M.T.T.M.-4

Information Management Systems and Tourism

Chapter Wise Reference Book
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Based on

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INFORMATION MANAGEMENT SYSTEMS AND TOURISM

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QUESTION PAPER

June – 2023

(Solved)

INFORMATION MANAGEMENT SYSTEMS AND TOURISM

M.T.T.M.-4

Time: 3 Hours]   **[Maximum Marks: 100**

Note: *Answer any five of the following questions. All questions carry equal marks.*

Q. 1. Define information. Discuss the different types of information.

Ans. Ref.: See Chapter-1, Page No. 1, 'Introduction' and Page No. 6, Q. No. 5.

Q. 2. Discuss the nature, properties and scope of data with the help of suitable examples.

Ans. Ref.: See Chapter-6, Page No. 66, Q. No. 1.

Also Add: Data: Data is an atomic representation of a concept, an observed fact, a sign or symbol, being natural or artificial. It is result of observation more or less accurate that can, or cannot, be inspired by an issue, a problem to be solved.

Data are results of an objective categorization, measure, comparison of what observed. They could be meaningless for the actor who collect them.

The should be fixed on a medium to allow to be sent, managed, processed by a human being or automated system.

Significance of Data, Information and Knowledge in Tourism Industry

The tourism industry uses large amounts of data, information and ultimately knowledge. Data can be in the form of timetables, schedules, rates and charges, etc. When planning and purchasing holidays, having access to this data is essential. However this raw data will not be sufficient to construct a holiday plan. This will require tacit knowledge to incorporate the individual requirements that change the collection of travel items into a desirable travel experience. This function has traditionally been performed by a travel agent that would rely on 'knowledge' to be able to translate the prospective traveller's desire into an experience.

Information is an important element of any system to exist and prosper. The role of information in tourism is an important for everyone. The important information covers image of destinations, products, competitor's offering, prices, quality and services, promotional and selling activities, channel and experience of tour operators.

Q. 3. What do you understand by Information Systems? What are the types, structures and operating elements of information systems?

Ans. Ref.: See Chapter-1, Page No. 3, Q. No. 1 and Page No. 6, Q. No. 5.

Q. 4. Discuss the strategic issues in computer aided decision-making process. Substantiate your answer with suitable examples.

Ans. Ref.: See Chapter-7, Page No. 78, Q. No. 2 and Page No. 70, Q. No. 3.

Q. 5. Write short notes on the following:

(a) **Language Translators.**

Ans. Ref.: See Chapter-3, Page No. 31, Q. No. 7.

(b) **Local Area Network.**

Ans. Ref.: See Chapter-4, Page No. 40, 'Local Area Network'.

(c) **Information Cost.**

Ans. Information costs, much like production costs, must be subtractable from the gross income on the same monetary scale. Of course, there is ample evidence to support this plausible assumption as, for instance, evidence showing that the reliability of decisions (e.g., choices among job applicants, prediction of growth, market analyses) increases with the number of diagnostic indicators. However, there is also a notable body of opposite evidence pointing out the less-is-more principle. As Gigerenzer and Goldstein (1996) have shown in pertinent computer simulations, increasing the number of predictors and increasing the complexity and sophistication of algorithms may actually reduce the

validity of predictions and decisions. This seemingly paradoxical result can be expected in highly uncertain environments when indicators are error-prone and fallible so that reliance on an increasing number of indicators often means increasing reliance on error variance. To understand the less-is-more effect, the logical principle of rationality has to be replaced by the notion of ecological rationality. Moreover, bounded rationality highlights the need to pit accuracy against information costs and effort load and to be content with 'satisficing' rather than optimal actions and decisions.

(d) **CRS.**

Ans. Computer Reservation System (CRS) is probably the most widely used technological tool in the tourism industry. It is basically an electronic system used to promote sales and provide fast and accurate information about availability, price, and bookings of products and services. It was originally designed and employed by airlines for flight ticket reservation, but now-a-days CRS is used to store and distribute information about tourism products and services to the public either directly or through intermediaries, which also allows reservations to be made. The distribution of such information among customers and intermediaries has resulted in a series of alliances, mergers, and acquisitions among service providers, and this booking system has since evolved into what is widely known as the global distribution system, also referred to as eMediaries. The leading global distribution companies are: Amadeus, Galileo, Sabre, and Worldspan.

The main objective of the integrated global CRS has been to make a complete one-stop service possible. In fact, it eliminates physical and geographical distances between the producers and the sales mediators or consumers, respectively, and transfers accurate information to intermediaries and customers, and *vice versa*. With worldwide coverage, these distribution systems offer information, reservation, ticketing, and many other facilities for airlines, hotels, car rental companies, cruise lines, ferry operators, travel agencies, corporations, hotels, travel insurance companies, railways, airports, ground handlers, destination management organiza- tions, and tourists.

Q. 6. Discuss the most common types of Software used for management applications on personal computers.

Ans. Ref.: See Chapter-3, Page No. 26, Q. No. 3.

Q. 7. What are the different types of Network Typologies? Explain with the help of diagrams. Also mention which one is best suited for a micro tourism organization.

Ans. Ref.: See Chapter-4, Page No. 41, Q. No. 4.

Also Add: Mesh topology is best network topology for tourism organisation since all the network nodes are individually connected to most of the other nodes. There is not a concept of a central switch, hub or computer which acts as a central point of communication to pass on the messages. In mesh topology, tourism organisation can work smaothly since there is no fear of the failure of the working of this topology due to any defect or fault in the main hub as is the case in other topology. Tourism organisation never comes to a standstill since each connection carries its own data load and any fault can be diagoned easily, if any travellers seek for the privacy of their personal information and security during the tour to mard off any complication which is easily provided by the mesh topology over other ones. Besides it, mesh topology is the robust topology on which tourism organisation can rely on starkly.

Q. 8. What do you understand by hacking? What precautions can be adopted against hackers?

Ans. Hacking is any technical effort to manipulate the normal behavior of network connections and connected systems. A hacker is any person engaged in hacking. The term "hacking" historically referred to constructive, clever technical work that was not necessarily related to computer systems. Today, however, hacking and hackers are most commonly associated with malicious programming attacks on the Internet and other networks.

Nobody's data is completely safe. But everybody's computer can still be protected against would-be attackers. Here's your defense arsenal:

1. Firewalls: These are the gatekeepers that check the passwords and other identification of anyone attempting to gain access to a network from the outside. The best firewalls also don't allow incoming messages to touch the rest of the network.

That's important because a favourite trick of hackers is to install malicious codes in e-mail sent via the Internet. Firewalls should be installed at every point where the computer system comes in contact with other networks, including the Internet, a separate local area network at a customer's site, or a telephone company switch.

INFORMATION SYSTEMS FOR MANAGERS

Information Technology: An Overview

Information is a basic resource in today's society. We are living in an information society whose economy is heavily dependent on the creation, management and distribution of information resources. We no longer live in an agricultural society, composed primarily of farmers, or even an industrial society, where a majority of the work force consists of factory workers. Instead, the work force today consists mainly of workers in service occupations or knowledge workers, that is people who spend most their workday creating, using, and distributing information.

This category of knowledge workers includes executives, managers and supervisors; professionals such as accountants, engineers, scientists, stockbrokers and teachers; and staff personnel such as secretaries and clerical office personnel. These people all make their living using information systems to create, distribute, manage and use information resources, which are then used to help them manage the human, financial, material, energy, and other resources involved in their responsibilities.

Thus, Information is valuable commodity to knowledge workers, their organizations and society. Information systems have become a vital component of successful business firms and other organizations. They, thus, constitute an essential field of study in business administration and management. That's why

most business majors must take a course or two in information systems. Since you probably intend to be a manager, entrepreneur, or business professional, it is just as important to have a basic understanding of information systems as it is to understand the basics of accounting, marketing or other functional areas in business.

A major challenge for the information society is to manage its information resources to benefit all members of society. This information and information systems must properly managed for an organization to succeed. That's because organizations are faced with continual changes in the size, complexity and scope of their operations. For example, business firms are continually battling with their competitors to provide better products and services to a variety of customers at many locations with a minimum number of employees. Organizations rely on information system to provide the many types of information necessary for their efficient operations and effective management. This information must be reasonable accurate, timely and tailored to the needs of managers and end users. It must also help organizations gain strategic advantages over their competitors.

However, information systems that do not properly support an organization's strategic objectives, corporate culture, or employee needs can seriously

damage that organization's prospects for survival and success. The proper management of information systems is thus a major organizational challenge. For managerial end users, information systems represent

- a major part of the resources of an organization and its cost of doing business, thus posing a major resource management challenge.
- an important factor affective operational efficiency, employee productivity and morale, and customer service and satisfaction.
- a major source of information and support need to promote effective decision-making by managers.
- an important ingredient in developing competitive products and services that give an organization a strategic advantage in the marketplace.
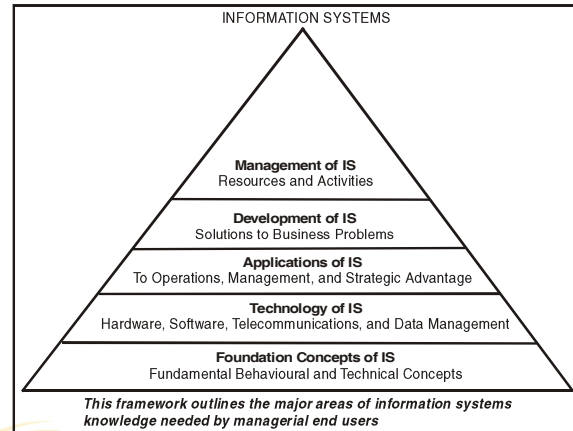- a vital, dynamic and challenging career opportunity for millions of men and women.

Computer Science, Engineering, and Mathematics are disciplines that contribute to the *technological aspects* of information systems. It is these disciplines along with the information systems discipline, whose research drives developments in computer hardware, software, telecommunications and other information-processing technologies.

Areas such as Psychology, Sociology and Political Science, on the other hand contribute to the *behavioural aspects* of information systems. The research findings of these disciplines and the discipline of information systems shed light on the effective use and management of technology by individuals and organizational goals and helping individuals and organizations take advantage of the benefits of information system technology.

Both these technological and behavioural aspects are important for managerial end users. Although computer-based information systems are heavily dependent on information-processing technologies, they are designed, operated and used by people in a variety of organizational settings. For managerial end users, the success of an information system should be measured not only its technical efficiency, but also by its effectiveness in meeting end user and organizational goals.

The following diagram illustrates a useful conceptual framework that outlines what a managerial end user needs to know about information systems. It emphasizes that you should concentrate your efforts in
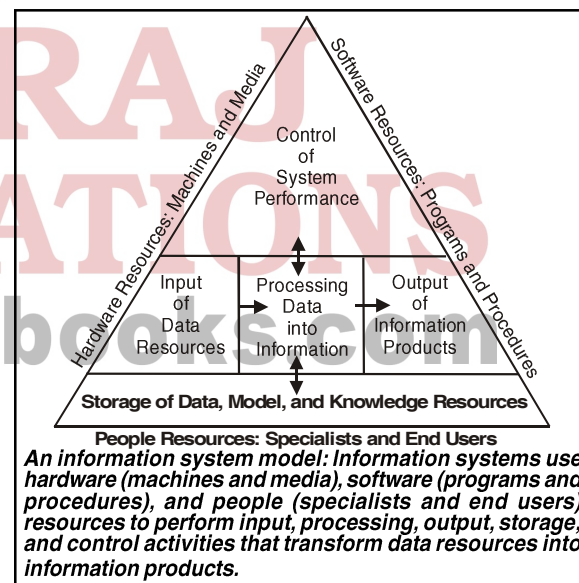
five areas of knowledge: *foundation concepts, technology, applications, development* and *management*.

INFORMATION SYSTEMS

Management of IS
Resources and Activities

Development of IS
Solutions to Business Problems

Applications of IS
To Operations, Management, and Strategic Advantage

Technology of IS
Hardware, Software, Telecommunications, and Data Management

Foundation Concepts of IS
Fundamental Behavioural and Technical Concepts

This framework outlines the major areas of information systems knowledge needed by managerial end users

FUNDAMENTAL INFORMATION SYSTEM CONCEPTS
What is System?
An Information System Model

Software Resources: Programs and Procedures

Hardware Resources: Machines and Media

Control of System Performance

Input of Data Resources → Processing Data into Information → Output of Information Products

Storage of Data, Model, and Knowledge Resources

People Resources: Specialists and End Users

An information system model: Information systems use hardware (machines and media), software (programs and procedures), and people (specialists and end users) resources to perform input, processing, output, storage, and control activities that transform data resources into information products.

The above diagram illustrates an information system model that provides the following fundamental conceptual framework, or model of the major components and activities of an information system.

This information system model will help you tie together many of the facts and concepts involved in the study of computer-based information systems. It emphasizes three major concepts:

- Hardware (machines and media), software (programs and procedures), and people

(specialists and end users) are the primary resources needed to accomplish information processing activities in information systems.

● Data resources are transformed into a variety of information products by the information processing activities of information system.

● Information processing consists of the basic system activities of input, processing, output, storage and control.

INFORMATION SYSTEMS FOR OPERATIONS AND MANAGEMENT

Each information system performs three major roles in an organization:

● Support of business operations.

● Support of management decision-making.

● Support of strategic competitive advantage.

It means that information systems perform operation, managerial and strategic support roles in businesses and other organizations. Hence information systems can be classified conceptually as either operations or management information systems.

Classifications of Information Systems

Operations information systems process data generated by and used in business operations. The following roles are played by major categories of such systems:

● **Transaction-processing systems** record and process data resulting from business transactions, update databases and produces a variety of documents and reports.

● Operational decisions that control physical processes are produced by **process control systems**.

● Office communications and productivity are supported by **office automation systems**.

EXERCISES

Q. 1. Define an information system and list its major components.

Ans. An Information Systems is a set of people, procedures and resources that collects, transforms, and disseminates information in an organization. Today's organizations rely on many types of *Information systems* (IS). They include simple *manual* (paper-and-pencil) information systems and *informal* (word-of mouth) information systems.

Management Information System: Many people use this term as a synonym for *information system*. Others use it to describe an information system that provides information in the form of standardized reports and displays to managers. Management Information System (MIS) is used to describe a broad class of information systems that are designed to provide information needed for effective decision-making by managers.

The various components of information system are:

● **Information** is data (for example, raw facts or observations) that have been put into a meaningful and useful context. This gives the information value for specific persons and meets their particular information needs. This information is a basic resource that individuals and organizations must have to survive and succeed in today's society.

● **End User**: Anyone who uses an information system of the information it produces. This usually applies to most people in an organization; as distinguished from the smaller number of people who are information system specialists, such as system analysts or professional computer programmers.

● **Managerial end user:** A manager, entrepreneur, or managerial-level professional who personally uses information systems. Also, the manager of a department or other organizational unit that relies on information systems. This book is written for potential managerial end users like you and other students of business administration and management.

Q. 2. Explain the various fundamental concepts of information system.

Ans. System concepts underline the field of information systems. Other disciplines may use the term "system" as in important concept or as a convenient way of describing the phenomena they must deal with. However, knowledge of systems concepts is vital to a proper understanding of the development, technology, applications and management of information system.

A system can be simply defined as *a group of interrelated or interacting elements forming a unified whole*. Many examples of systems can be found in the physical and biological sciences, in modern technology and in human society.

Definition: A system is a group of interrelated components working together towards a common goal by accepting inputs and producing outputs in an organized transformation process.

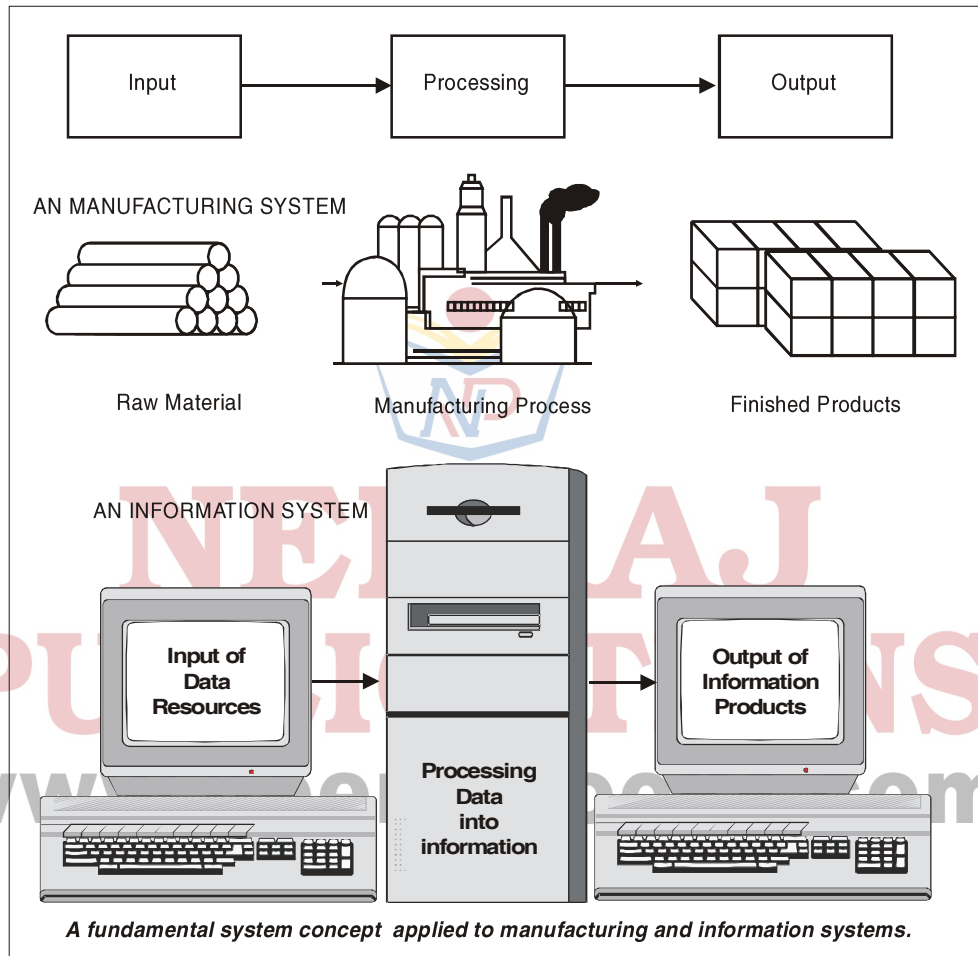Such a system has three basic interacting components or functions:

● **Input** involves capturing and assembling elements that enter the system to be processed. For example, raw materials, energy, data and

human efforts must be secured and organized for processing.

- **Processing** involves transformation processes that convert input into output. Examples are a manufacturing process, the human breathing process and data calculations.

- **Output** involves transferring elements that have been produced by the transformation process to their ultimate destination. For example, finished products, human services and management information must be transmitted to their human users.

| Input | → | Processing | → | Output |

AN MANUFACTURING SYSTEM

Raw Material   Manufacturing Process   Finished Products

AN INFORMATION SYSTEM

Input of Data Resources → **Processing Data into information** → **Output of Information Products**

A fundamental system concept applied to manufacturing and information systems.

FEEDBACK AND CONTROL

The systems concepts can be made even more useful by including two additional components: *feedback* and *control*. A system with feedback and control components is sometimes called a "cybernetic" system that is a *self-monitoring*, *self-regulating* system.

- **Feedback** is data about the performance of a system.
- **Control** is a major system function that monitors and evaluates feedback to determine whether the system is moving toward the

achievement of its goal. It then makes any necessary adjustments to the input and processing components of the system to ensure that proper output is produced.

It is frequently included as part of the concept of the control function because of the essential role feedback plays in control. The following diagram shows the relationship of feedback and control to the other components of a system. The flow of feedback data to the control component and the resulting control signals to the other components are shown as dotted arrows. This emphasized that the feedback and control