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MODULE NO 1

Module	Detailed Contents	Hrs
01	Introduction To Information Systems (IS): Computer Based Information Systems, Impact of IT on organizations, Importance of IS to Society. Organizational Strategy, Competitive Advantages and IS.	4

DATA

90,80,70,30

A B C D

INFORMATION

A 90
B 80
C 70
D 30

KNOWLEDGE

D FAIL

MIS: Using info we have to manage the system

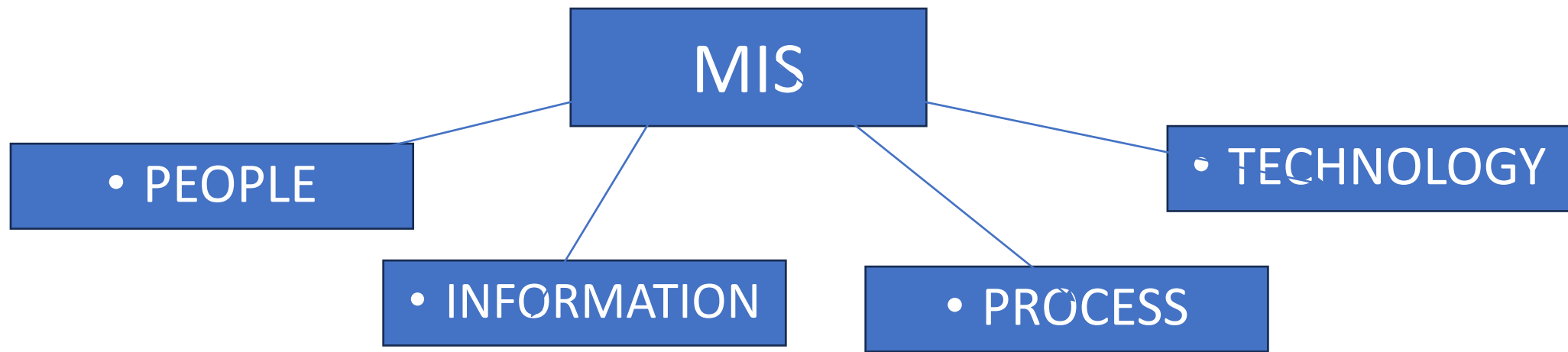
- A management information system is an information system used for **decision making and for the coordination**, control analysis and visualization of information in an organization



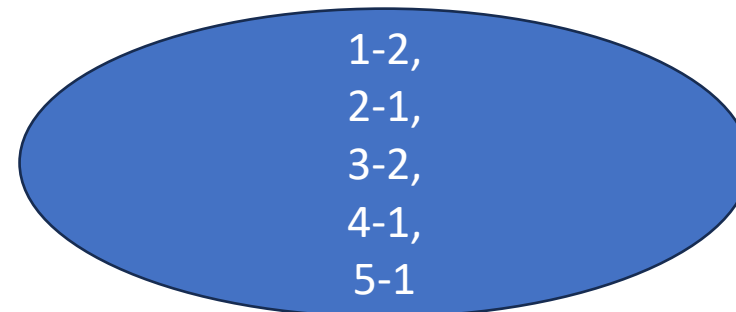
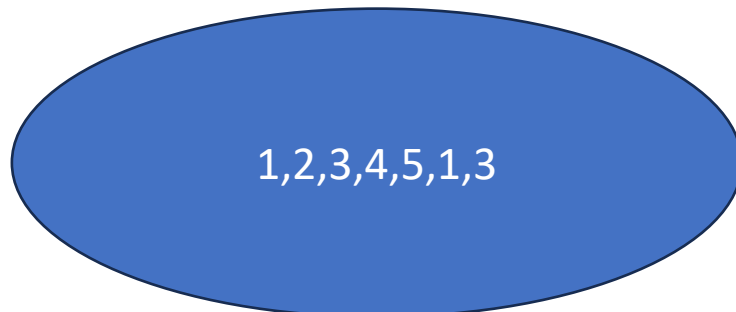
Department
coordination to
decision making

DECISION MAKING





- Different department
- Competative advantage
- Assets of country ----data
- Raw data converted to information and help management so that it can make decision
- Information ----Data





MIS OF?

Management Information System need and purpose

- Study of people, technology , organization and relationships among them



relationship



Introduction to information system

- Why Should I Study Information Systems?
- You are part of the most connected generation in history: You have grown up online; you are, quite literally, never out of touch; you use more information technologies (in the form of digital devices), for more tasks, and are bombarded with more information, than any generation in history.
- Essentially, you practice continuous computing, surrounded by a movable information net-work.

**Information
system**

Register
for
courses

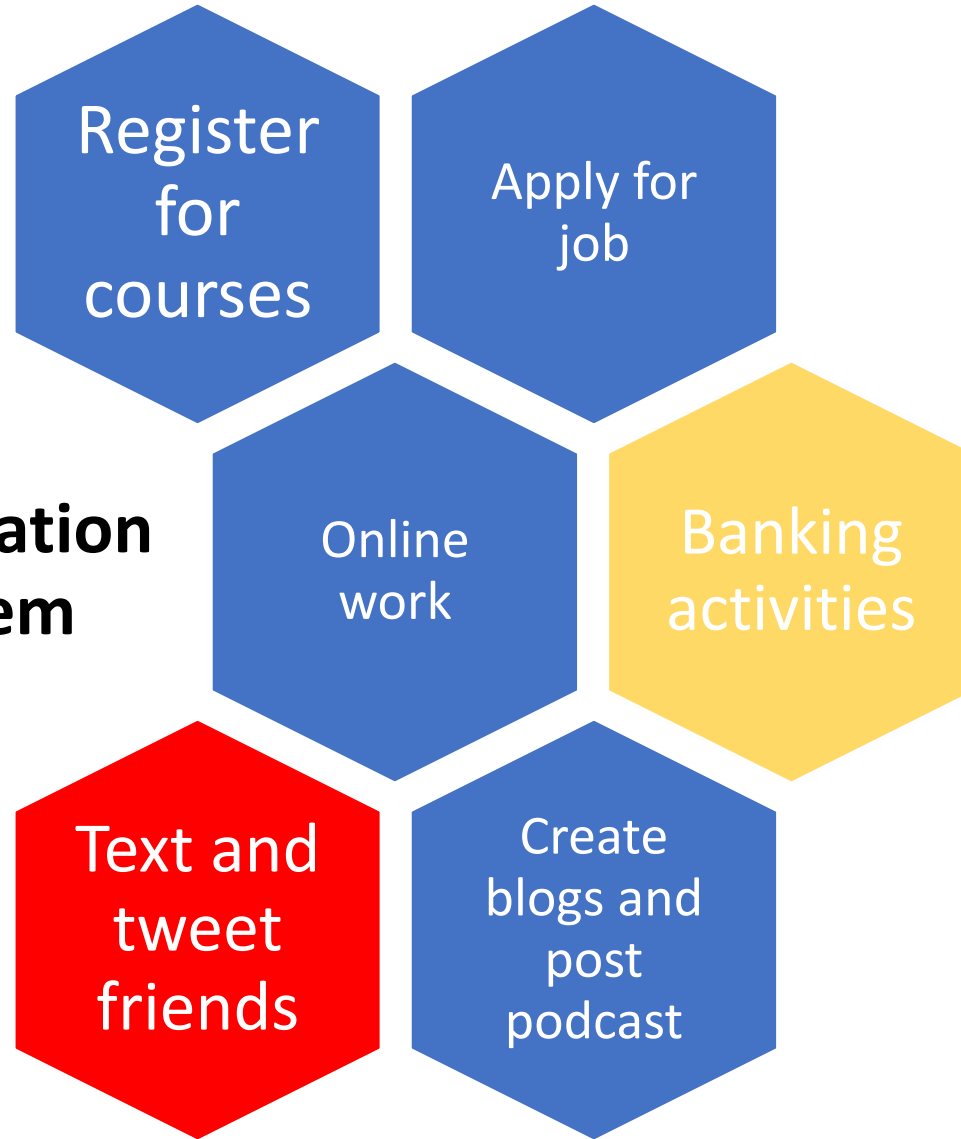
Apply for
job

Online
work

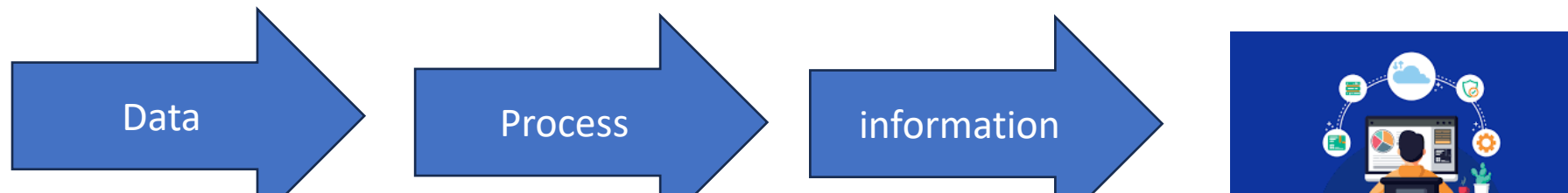
Banking
activities

Text and
tweet
friends

Create
blogs and
post
podcast



- Information plays important role in the life of a person as well as in that of an organization
- It helps in gaining knowledge which become vital in decision making particularly for leadership.
Leading without information is like fighting in a dark.
- We can define information as a collection of data processed(organized)



- Information system is a mechanism designed to collect , process, store and distribute information within and outside the organization
- Organization use use their information system to process financial data to manage their human resource and identify and reach their potential customer
- Many major companies today are build around information system e.g Amazon,flipcart..

Elements of information system



Objective of information system

- Achieving operational excellence
- Identifying and designing new products and business models
- Establishing regular communication with customer and suppliers
- Improving decision making
- Getting competitive advantage
- Ensuring sustainability

Advantages of Information system

- Improves business management system
- Business decision system
- Creating strong and effect

The Informed User—You!

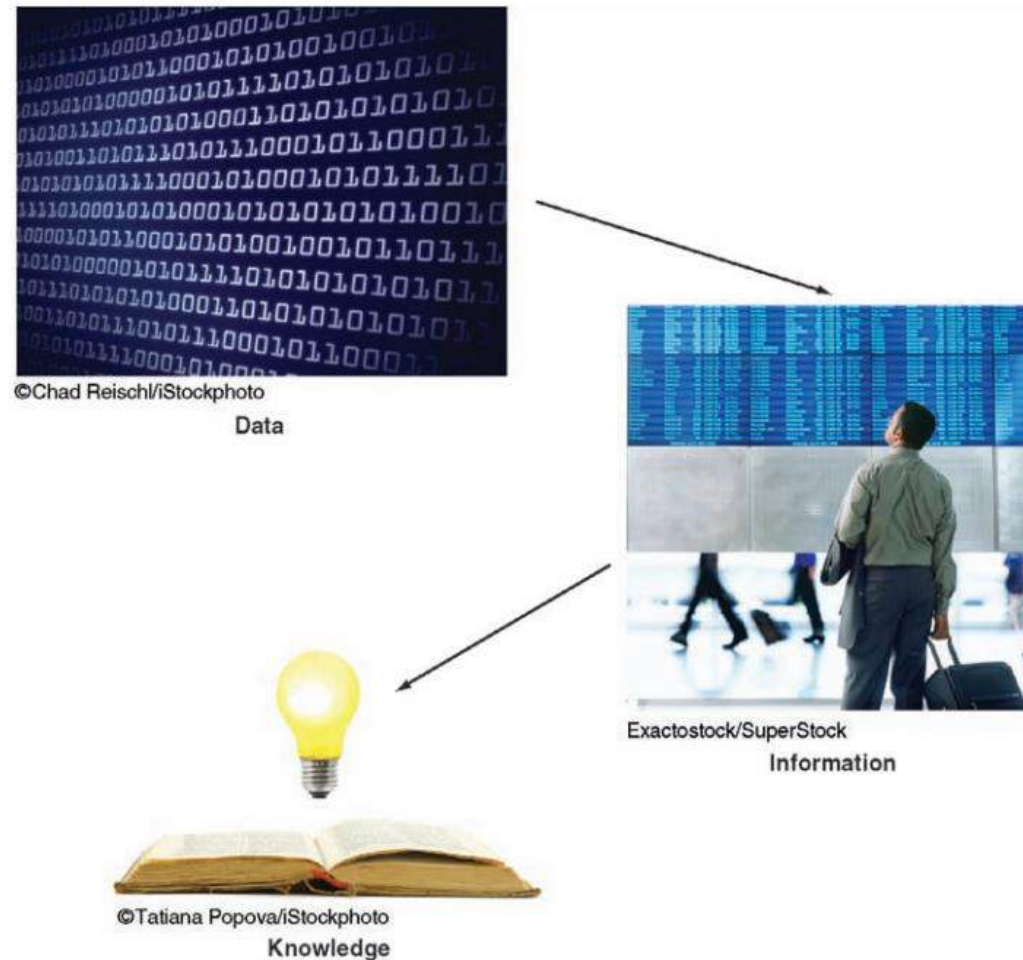
- Why you should learn about information systems and information technologies? After all, you can comfortably use a computer
- The answer lies in your becoming an informed user; that is, a person knowledgeable about information systems and technology.
- First, you will benefit more from your organization's IT applications because you will
 - understand what is “behind” those applications (see Figure 1.1). That is, what you see on your computer screen is brought to you by your MIS department, who are operating “behind” your screen.
- • Second, you will be in a position to enhance the quality of your organization's IT applications with your input.
- • Third, even as a new graduate, you will quickly be in a position to recommend—and perhaps help select—the IT applications that your organization will use.

Computer-Based Information Systems

- An information system collects, processes, stores, analyzes, and disseminates information for a specific purpose. The purpose of information systems has been defined as getting the right information to the right people, at the right time, in the right amount, and in the right format. Because information systems are intended to supply useful information, we need to differentiate between information and two closely related terms: data and knowledge
- Data items can be numbers, letters, figures, sounds, and images. Examples of data items are collections of numbers (e.g., 3.11, 2.96, 3.95, 1.99, 2.08) and characters (e.g., B, A, C, A, B, D, F, C).
- Information refers to data that have been organized so that they have meaning and value to the recipient. For example, a grade point average (GPA) by itself is data, but a student's name coupled with his or her GPA is information.

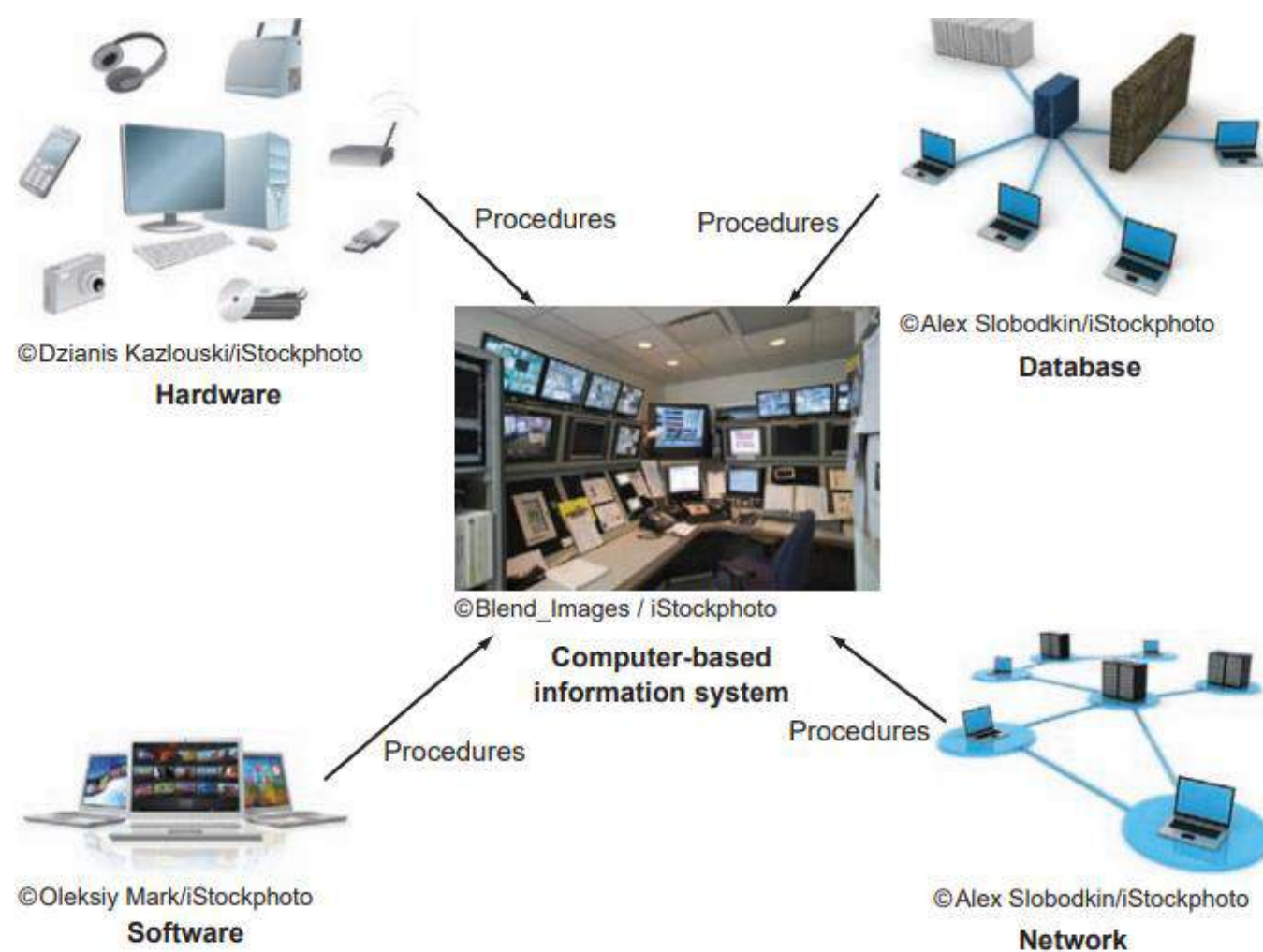
- Knowledge consists of data and/or information that have been organized and processed to convey understanding

FIGURE 1.2 Binary Code, the foundation of information and knowledge, is the key to making complex decisions.

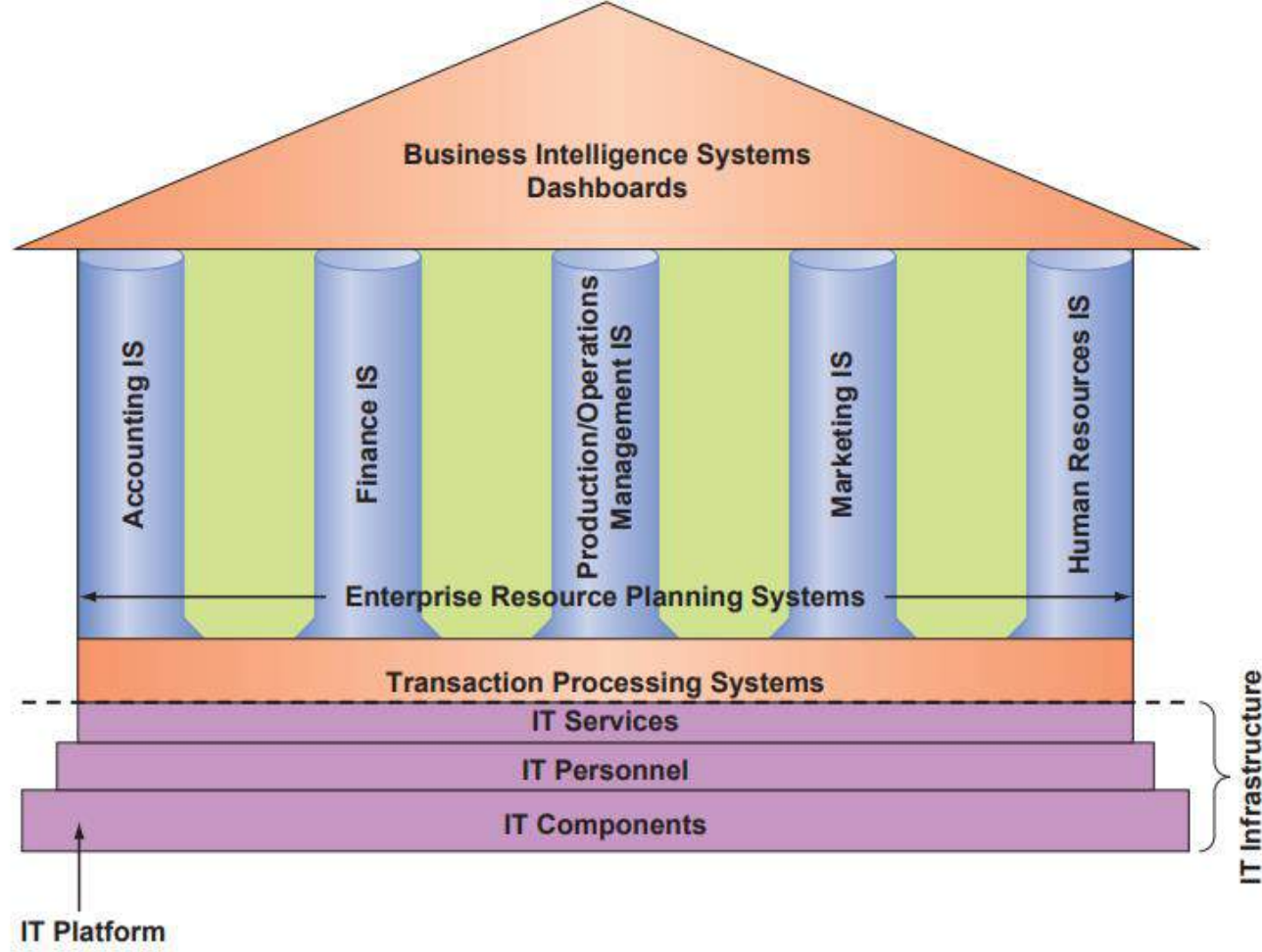


- A computer-based information system (CBIS) is an information system that uses computer technology to perform some or all of its intended tasks. Although not all information systems are computerized, today most are. For this reason the term “information system” is typically used synonymously with “computer-based information system.” The basic components of computerbased information systems are listed below. The fi rst four are called information technology components

- Below Figure illustrates how these four components interact to form a CBIS.
- • Hardware consists of devices such as the processor, monitor, keyboard, and printer. Together, these devices accept, process, and display data and information.
- • Software is a program or collection of programs that enable the hardware to process data.
- • A database is a collection of related files or tables containing data.
 - A network is a connecting system (wireline or wireless) that permits different computers to share resources

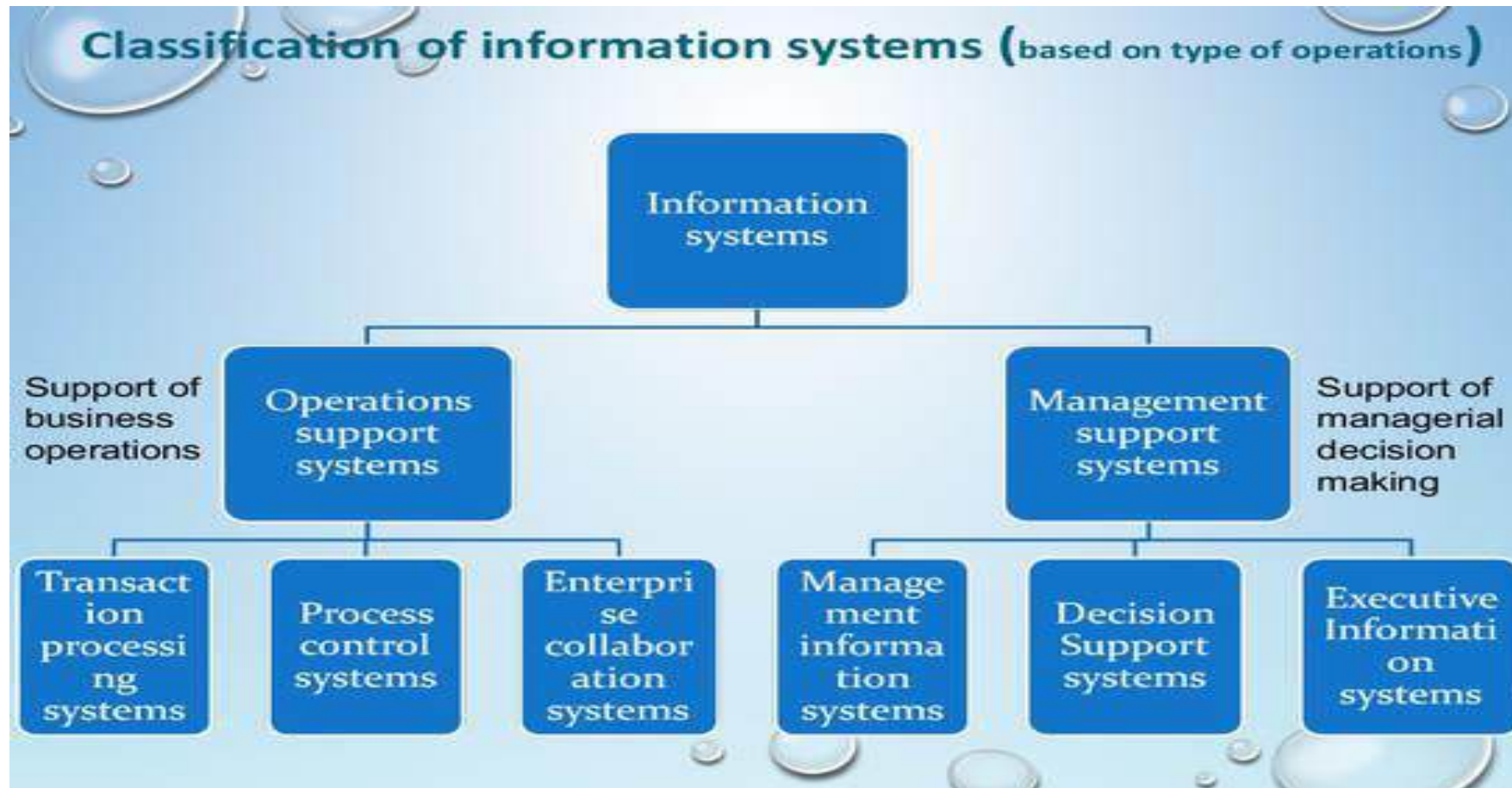


Procedures are the instructions for combining the above components to process information and generate the desired output. • People are those individuals who use the hardware and software, interface with it, or utilize its output

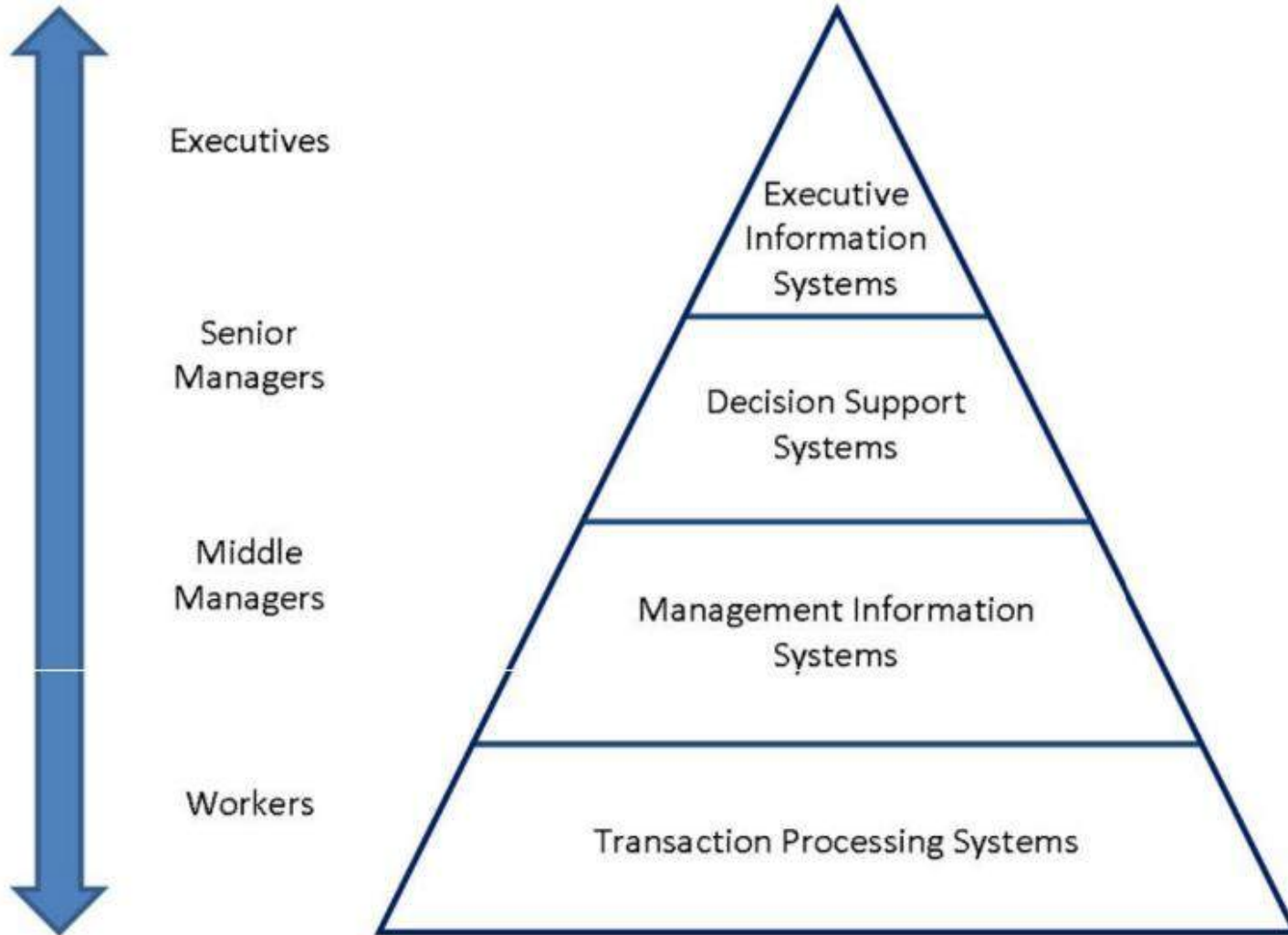


4 illustrates how these components are integrated to form the wide variety of information systems found within an organization. Starting at the bottom of the pyramid, the IT components of hardware, software, networks (wireline and wireless), and databases form the information technology platform. IT personnel use these components to develop information systems, oversee security and risk, and manage data. These activities cumulatively are called information technology services. The IT components plus IT services comprise the organization's information technology infrastructure. At the top of the pyramid are the various organizational information systems

Types of Information System



or



Types of Information System

- Information Systems are classified by organisational levels, mode of data, processing, system objectives and type of support provided.
- Following are the type
- 1. Transaction Processing System (TPS)
- 2. Management Information System (MIS)
- 3. Decision Support System (DSS):

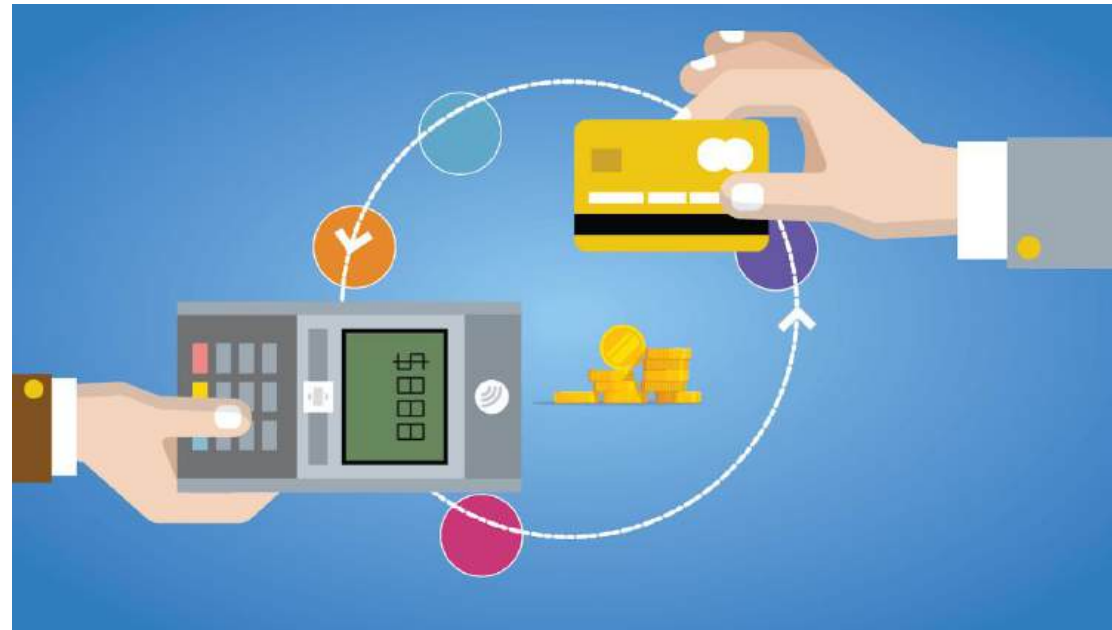
1. Transaction Processing System (TPS)

- Transaction is any give and take that involves two party, some of them will give input and some will get output.
- Eg. you are going to a shopping mall you are giving some money and taking some thing.
- Person only scan only barcode , he will not do another thing, automatically price discount will be displayed
- - Transaction Processing System are information system that processes data resulting from the occurrences of business transactions



- A TPS is a day to day **transactions of an organization**
- A transaction processing system (TPS) **supports the monitoring, collection, storage, and processing of data from the organization's basic business transactions**, each of which generates data.
 - - Their objectives are to provide transaction in order to update records and generate reports i.e., to perform store keeping function
 - - The transaction is performed in two ways: Processing in a batch and Processing in real-time.
 - - Example: Bill system, payroll system, Stock control system.

Since a TPS is a real-time processing system, all the events and transactions that occur in the organization or over the system are processed immediately causing no delay. It is one of the most used technologies in all online transactions and is called an [Online Transaction Processing System](#) (OLTP).



- The main functions of a TPS are conducted by the above-mentioned primary components. These include:
 1. **Input functions:** Securing and inputting the data of the transactions that have taken place
 2. **Output functions:** Producing the report and record of the input data to be used for future references and validating the transaction
 3. **Storage functions:** Storing the data from both input and output operations and ensuring the availability of data for operations like information access, retrieval, sorting, and updating.
 4. **Processing functions:** Computing, calculating, sorting, and defining the input data to get the desired results.
- 5. Transaction process system for airlines, malls, banking---application
- 6. Eg Tps used by IBM for airlines ---v2, mews for hotels, RISCO for bank, FOR ATM





Input or Output

• Information system

- System: A set of things working together as part of mechanism or an interconnected network.
- Eg Computer system



- Information systems are set of interconnected elements working together to collect, process, store and distribute information to help, co-ordination analysis and decision making.
- It can be defined as collection of software, hardware, and telecommunication network that people develop and use to gather, create and distribute useful data mainly in organization

- A management information system **(MIS) is an information system used for decision-making**, and for the coordination, control, analysis, and visualization of information in an organization and marketing. The study of the management information systems involves people, processes and technology in an organizational context.
- - In a corporate setting, the ultimate goal of the use of a management information system is to increase the value and profits of the business. This is done by providing managers with timely and appropriate information allowing them to make effective decisions within a shorter period of time.
- - Example: Sales management systems, Human resource management system.
- **Management information systems (MIS) is the study of how people use technology to manage information.**

3. Decision Support System (DSS):

- A decision support system (DSS) is an 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 or human-powered, or a combination of both.
- - Example: Financial planning systems, Bank loan management systems.

How Does IT Impact Organizations?

- IT Reduces the Number of Middle Managers
- IT makes managers more productive, and it increases the number of employees who can report to a single manager. Thus, IT ultimately decreases the number of managers and experts. It is reasonable to assume, therefore, that in coming years organizations will have fewer managerial levels and fewer staff and line managers. If this trend materializes, promotional opportunities will decrease, making promotions much more competitive.
- IT Changes the Manager's Job

One of the most important tasks of managers is making decisions. A major consequence of IT has been to change the manner in which managers make their decisions. In this way, IT ultimately has changed managers' jobs.

- **Will IT Eliminate Jobs?**

computers continue to advance in terms of intelligence and capabilities, the competitive advantage of replacing people with machines is increasing rapidly. This process frequently leads to layoffs. At the same time, however, IT creates entirely new categories of jobs, such as electronic medical record keeping and nanotechnology

- **IT Impacts Employees at Work**

- IT Impacts Employees' Health and Safety

they can adversely affect individuals' health and safety. To illustrate this point, we consider two issues associated with IT: job stress and long-term use of the keyboard

- **IT Provides Opportunities for People with Disabilities.**

Computers can create new employment opportunities for people with disabilities by integrating speech-recognition and vision-recognition capabilities. For example, individuals who cannot type can use a voice-operated keyboard, and individuals who cannot travel can work at home

- Better flow of information:
- Improves transaction processing:
- Supports decision making:
- Supports workgroup and team activity:
- Improves quality of goods and services:

Importance of IS TO SOCIETY

- IT has significant implications for our quality of life. The workplace can be expanded from the traditional **9-to-5 job at a central location to 24 hours a day at any location**. IT can provide employees with flexibility that can significantly improve the quality of leisure time, even if it doesn't increase the total amount of leisure time. From the opposite perspective, however, IT also can place employees on "constant call," which means they are never truly away from the office, even when they are on vacation.
- In fact, surveys reveal that the majority of respondents take their laptops and smartphones on their vacations, and 100 percent took their cell phones. Going further, the majority of **respondents did some work while vacationing, and almost all of them checked their e-mail regularly**. Information technology clearly affects our quality of life. Interestingly, IT can also impact the quality of life of an entire country, as you see in IT's About Business

Impact of IS TO SOCIETY

- Positive impact

- Effective communication system:

- Availability of information:

- Improving globalization and reducing cultural gap:

- Getting better services:

- Getting a range of online services:

- Negative Impact

- Availability of too much information:

- Increasing fraud:

- Lack of job security:

- Security threat:

Role of Information System in Framing Organizational Strategy and Bringing Competitive Advantages

- Competition is inevitable in any business anywhere in the world. Competitors rivalry. Thus, it requires a constant effort to gain competitive advantage in the marketplace. The competitive forces present all the time engage significant resources of a firm in order to deal with them.
- Not only do firms need to compete with other firms in the marketplace for survival but they must also work to stay ahead of them in competition.
- **A competitive strategy is a statement that identifies a business's approach to compete**, its goals, and the plans and policies that will be required to carry out those goals (Porter, 1985). A strategy, in general, can apply to a desired outcome, such as gaining market share. A competitive strategy focuses on achieving a desired outcome when competitors want to prevent you from reaching your goal. Therefore, when you create a competitive strategy, you must plan your own moves, but you must also anticipate and counter your competitors' moves.

How can business experts use information system to support an organization's competitive strategies?

- Let's have a look at these key strategies implemented with information system
- Engaging customers and suppliers
- Building switching cost
- Raising barriers for new entrants by discouraging or delaying other companies from entering a market

Characteristics of a Good Information System

- Relevance of information
- Accuracy and reliability of information
- Usefulness of information
- Timeliness of Information
- Completeness of Information