UNIT – III

**Management & MIS**

DEFINITION: Management information system is a system consisting of people, machines, procedures, databases and data models, as its elements. The system gathers data from the internal and external sources of an organisation.

MEANING: Management information system is an acronym of three words, viz., Management, information, system .in order to fully understand the term MIS, let us try to understand these three words.

Management: Management is the art of getting things done through and with the people in formally organised groups.

## Strategic Information System

A strategic information system is mainly developed to respond to the corporate world and many business initiatives. Strategic information is used for gaining competitive advantage and formulating business strategies by organizations. It may deliver a service or product that is at a lower price, differentiated and mainly concentrates on a demanding market section, or which is innovative. It help companies frame business strategy, competitive strategy, take management decisions and thus gain competitive advantage and achieve cost reduction.

Strategic Information System is a management system that helps to set goals and organize activities for an organization. It allows you to to organize the information and ideas about the way your company works. In the 1990s, several companies were founded on the idea of “strategic information systems,” which is a fancy way of saying they use computers to gather data that helps them make better decisions. Strategic Information System (SIS) is a database of information collected by the government for the purposes of national defence and security.

Strategic Information System is a system that provides the right information to the right people at the right time. Strategic Information Systems can be used by companies, governments, and individuals to make better decisions in an increasingly fast-paced world. Today, the strategic information system are widely used in business. For example, the online application of this system is the ERP (Enterprise Resource Planning). It’s important to have a Strategic Information System (SIS) for your company. SIS is a system that allows you to track and store information about the performance of your company, as well as the performance of individual employees.

A Strategic Information System (SIS) is a system that assists an organization in the identification, acquisition, maintenance, use and disposition of its data resources. SIS helps organizations to evaluate their data requirements and maintain records with minimum cost and maximum effectiveness. Strategic Information System (SIS) is a type of information system that is designed to meet the specific needs of an organization. A Strategic Information System (SIS) is a tool used by law enforcement to collect, analyze, and share information across jurisdictions. The SIS can be a database for crime reports, arrest records, warrants, and more.

## Importance and advantages of Strategic information system

Strategic information system provides a connection between demands of organization and latest information technology. This tactic helps an organization to get hold of the market by utilizing Information tech to meet its challenging requirements to the continuous variation in the corporate environment. Helps them evolve their business strategy, helps with knowledge management and [operations management](https://www.scnsoft.com/operations-management).

Information system strategy is a critical aspect of an organization’s management decision for its growth, expansion and supply chain management. Information technology and competitive intelligence can work wonders for a business. The integration of the data system and its function within the organization can be handled easily by enabling open access and use of management systems. Besides that, it also enables the classification of different opportunities for the use of information systems for different strategies. It gives the surety that only useful resources or the use of resources which are less are allocated to the applications and to use the scarce resources in a sustainable way and have a better impact factor. With the System Information Strategy, it ensures that the Information system functions accordingly and supports the business goals and objectives of the organization at the different levels.

There are several instances of strategic planning which have helped the organizations to help create and sustain the resources in this competitive market over the past years and has allocated several effective benefits and simply continued to provide for the survival of these organizations which have used these systems. These systems are often termed as ‘**strategic concepts of the organization**.’ To give the maximum performance of the firms financially in a fluctuating market, the correlation between Strategic Management and Information System is significant fundamentally. Understanding of [management information system](https://planningtank.com/computer-applications/management-information-system) is equally helpful & an asset to the organisation.

Types of Information System strategic:

1. Operation support system

The primary purpose of this system is to keep a check on transactions, operations, control, chain supply, and management. It also helps to facilitate internal and external talks, and it updates the central main database of the organization.

2. Management Support System

These systems facilitate and provide precise information and data to the manager for easy routines, decision-making processes. Decision support system which helps to solve particular issues related problems.

Uses of Strategic information system:

1. Cost Leadership Strategy

Information systems are said to support this strategy if the company able to reach a position lowest costs in the industry, by way of business process engineering, lowering costs from suppliers, and reduce costs to customers. For the example most of retail company who create promotion of the retail product to attract customers to buy the product cheaper than the other companies.

2. Differentiation Strategy

Information systems are said to support this strategy if they can provide products or services unique and able to provide more value to customers compared to other competitors, namely by way of: utilizing information technology to create products or services that are different, and reduce the advantages of differentiation from competitors.

3. Focus Strategy

Information systems are said to support this strategy if they can help the company focusing on specific products or services within the organization.

4. Innovation Strategy

Information systems are said to support this strategy if they can find specific ways in doing business is by providing products or services with the latest innovations. For the example Apple Product that offers a lot of features and high qualities software in their smartphone, smartwatch, or laptop. Even the price is more expensive than similar products, but the people are willing to buy because of the high quality and the innovation.

5. Alliance Strategy

Information systems are said to support this strategy if they can create cooperative relationships which benefits both suppliers and other companies even with competitors.

6. Growth Strategy

Information systems are said to support this strategy if they able to develop and diversify market.

7. Quality Strategy

Information systems are said to support this strategy if they able to help improve the quality of the product or service.

**Management Information System and Competitive Advantage**

Locking in suppliers or buyers Competitive Advantage in any industry or business venture is achieved when one particular organization performs more effectively and/or efficiently than the others in the same category. This Competitive Advantage does not have to be all encompassing of the industry and may only cover small segments. A Competitive Advantage is achieved when an organization can do any one thing, process, function, etc. more effectively and or efficiently than others in that industry segment or in some cases across the entire industry. According to the authors W.R. King, V. Grove, and E.H. Hufnagel (1989), information technology is used as a strategic tool for companies to increase their competitive advantage at a time when uncertainty is growing. The idea that information technology can contribute to the optimization of enterprise resources, enhance, enable and enhance business performance. This idea was accepted and supported by many empirical studies (V. Sethi and WR King, 1994), (Chan, SL Huff, DW Barclay, 1997), (AM Croteau and F. Bergeron, 2001). Authors Rackoff, Wiseman, and Ullrich (1985) have identified several factors that ensure computerization of competitive advantage for enterprises. They are:

• Modification, differentiation or changes that make the company stand out with its products and services or weaken competition and reduce the competitive advantages;

• Adapting and adjusting supply cutting costs, reducing consumer spending and increasing competition expenses;

• Company being introduced innovative products or services that result in changes in the way business is passed then in the industry;

 • Improving growth and development by increasing volume, expanding geographically and being harmonized with suppliers and customers;

• Forms of mergers and alliances through various agreements in marketing etc.

**MANAGERIAL FUNCTION:**

Planning

Organising

Staffing

Directing and

Controlling

**SPECIFIC FUNCTIONS OF INFORMATION SYSTEM**

One of the mostly widely used bases for organising activities in almost every organisation is the business function. Business activities are grouped around functions such as production, marketing, finance and personnel etc... Resulting in the respective department or an area of the business organisation. These departments or functional areas are commonly known as the functional areas of business.

There is no standard classification of such sub-system in an organisation, but a typical set of functions in a manufacturing organisation includes:

Production

Marketing

Finance and accounting

Materials and

Personnel systems

**Production:**

Production planning and control

 Engineering standards

Quality control

R & D etc

**Marketing:**

Sales order

Forecasting

Sales analysis

Billing

 Distribution

Stock availability

Sales quota control

Pricing

Product promotion

**Finance and accounting:**

Financial planning

Budgeting

Cost accounting

Asset accounting

Accounts receivable

Payroll

Accounts payable, etc...

**Materials:**

Material planning

 Bill of material

Cost estimate

Warehousing planning etc...

**Personnel:**

 Employee recruitment

Employee selection

Employee development

Employee transfers

 Employee retirements etc...

**Information system resources.**

In information system includes four major resources, hardware, software, people and data. Let’s briefly discuss some basic concepts and examples of how these resources contributes to the information processing activities of information system.

Hardware---- it includes all physical devices

Software-----it includes all set of information processing instructions.

People -------people are required for the operation of all information systems. These people resources include specialists and end users.

Data-----data is more than the raw material of information systems. The concepts of data resources have been broadened by managers and information system professionals.

**Online processing**

An online processing system handles transactions in real time and provides the output instantly. When any economic event takes place then the processing occurs. It requires more number of dedicated hardware resources, processing elements are required. In this system programs are initiated through transactions. It does not allow sharing of programs and files.

**Examples** includesare month end tax calculation, data transformation, data analysis, data transformation etc.

Online processing is very effective these days. If we compare with batch processing system than online systems are expensive.

As online processing involves mobiles data also so it is expensive.

Online processing is just like live processing in that case if user input some data by filling input form on any site then it get processed and data fetch from the database online at the same time.

The online processing involves database servers, files on hosting and browser to communicate effectively and do fast work to be responsive. As the name suggests it is online so that mean it is live to action. The processing just on time.

In online processing like on amazon.com website which is a shopping cart site, the transaction and processing gets online and in time live.

In online processing error shown and fixed on exact time while in batch processing if error occurs then it will be report and printed late.

Data management is best handled in online processing. The strategy involved in processing is critical also privacy is high and online processing is stable at the time when records get fetch and updated.

Examples of online processing involves Google, wordpress hosted cms and other hosting companies do online processing. The statistics of users e.g. stats of traffic on website involves online processing.

Some cms like Joomla, Drupal, Magento get processed and data is correlated live depending upon server performance. Different components in these cms are based upon speed of server. More over shopping cart like woocommerce in wordpress is also processed online.

**Advantages of Online System :**

* Useful for online money transactions
* Useful in online shopping
* Support and stability

**Disadvantages of Online System :**

* Millions of requests sometimes becomes difficult to handle
* lots of staff required to maintain inventory
* Hardware problems create big trouble

**Batch processing**

Batch processing work in batches and then jobs is divided into sub jobs and then processed so it don’t need lot of hardware resources.

In decent development now our mobiles and small devices also do some type of batch processing.

In batch systems the data enter at any time may get processed days later. For example data collected about salaries and other transactions about customers get processed later at the date when reports are generated. Similarly inventories and salary distributed is processed later.

So this batch processing is schedule based in which processing get time schedule of when to process data.

Batch processing is better to use for massive and sequential records processing which online processing is used in concurrent updates.

**Advantages of Batch Processing System :**

* Manages large repeated work easily.
* Repeated jobs are done fast
* Batch systems can work offline

**Disadvantages of Batch Processing System :**

* Difficult to debug batch systems
* Sometimes costly
* Waits for unknown time if error occurs with any job

**Difference between Batch Processing System and Online System :**

|  |  |  |
| --- | --- | --- |
| **S.No.** | **BATCH PROCESSING SYSTEM** | **ONLINE PROCESSING SYSTEM** |
| 01. | An Batch processing system handles large amounts of data which processed on a routine schedule. | An online processing system handles transactions in real time and provides the output instantly. |
| 02. | Processing occurs when the after the economic event occurs and recorded. | When the economic event takes place then the processing occurs. |
| 03. | In batch processing system fewer programming, hardware and training resources are required. | In Online processing system more number of dedicated hardware resources, processing elements are required. |
| 04. | To avoid operational delays certain records are processed after the event. | Immediately all the records pertaining to event are processed. |
| 05. | In batch processing system input data is prepared before the execution. | In online processing system data is prepared at time of execution as needed. |
| 06. | In batch processing system the processing sequence is predictable. | In online processing system the processing sequence is unpredictable. |
| 07. | In this the programs and files can not be shared. | In this the program and files can be shared. |
| 08. | In batch processing system programs are scheduled through jobs. | In online processing system programs are initiated through transactions. |
| 09. | In batch processing system recovery and restart is easy. | In online processing system recovery and restart requires additional process. |
| 10. | Batch processing system uses tape storage. | Online processing system uses disk storage. |
| 11. | Examples are Inventory query, website shopping transaction, e-Banking account withdrawal etc. | Examples are month end tax calculation, data transformation, data analysis, data transformation etc. |