Dr. SNS RAJALAKSHMI COLLEGE OF ARTS AND SCIENCE
(Autonomous)
Coimbatore -641049
Accredited by NAAC (Cycle- III) with 'Á+' Grade.

COMPUTER APPLICATIONS

MANAGEMENT INFORMATION SYSTEM

(21UCP302)

UNIT-I

**Class: II BCA B**
Regulation: 2021-2024
Academic year:2022-2023
Subject In charge: Ms.S.Lalitha

Concept In MIS:

Management Information System **(MIS)** is a planned system of collecting, storing, and disseminating data in the form of information needed to carry out the functions of management. This tutorial covers the concepts related to information and provides a detailed coverage on MIS and other major enterprise-level systems. You will also learn how these systems help in the decision-making process, which is critical to any business enterprise.
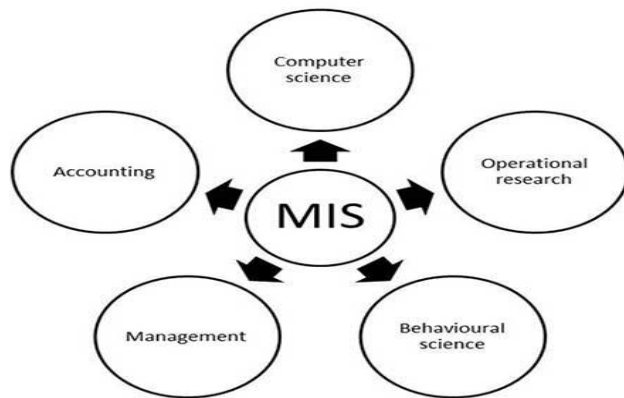
Role of MIS

A management information system (MIS) plays an important role in business organizations. What is MIS role: There are many roles of MIS and some of the important MIS role are discussed below:

1. **Decision making**
2. **Coordination among the department**
3. **Finding out Problems**
4. **Comparison of Business Performance**
5. **Strategies for an Organization**

Role of MIS
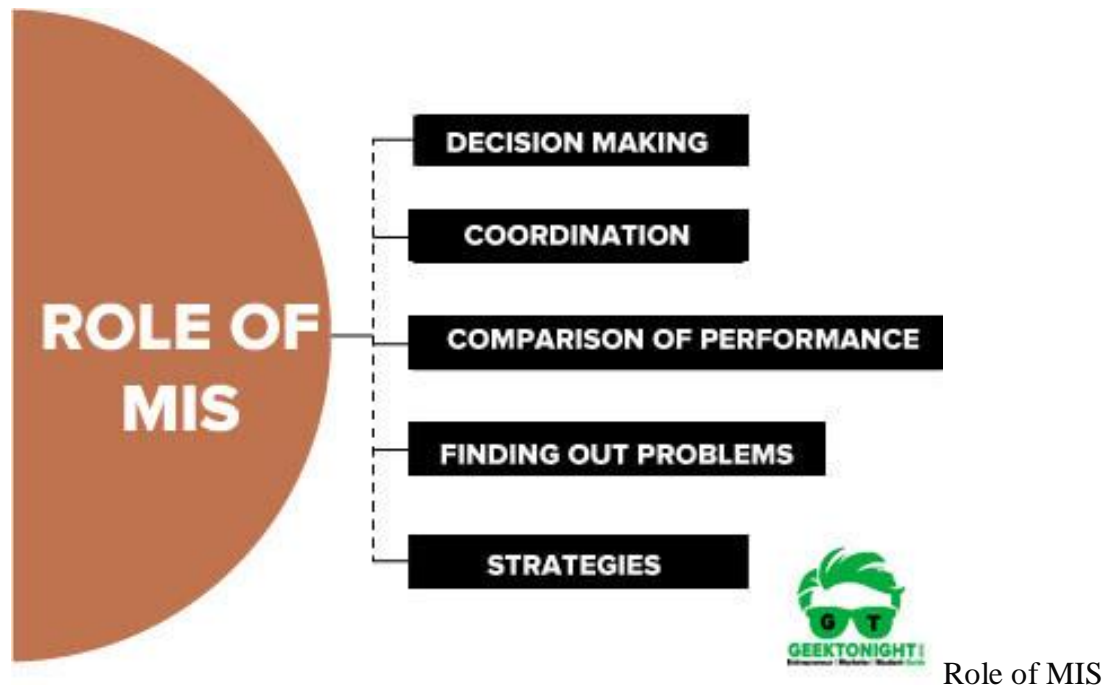
Decision making
Management Information System (MIS) plays a significant role in the decision-making process of any organization. In any organization, a decision is made on the basis of relevant information which can be retrieved from the MIS.

Coordination among the department
Management Information System satisfy multiple need of an organization across the different functional department.

Finding out Problems
As we know that MIS provides relevant information about every aspect of activities. Hence, if any mistake is made by the management then MIS, information will help in finding out the solution to that problem.

Comparison of Business Performance
MIS store all past data and information in its Database. That why the management information system is very useful to compare business organization performance.

Strategies for an Organization
Today each business is running in a competitive market. An MIS supports the organization to evolve appropriate strategies for the business to assent in a competitive environment.

Method of planning:

Organizational Planning

The organizational planning process includes five phases that, ideally, form a cycle.

Strategic, tactical, operational, and contingency planning fall within these five stages.

1. Develop the strategic plan
Steps in this initial stage include:

Review your mission, vision, and values

Gather data about your company, like performance-indicating metrics from your sales department

Perform a SWOT analysis; take stock of your company's strengths, weaknesses, opportunities, and threats

Set big picture goals that take your mission, vision, values, data, and SWOT analysis into account

2. Translate the strategic plan into tactical steps

At this point, it's time to create tactical plans. Bring in middle managers to help do the following:

Define short-term goals—quarterly goals are common—that support the strategic plan for each department, such as setting a quota for the sales team so the company can meet its strategic revenue goal

Develop processes for reviewing goal achievement to make sure strategic and tactical goals are being met, like running a CRM report every quarter and submitting it to the Chief Revenue Officer to check that the sales department is hitting its quota

Develop contingency plans, like what to do in case the sales team's CRM malfunctions or there's a data breach

3. Plan daily operations

Operational plans, or the processes that determine how individual employees spend their day, are largely the responsibility of middle managers and the employees that report to them. For example, the process that a sales rep follows to find, nurture, and convert a lead into a customer is an operational plan. Work schedules, customer service workflows, or GDPR policies that protect prospective customers' information all aid a sales department in reaching its tactical goal—in this case, a sales quota—so they fall under the umbrella of operational plans.

This stage should include setting goals and targets that individual employees should hit during a set period.

Managers may choose to set some plans, such as work schedules, themselves. On the other hand, individual tasks that make up a sales plan may require the input of the entire team. This stage should also include setting goals and targets that individual employees should hit during a set period.

4. Execute the plans

It's time to put plans into action. Theoretically, activities carried out on a day-to-day basis (defined by the operational plan) should help reach tactical goals, which in turn supports the overall strategic plan.

5. Monitor progress and adjust plans

No plan is complete without periods of reflection and adjustment. At the end of each quarter or the short-term goal period, middle managers should review whether or not they hit the benchmarks established in step two, then submit data-backed reports to C-level executives. For example, this is when the manager of the sales department would run a report analyzing whether or not a new process for managing the sales pipeline helped the team reach its quota. A marketing team, on the other hand, might analyze whether or not their efforts to optimize advertising and landing pages succeeded in generating a certain number of leads for the sales department.

Depending on the outcome of those reviews, your org may wish to adjust parts of its strategic, tactical, or operational plans. For example, if the sales team didn't meet their quota their manager may decide to make changes to their sales pipeline operational plan.

Impact of MIS

1. The MIS creates another impact in the organization which relates to the understanding of the business itself.
2. The MIS begins with the definition of data, entity and its attributes. It uses a dictionary of data, entity and attributes, respectively, designed for information generation in the organization. Since all the information systems use the dictionary, there is common understanding of terms and terminology in the organization bringing clarity in the communication and a similar understanding of an event in the organization.
3. The MIS calls for a systematization of the business operations for an effective system design. This leads to streaming of the operations which complicates the system design. It improves the administration of the business by bringing a discipline in its operations as everybody is require to follow and use systems and procedures. This process brings a high degree of professionalism in the business operations.

Computer in MIS

Following are the characteristics of a well-designed computerized MIS −

- It should be able to process data accurately and with high speed, using various techniques like operations research, simulation, heuristics, etc.

- It should be able to collect, organize, manipulate, and update large amount of raw data of both related and unrelated nature, coming from various internal and external sources at different periods of time.
- It should provide real time information on ongoing events without any delay.
- It should support various output formats and follow latest rules and regulations in practice.
- It should provide organized and relevant information for all levels of management: strategic, operational, and tactical.
- It should aim at extreme flexibility in data storage and retrieval.

Approaches of MIS Development

Here, we are going to learn about the **approaches of MIS development with suitable diagram**. Submitted by **IncludeHelp**, on March 19, 2021

MIS development is a strategic process of developing an informative information system for a company. To do this, many experts from different levels of a system sit together and investigates and examine a feasible approach to MIS development. An approach is a method of developing a system in such a way so that it can be designed as per system needs and meet all the system objectives.

MIS (Management Information System) is an important source of information for an organization. An approach of MIS development offers some significant facts for the organizations that influence each approach. MIS approaches to distinguish between each other; organizations are using an appropriate MIS development approach as per their need.

There are 3 different types of MIS –

1. Top-down approach
2. Bottom-up approach
3. Integrative approach

1) Top-down Approach

In this method, the entire system is partitioned into a hierarchy of subsystems. The overall system is divided into a number of subsystems, which are then divided into a number of other subsystems in a top-down approach.

System Categories
- Sytem is devided into subparts
- Subparts devided further

Planning
- Systems objectives define first
- formulate major policies
- Feasible solutions analyses

Decision making
- Strategic and tactical decisions
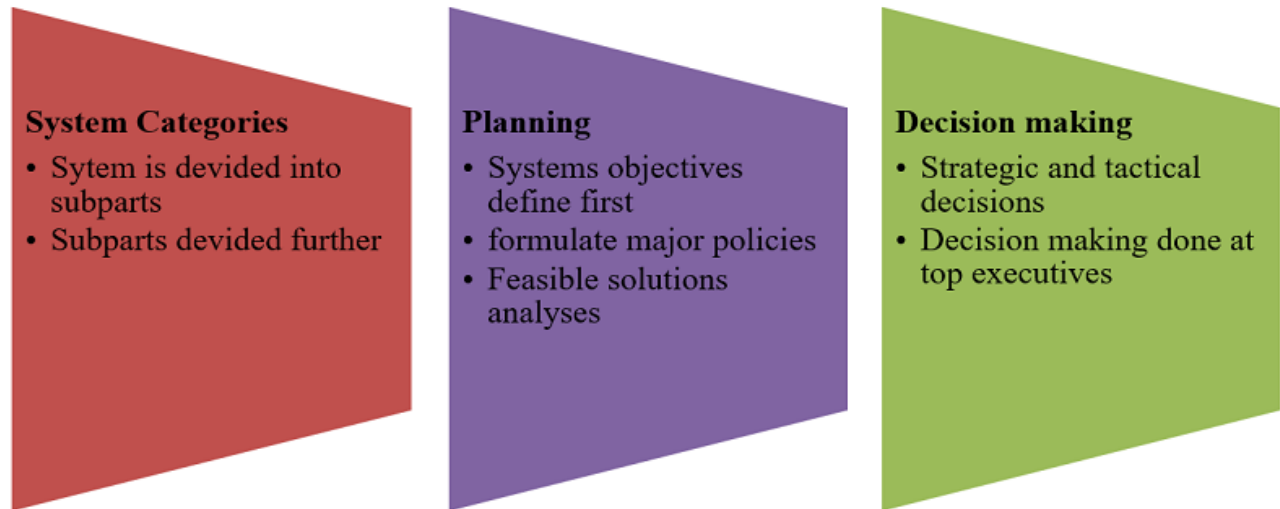- Decision making done at top executives

Fig: Key activities involves in Top-down approach

A behavioral classification is used in the top-down approach of MIS development. This approach also defines the strategic and tactical decisions and the necessary decisions to operate the various key activities of MIS development. Many of them, strategies, goals, and plans are recognized by top management executives and conveyed to the administrative management levels.

The key objectives of the systems are established and ways to achieve them are decided in top-down design. They're gradually pushed down the organizational hierarchy to be created and defined well.

2) Bottom-up Approach

As its name implies, this approach mainly starts with the leaf-level or bottom-most management and proceeds progressively to the upper management levels. After recognizing the primary transactions, the needed file requirements and information processing programs are developed for each lifestream system which is then moved towards data integration that is stored in different files of the information system. A bottom-up approach is functional to identify the various factors and understand the difficult situations and formulate strategies to deal with them.

System Categories
- Sytem is devided form lower parts to upper parts
- Each subparts linked with its root part

Planning
- Components integration defines in a proper manner
- Formulate strategies for feasible solutions
- Feasible solutions analyses

Decision making
- Strategic and tactical decisions
- At the bottom of the organizational hierarchy, narrow goals are initially set.

Fig: Key activities involves in Top-down approach

3) Integrative Approach

In the integrative approach subsystems of a system are integrated with each other in such a way so that the objective of the system can be fulfilled.

System Categories
- An itegrated approach is used to design a system

Planning
- Components are integrated in such a way sothat systems objectives get fulfil

Decision making
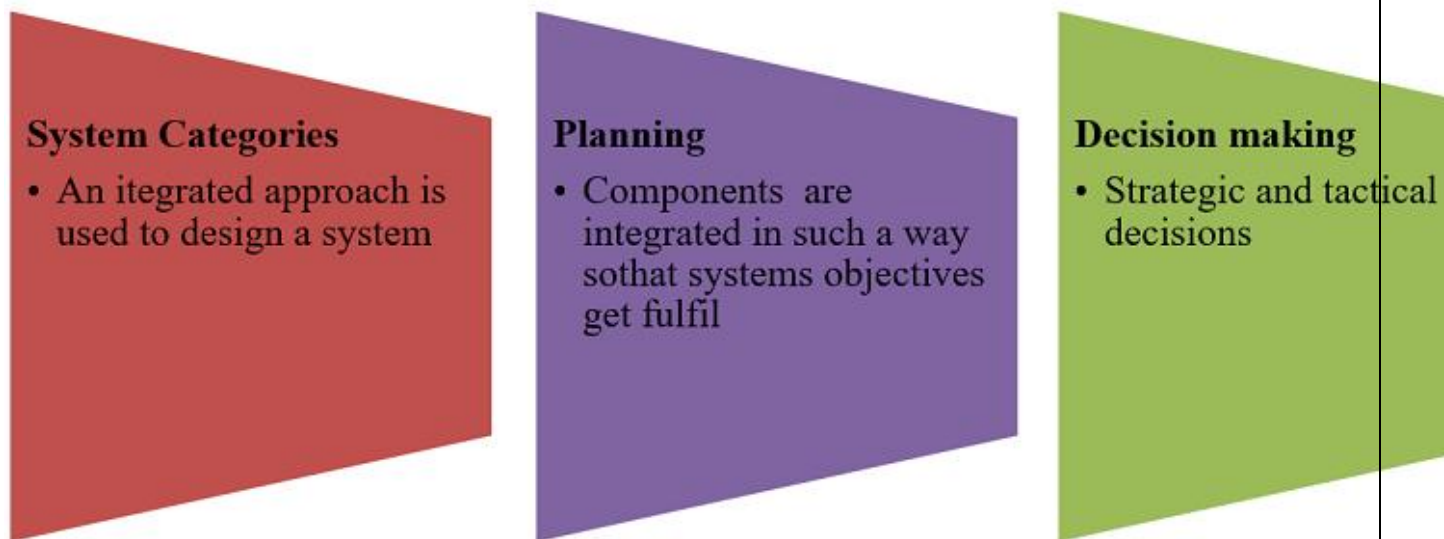- Strategic and tactical decisions

Fig: Key activities involves in integrative approach

An integrative approach of a system development may consist of followings -

- Design a system that can be achieving the major objectives of the system using its subsystems.
- Designing a system that combines the various functions performed by its subsystems.
- Designing a system that is not very clear to the user but is concealed under the previously existing subsystems.

Managers at all levels can control the design using an integrated approach. Top management determines the structure and design of MIS that is appropriate for the business.

Function of Manager:

Functions of a manager are the various roles played by the manager in an organization. A manager is accountable for all the happenings in the firm and is answerable to the management. The seven major roles played by the manager are −

- Planning
- Organizing
- Staffing
- Directing/leading
- Coordinating
- Reporting
- Budgeting
- Controlling

Roles of a Manager

Now, let us see what exactly are these roles and their importance. Starting with the first role.

- **Planning** − The basic step required for any project, big or small, is the planning stage. The manager needs to plan the schedule and give the blueprint of how the task is to be done with all the necessary details, and also the manager should have a backup plan that if this doesn't work then what next. **Example** − There is a new project, how to start, human resource required, resources required, etc., everything should be planned.
- **Organizing** − Next comes the organizing part, where the manager needs to synchronize and have to make sure everything is going according to the plan. Everything should work as per the plan, and if not then the manager needs to look into the issue and make it work as planned. **Example** − A software tester is required, so organize the venue, date and time to interview those eligible for the post.
- **Staffing** − In simple words, staffing means grouping of people into different teams and allotting different tasks to them. If the team members have some disputes then the team member needs to report to the team leader who will forward it to the manager and the issue will be taken care of. **Example** − Assembling a new team for a new project.

- **Directing/Leading** − It is a manager's responsibility to guide the employees in all situations in order to avoid conflicts and delay in the task. Manager has to lead the employees so that they can get a clear idea about what is to be done and how to do it. **Example** − a team needs a team leader to look after each task that is accomplished, in-process, or aborted.
- **Coordinating** − It means bringing all the employees together by forming an efficient relationship and making them feel comfortable to share their views and issues freely. **Example** − Coordinating the schedule for a project.
- **Reporting** − The manager has to keep updated information about all the ongoing tasks, and it is the sole responsibility of the manager to report the updated status to the higher authorities; while all the employees are bound to report to the manager. **Example** − Keeping the respective directors informed about the progress on their respective projects.
- **Budgeting** − A task has to be completed within the given time frame as well as it should be cost efficient. The manager needs to be double sure that all the amount invested in the project doesn't exceed the budget given and in case of imbalance, the budgeting manager has to report to the management. **Example** − If budget allows to place three employees then five employees cannot be assigned for the task.
- **Controlling** − Last but of course not the least role played by the manager is having everything under control. Whether it is the budget, or resource allocation, everything should be in order. **Example** − All members of a team cannot be granted leave on the same day, as it affects work delivery.
-

What is a management control system?

A management control system (MCS) is an approach businesses employ to understand how successfully it achieves goals related to productivity, profitability or efficiency. These systems continuously measure a business's performance to predict whether an outcome is likely.

They use business software or data employees collect to track progress in certain metrics, such as dollars, hours or units of product. Businesses can adapt management control systems for the many departments they rely on for success, and some companies may use several management control systems.

Analyzing the information in a management control system helps managers understand where they can make improvements in a company's or department's day-to-day operations. Clear

feedback from the system often helps them determine specific obstacles that may hinder goals and find sensible fixes.

Components of a management control system

Several components comprise a management control system, and here's what they are, along with examples of how they work in a business:

Clear managerial assignments

The larger a company, the more likely there are managers with different responsibilities. It's important to understand what every department is working toward so each manager can be accountable for meeting objectives.

For example, a restaurant owner might create two managerial categories, one for the kitchen and one for the dining room. The executive chef is the kitchen manager, and the service manager is responsible for the dining room. Each has different daily and monthly objectives, oversees different staff members and has different budgets, but both need to succeed for the restaurant to profit.

Bureaucratic controls

Bureaucratic controls are the rules and guidelines of a business operation that enhance efficiency and maintain organization. They define the chain of command and delegate responsibilities within each division of an operation.

Well-designed bureaucratic controls aim to answer questions ahead of time so staff can resolve issues quickly. In management control systems, it's important to establish bureaucratic controls, so employees and management can have a shared sense of what the future should look like.

For example, in a marketing company, a new copywriter and a graphic designer might each receive a handbook when they start work. Some information is the same, such as vacation policies, company background and code of conduct.

However, much of the information might differ because of the department in which they work. They may have different managers, work different hours and have different expectations. Because of clear bureaucratic controls, the employees feel well-informed and ready to perform the duties their managers assign to them.

Financial controls

Financial controls are the targets a business establishes as necessary for growth and profitability. This could include something like the costs of production or the return from sales. In management control systems, managers closely monitor financials to identify the adjustments they need to remain aligned with the business's goals.

For example, a sales professional and their supervisor have specific financial goals for their management control systems. The supervisor looks to meet average weekly revenue goals while also making sure labor cost is under control. The laborer calculates service prices to keep theirrates reasonable and maximize profit.

Quality controls

Quality controls help ensure a business's product or service meets certain standards. These establish procedures to test a product or service to check whether they meet specific guidelines or metrics. This can create better production processes, increase sales, optimize how a team or company uses its resources and improve customer satisfaction.

For example, a software development agency can establish quality control guidelines in their MCS to help team members test their software to detect bugs or other areas of improvement. Doing this can help them adjust the program before releasing it to the public.

Normative controls

Normative controls are behavior-based patterns that unify a team in its approach and attitude toward goals. They often are less formal than other controls that use number-based indicators of success.

You might not address every aspect of workplace behavior in writing, but you can encourage certain habits by repeating them. There are two types of normative controls to consider.

The first is team norms, which divisions of a company use to accomplish goals specific to them. The second is organizational culture norms, which define company culture for all employees and reflect the company's mission statement or sense of purpose.

For example, it may be a team norm that when one veterinarian technician calls out sick, another works on a scheduled day off to help the team. An organizational culture norm of the office might be that all employees, such as technicians, office managers and billing specialists, clock in for work 15 minutes early to create a culture of timeliness and exceeding expectations.

Process of management:

At the most fundamental level, management is a discipline that consists of a set of five general functions: planning, organizing, staffing, leading and controlling. These five functions are part of a body of practices and theories on how to be a successful manager.

Understanding the functions will help managers focus efforts on activities that gain results. Summarizing the five functions of great management (ICPM Management Content):

1. Planning: When you think of planning in a management role, think about it as the process of choosing appropriate goals and actions to pursue and then determining what strategies to use, what actions to take, and deciding what resources are needed to achieve the goals.

2. Organizing: This process of establishing worker relationships allows workers to work together to achieve their organizational goals.

3. Leading: This function involves articulating a vision, energizing employees, inspiring and motivating people using vision, influence, persuasion, and effective communication skills.

4. Staffing: Recruiting and selecting employees for positions within the company (within teams and departments).

5. Controlling: Evaluate how well you are achieving your goals, improving performance, taking actions. Put processes in place to help you establish standards, so you can measure, compare, and make decisions.

Five Functions of Great Management

Planning
When you think of planning in a management role, think about it as the process of choosing appropriate goals and actions to pursue and then determining what strategies to use, what actions to take, and deciding what resources are needed to achieve the goals.

Organizing
This process of establishing worker relationships allows workers to work together to achieve their organizational goals.

Leading
This function involves articulating a vision, energizing employees, inspiring and motivating people using vision, influence, persuasion, and effective communication skills.

Staffing
Recruiting and selecting employees for positions within the company (within teams and departments).

Controlling
Evaluate how well you are achieving your goals, improving performance, taking actions. Put processes in place to help you establish standards, so you can measure, compare, and make decisions.

Characteristics of Management Effectiveness:

Goal-oriented process

An essential aspect of management is to combine individual efforts and direct them towards achieving organizational goals. These goals differ from organization to organization. For example, an organization can have a profit motive whereas a social work organization might have a goal of eradicating illiteracy among children. Management recognizes these goals and aims to fulfill them.

Pervasive

Management is a requirement and essential for the functioning of all kinds of organizations- social, economic or political. Without management, the processes of an organization would be chaotic and unordered. Further, it is equally essential for organizations across all countries. However, the only difference lies in the how management is implemented within an organization.

Multidimensional

Management has three dimensions:

i. *Work management*: Every organization exists for completion of some work. This work varies from producing clothes in clothing sector to treating patients in hospitals. Management looks at this work as goals to be achieved and works towards these goals. Further, this is done in terms of problems to be solved, decisions to be made, plans to be established, budgets to be prepared, responsibilities to be assigned and authority to be delegated.

ii. *Management of people*: Another dimension of management is concerned with getting work done from people, by assigning work to worthy employees who can work effectively towards the realization of organizational goals. This is achieved by ensuring that the strength is highlighted and the weakness is driven out of the equation. It further has two dimensions- a) dealing with people as individuals with diverse needs and behaviours and b) dealing with individuals perceiving them as a part of a wider group of people.

iii. *Management of operations*: As every organization aims at the completion of work, they also have a particular product or service to provide with respect to their domain of operation. Note that this is met with the help of a production process. Management also looks after a production process of an organization that transforms the input with the help of technology required into the output for consumption. Interestingly, this is linked to both management of work and people.

Continuous Process

We now know that there are various functions of management. These are- planning, organising, directing, staffing and controlling. As a matter of fact, a manager performs all these functions simultaneously. Although these functions are separate, management is concerned with performing

all of them simultaneously all the time. Consequently, management is a dynamic and continuous process.

Group Activity

An organization consists of a large number of individuals having different reasons and purposes to join. Again these individual differ based on their needs and behaviors. However, it is important to realize that these diverse individuals work together towards the achievement of the organizational goals. Management diverts the individual efforts towards the right direction. Further, effective management enables all the individuals to grow and develop as their needs and opportunities change.

Dynamic Function

An organization has to adapt to the environment in order to succeed. Thus management is dynamic in nature and adapts to the ever-changing social, economic and political conditions. A famous example of this is how McDonald's had to change its menu to serve and emerge as a major fast food giant in the Indian market.

Intangible Force

Management cannot be touched or it isn't tangible. However effective management can be easily felt. Evidently, if there is order instead of chaos within an organization, the employees are happy and the organizational goals are being organized it can be easily said that there exists good management