

## **Chapter 1 The Modern Organization in the global, web-based environment**

**Management Information Systems (MIS):** deals with the planning for and the development, management and use of – information technology tools to help people perform tasks related to information processing and management

**Information technology (IT):** relates to any computer-based tool that people use to work with information and to support the information and information-processing needs of an organization.

- One of the primary goals of IS is to economically process data into information and knowledge

**Data items** elementary description of transactions that are recorded, classified, and stored but not organized to convey any specific meaning. Example: numbers, letters, figures, sounds, images – students grade in a class.

**Information** refers to data that has been organized so that they have meaning and value to the recipient. Example: GPA of a student coupled with their name, student id.

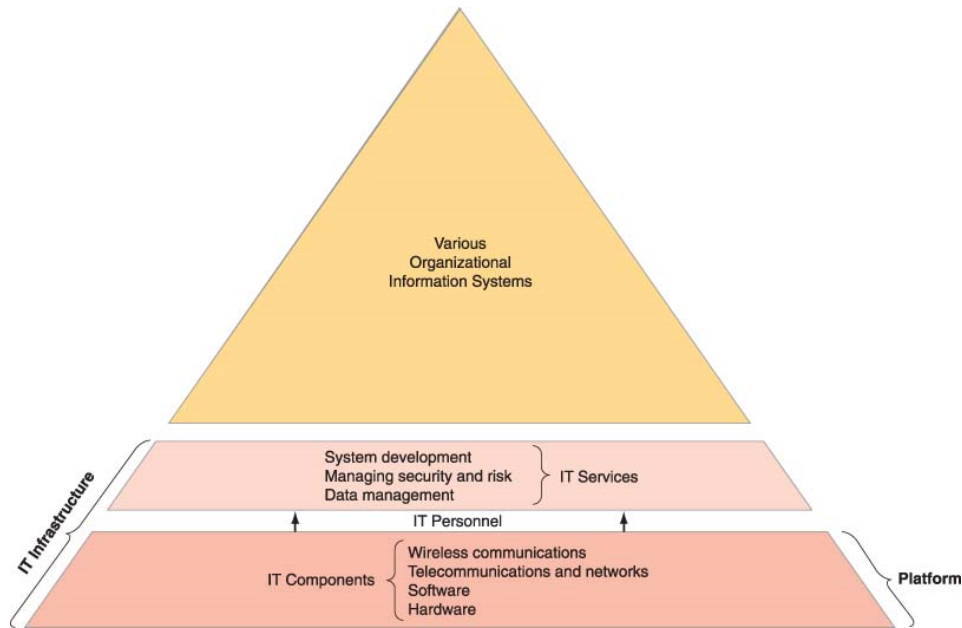
**Knowledge** consists of data and/or information that has been organized and processed to convey understanding, experience accumulated learning and expertise as applied to a current business problem. Example: Interviewing students with only GPA over 3.0 because they would be smart.

Organizations organize and use information using IT architecture and IT infrastructure.

**IT architecture** is a high-level map or plan of the information assets in an organization. It's a guide for current operations and a blueprint for future direction. It integrates the entire organization's business needs for information, IT infrastructure and all applications.

**IT infrastructure** consists of the physical facilities, IT components (computer hardware, software and communications technologies that provide foundation for the company), IT services and IT personnel that support the entire organization. As you go up the pyramid, IT personnel use IT components to produce IT services, which include data management, systems development and security management.

These two provides the basis for all information systems in the organization



## 1.2 The Global, Web-based platform

- The web-based platform is best represented by the internet and the functionality of the World Wide Web. Enables us to connect, compute, communicate, collaborate and compete everywhere and anywhere, anytime and all the time. Operates without geography, time, distance or language barriers – it enables **globalization**: the integration and increasing interdependence, across geographic boundaries, of economic, social, cultural, and ecological facets of life. Enabled because of rapid advances in IT.

### Stages of Globalization

- 1) *Globalization 1.0* (focus on countries) → lasted from 1492 to 1800. Force behind globalization was how much muscle, horsepower, wind power or steam power a country had and could deploy.
- 2) *Globalization 2.0* (focus on companies) → lasted from 1800 to 2000. Multinational companies who had their headquarters in one country but operated in two or more countries were successful. First half – development of steam engine and railroads and second half – falling telecommunications costs. The global economy began appearing during this era.
- 3) *Globalization 3.0* (focus on groups and individuals) → Around year 2000 and forward. Driven by 10 forces that Friedman calls “flatteners”. In this era, we’re witnessing the emergence of a global, web-based platform.

### Friedman’s 10 flatteners

- 1) **Fall of the Berlin Wall**: enabled European countries to move toward free-market economies which led people to begin thinking about the world as a single market or single community.
- 2) **Netscape goes public**: first user-friendly web browser, popularized the internet and the web.

- 3) **Development of work-flow software:** enables computer applications to interoperate, or communicate and work with one another without human intervention.
- 4) **Uploading:** means that anyone can create and upload content to the web (Blogs and wikis)
- 5) **Outsourcing:** taking a specific function that your company was doing itself, having another company perform that same function for you, and then integrating their work back into your operation. It lowers cost and concentrate on their core competencies.
- 6) **Offshoring:** occurs when a company moves an entire operation or certain tasks to another country. It offers cheaper labour, lower taxes, fewer benefits. Also, allows companies to enter foreign market without dealing with trade barriers.
- 7) **Supply chaining:** occurs when companies, their suppliers and their customers collaborate and share information
- 8) **Insourcing:** delegates operations or jobs within a business to another company, which specializes in those operations. Example: Dell and Fed-Ex
- 9) **Informing:** ability to search for information (search engines such as Google)
- 10) **The steroids:** they are new and dynamic forms of IT – digital, mobile, virtual and personal. They amplify the other flatteners. Examples: computing – (processing storage, input/output), wireless technologies, voice over Internet protocol, videoconferencing, computer graphics

In essence, you are entering a flat world that is made possible by the global, web-based platform

### 1.3 Business Pressures, Organizational Responses and IT Support

As the business environment is very competitive, companies must react rapidly to problems and opportunities arising from extreme dynamic conditions

#### Business Pressure

The business environment is the combination of social, legal, economic, physical, and political factors that affect business activities. 3 types of business pressures are: market, technology and societal pressures.

- 1) **Market Pressures:** *global economy, the changing workforce and powerful customers.*
  - NAFTA, creation of euro, the rise of India and China as economic powerhouses has increased world trade (globalization) and increased global competition.
  - Pressures in global market include cost of labour (varies depending on countries – high in developed countries with more benefits). IT has made off-shoring easier and more reliable.
  - The workforce (mostly in developed countries) are becoming more diversified, with the increasing number of women, single parents, minorities, disables. It has made it easier for them work (example, work from home, different technologies for disabled people)

- As customers get more knowledgeable (ex. Comparing prices – using the internet) about the availability and quality of products and services, they expect more from the sellers. This is why organizations increased their efforts to acquire/retain and find out as much about their customers to better anticipate and serve their needs. **Customer relationship management (CRM)**: an organization-wide effort toward maximizing the customers experience (customers satisfaction).
- 2) Technology Pressure: *Technology innovation and information overload*
- New and improved technology rapidly creates or supports substitutes for products, alternative service options and superb quality. Businesses need to keep up with these changes to satisfy consumer demands. Ex. New monitors (saves space)
  - Information on the internet doubles every year. Managers get floods of info through the internet and telecommunications. In order to make decisions effectively, managers must be able to access, navigate, and utilize these vast stores of data, information and knowledge. IT such as search engines and data mining make this easier for them.
- 3) Societal/Political/Legal Pressures:
- **Organizational Social Responsibility** (efforts by organization to solve various social problems - allowing interns to the company). Organizations have to follow regulations regarding health, safety, environmental control and equal opportunity. Also, laws and regulations to govern business activities are active in response to corporate scandals and data privacy risks. Organizations rely on IT support to provide the necessary controls and information for compliance.
  - **Digital Divide**: refers to the wide gap between those who have access to information and communications technology and who do not. Government is attempting to close this by encouraging training, supporting education and infrastructure improvements (Cybercafes, Internet kiosks and as technology becomes cheaper - \$100 laptop)
  - IT can improve methods (monitoring, security systems, identifying patterns of terrorist attacks/cyber attacks) used by businesses to promote a healthier lifestyle and cleaner environment. To succeed, organizations must respond to these pressures.

#### Organizational responses (using Information Technology)

- 1) Strategic systems: provide organizations with advantages that enable them to increase their market share and/or profits, to better negotiate with suppliers, or to prevent competitors from entering the markets.
- 2) Customer Focus: provide superb customer service - can mean the difference between keeping or losing customers. (IT tools are used - Dell's website guide process while buying products)
- 3) Make-to-order: strategy of producing customized products and services. It needs to be more efficient with low cost. Solution is to change manufacturing from mass production (producing identical items) to **mass customization** (customizing item to fit desire of each customer, Dell).

4) E-business and e-commerce: Doing business electronically (through the internet) is now an essential strategy for companies competing in today's business environment.

#### **1.4 Why are Information Systems important to me?**

- 1) Information systems and information technologies are integral to your life
- 2) IS field offers many career opportunities (jobs/business)
- 3) All functional areas in an organization utilize information systems