require diverse types and combination of information and this is factored in the planning process. The system is planned in a way that it can handle future new requirements of information from managers.

The business strategy of the company is very important in planning for information systems. The information systems plan is drawn up in a way that it supports the strategic objectives of the organization even in the near future. It is for this reason that the strategic role of information system has to be clearly defined in the planning processes itself.

Information system infusion and diffusion : Information systems can have the effects of infusion or diffusion in an organization. If the diffusion and infusion is low, information systems will be used only in silos for data processing. If diffusion

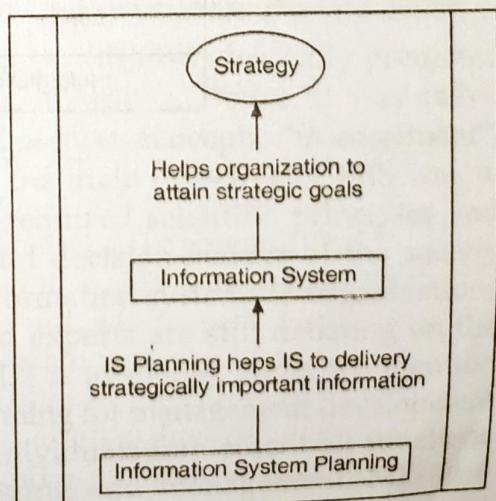


Fig. 1.21

is high and infusion is low then we will have a decentralized information system. If infusion is high and diffusion low, we will have information systems that are critical to operations only. However, if both diffusion and infusion is high, our information system will give us strategic and competitive advantage.

How Information system can be used strategically?

In the absence of a cogent strategy for IS, it will deliver information that may be of little strategic value. Moreover, operationally the different technology platforms used, different systems that make up the entire information systems of an organization may not work in a synchronized manner unless all the systems and technology conform to a bigger strategic vision. Incompatibility will be the rule rather than the exception. Business goals and objectives will not be largely affected (positively or negatively) by such direction less IS. Opportunities will be missed. With a tactical focus IS cannot deliver strategic value to organizations. IS therefore must have a strategic focus. It must be closely aligned with business strategy and must be driven by business needs rather than technological possibilities. It should be integrated with the organizational strategy to deliver information that helps management to beat competition and thereby use IS as a tool for competitive advantage. IS in such a case has to deliver predictive insights into business issues.

High	Decentralised	Strategic Competitive
Diffusion		
Low	Basic Necessity	Critical to Operations
Centralized DP		
Low Diffusion High		
Information Diffusion and Infusion Relationship		

Fig. 1.22

