

Information System

An information system is a set of interrelated components that collect or retrieve, process, store, and distribute information to support decision making and control in an organization. Information systems can also be used to analyze problems, visualize complex subjects, and create new products.

Input, processing, and output are the three activities in an information system that produce the information an organization needs. Input captures or collects raw data from within the organization or from its external environment. Processing converts this raw input into a meaningful form. Output transfers the processed information to the people who will use it or to the activities for which it will be used. Information systems also require feedback, which is output that is returned to appropriate members of the organization to help them evaluate or correct the input stage.

Information is data, or raw facts, shaped into useful form for humans.

Dimensions of Information Systems

An information system represents a combination of management, organization, and technology elements. The management dimension of information systems involves leadership, strategy, and management behavior. The technology dimensions consist of computer hardware, software, data management technology, and networking/telecommunications technology (including the Internet). The organization dimension of information systems involves the organization's hierarchy, functional specialties, business processes, culture, and political interest groups.

Organizations

Organizations are formal social units developed to the attainment of specific goals. The key elements of an organization are its people, structure, operating procedures, politics, culture, and functional specialties.

People: Organizations require many different kinds of skills and people like managers (such as senior, middle, and operational) who make decisions and plans to solve organizational problems, knowledge workers (such as engineers, architects, or scientists) who design products or services and create new knowledge, data workers (such as secretaries, bookkeepers, or clerks) who process the organizations paperwork, and production or service workers (such as machinists, assemblers, or packers) who actually produce the organizations products or

Structure: Organizations coordinate work through a structured The hierarchy arranges

people in a pyramid structure of rising authority and responsibility. The upper levels of hierarchy consist of managerial, professional, and technical employees, whereas the lower levels consist of operational personnel.

Standard Operating Procedures (SOPs): Standard operating procedures (SOPs) are formal rules that have been developed over a long time for achieving organizational Firm's business processes are based on its SOPs.

Organizational Politics: People in organization occupy different positions with different specialties, concerns and perspectives. As a result, they naturally have divergent and differing viewpoints about how Resources, Rewards, and Punishments should be distributed. This will result in political struggle for resources, competition and conflict within every

Organizational Culture: It is a set of fundamental assumptions about what products the organization should produce, how it should produce them, where, and for whom. Organizational culture is a powerful restraint on change, especially technology change. Any technological change that threatens commonly held cultural assumptions usually meets a great deal of resistance.

Business Functions: The major business functions, or specialized tasks performed by business organizations include sales and marketing (selling the organization's products and services), manufacturing and production (producing products and services), finance (managing the organization's financial assets like cash, stocks,), accounting (maintaining the organization's financial assets and accounting the flow of funds), and human resources (attracting, developing, and maintaining the organization's labor force; maintaining employee records).

Management

Management's job is to make decisions and formulate action plans to solve organizational problems. Managerial roles and decisions vary at different levels of the organization. Senior managers occupy the topmost hierarchy and are responsible for making long-range decisions. Middle managers occupy in the middle of the organizational hierarchy who are responsible for carrying out the plans and goals of senior management. Operational managers monitor the day-to-day activities of the organization.

Managers play an important role in organizations. We can understand managerial functions by examining classical and contemporary models of managerial behavior.

Classical Models of Management: The classical descriptions of management focuses on five classical functions of managers like planning, organizing, leading, and controlling. These terms actually describe formal managerial functions and are unsatisfactory as a description of what managers actually do in their jobs. For example, these terms do not address what managers actually do when they plan, decide things, and control the work of others.

Above figure shows systems relationship among the management functions. Planning includes setting objectives and determining in advance exactly how the objectives will be met. Organizing means delegating and coordinating tasks and allocating resources to achieve objectives. Managers should also show leadership. He/she should influence employees to work towards achieving objectives. Controlling means managers should establish and implement mechanisms to ensure that objectives are achieved.

Behavioral Models of Management: These models describe management based on what managers actually do in their Managers' day-to-day behavior can be classified into 10 managerial roles. Managerial roles are expectations of activities that managers should perform in an organization. These roles fall into three categories: interpersonal, informational, and decisional.

Interpersonal Roles: Interpersonal management roles are grouped into three roles involving working with other Managers act as figureheads, leaders, and liaisons.

Informational Roles: Informational management roles are divided into three different communication-based Managers act as nerve centers, disseminators, and spokespersons.

Decisional Roles: Decisional management roles are sorted into four action-based roles for making and implementing Managers act as entrepreneurs, disturbance handlers, resource allocators, and negotiators.

Information Technology

Information technology is the tool used by managers to deal with change. The technology dimension consists of computer hardware, software, data management technology, and networking/telecommunications technology

Computer Hardware: It is the physical equipment used for input, processing, and output activities in an information system. It consists of processing unit; various input, output, and storage devices; and physical media to link these devices

Computer Software: It consists of detailed preprogrammed instructions that control and coordinate the work of computer hardware components in an information.

Data Management Technology: In order to keep track of all of the information stored, we need data management software that is designed to organize the information so that we can readily retrieve what we are looking for.

Communication technology: It includes physical devices and software that link various computer hardware components that transfer data from one physical location to another. This technology helps to connect computers and communication equipments for sharing voice, data, images, sound, or video in networks. A network links two or more computers to share data and

All the above technologies collectively form the firm's information technology (IT)

infrastructure. The IT infrastructure provides the foundation or platform on which the firm can build its specific information systems. So, each organization must carefully design and manage its IT infrastructure according to the needs of the information system.