Information Technology

Information Technology
For Management
3rd Edition
Turban – McLean - Wetherbe

1st Lecture

Information Technology
In The Digital Economy

Doing Business in The Digital Economy

- **Electronic Commerce** is Web-based systems to support buying, selling, & costumer services.
- The infrastructure for EC is **networked computing**, which is emerging as the standard computing environment in business, home, & government.
- Networked Computing connect several computers & other electronic devices via telecommunication networks.

- Networked Computing involve:
  - **Internet**, a self-regulated network of computers networks connecting millions of business, individual, government, and other organization all over the world.
  - **Intranet**, corporate network that function with internet technologies, using IP.
  - **Extranet**, a secure network that allows business partners to access portion of each other's intranet.
- The collection of computer systems used by an organization is termed **Information Technology (IT)**

The reason why almost all organization use IT

- The IT is become the major facilitator of business activities in the world.
- IT is a catalyst of fundamental change in the structure, operations, & management of organizations, due to the capabilities.

Capabilities of IT

- Perform high speed, high volume, numerical computations.
- Provide fast, accurate , & inexpensive communication within and between organization.
- Store huge amount of information in an easy-to-access, yet small space.
- Allow quick and inexpensive access to vast amount information, worldwide.
- Increase the effectiveness & efficiency of people working in groups in one place or in several location

Capabilities of IT (cont.)

- Vividly present information that challenges the human mind.
- Automate both semiautomatic business process and manually done task.
- Speed typing & editing,
- Can be wireless, thus supporting unique applications.
- Accomplish all of the above much less expensively than when done manually.

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These Capabilities support 5 business objective

- Improving productivity (51%)
- Reducing cost (39%)
- Improving decision making (36%)
- Enhancing costumer relationship (33%)
- Developing new strategic applications (33%)

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The Digital Economy

- The **DE** refer to an economy that is based on digital technologies. Including:
  - Digital communication networks
  - Computer
  - Software
  - And et al.
- The DE is also called **Internet Economy** or **Web Economy**

The Global Platform of DE

- A Vast array of digitizable product which are delivered over the digital infrastructure anytime, anywhere in the world.
- Consumers and firms conducting financial transactions digitally – through digital currencies or financial tokens carried via networked computers and mobile devices.
- Physical goods such home appliances and automobiles, which are embedded with microprocessors and networking capabilities.

New Business Models

- Business model is a method of doing business by which a company can generate revenue to sustain itself.
- New Business Models of DE
  - Name-Your-Own-Price (Priceline.com)
  - Dynamic Brokering (GetThere.com)
  - Reserve Auction (gegxs.com)
  - Affiliate Marketing (Amazon.com)
  - Group Purchasing (etrana.com)
  - E-marketplaces & Exchange (e-steel.com)

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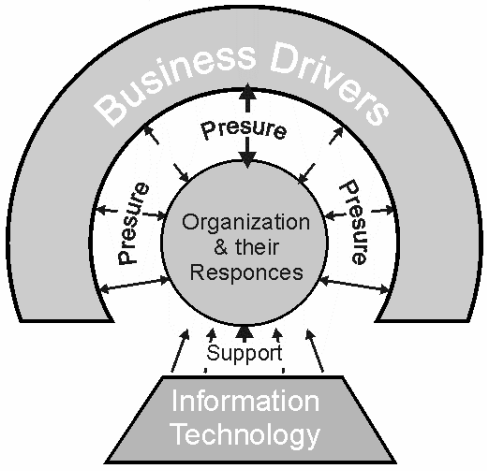
IT Support to Organizational Responses



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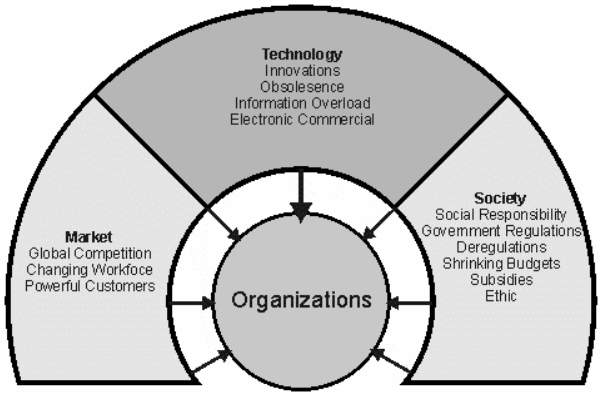
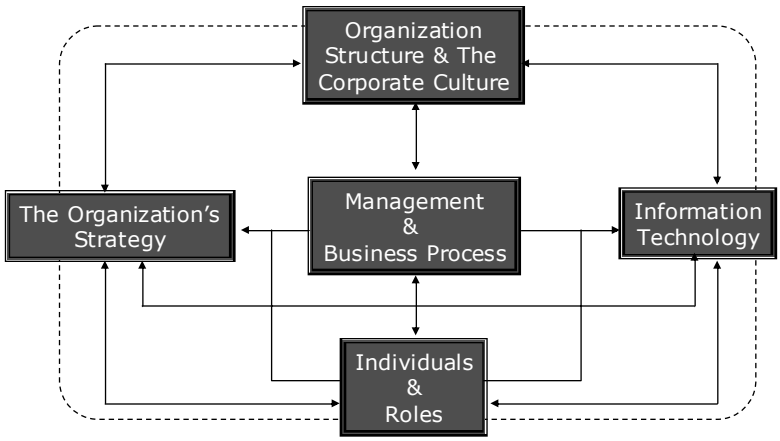
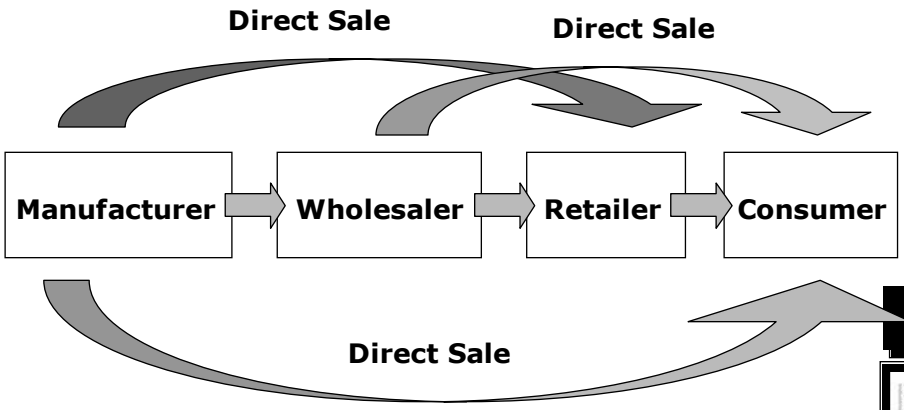
The Major Business Pressure



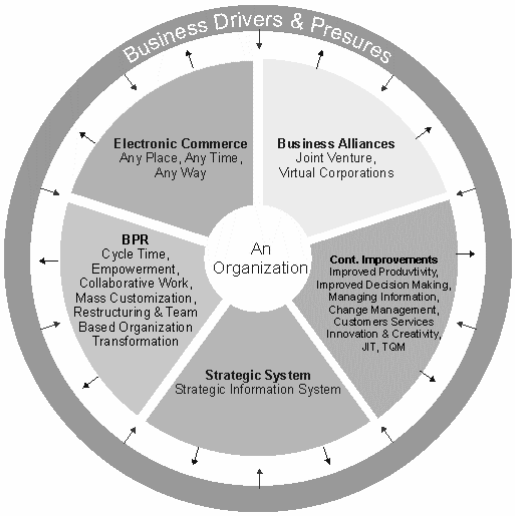
Framework for Organizational & Societal Impacts of IT



The Organization Strategies



Organizational Responses



What is Information System?

- Information system is a physical process that supports an organization by collecting, processing, storing, and analyzing data, and providing information to achieve organizational goals.
- Conceptually, IS can exist without computers, but the power of computer which make IS feasible.

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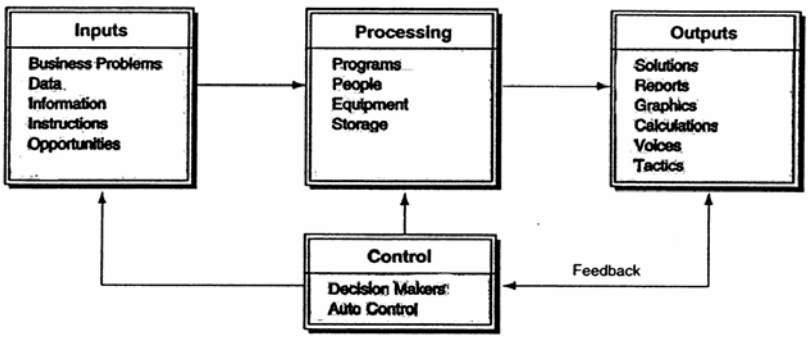
Schematic View of an IS



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What is Computer-Based Information System?

- CBIS is an IS that used computer technology to perform some or all of its intended task.
- The basic component of CBIS
  - Hardware
  - Software
  - A database
  - A network
  - Procedures
  - People
    - Note that not every system includes all these component

The Difference Between Computers & Information System

- Computers provide effective and efficient ways of processing data, and they are a necessary part of an IS.
- An IS involves much more than just computers. The successful application of an IS requires an understanding of the business and its environment that supported by the IS.

What is Information Technology?

- A narrow definition: the technology component of an information system. It includes the hardware, database, software, network, and other devices. (viewed as a subsistem of IS)
- A wider definition: the collection of several ISs, Users, and management for an entire organization.

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Information Technology Development & Trends

- Cost performance Ratio
  - In about 10 years , a computer will cost the same as its cost today but will 50 time more powerful, and labor cost could double.
  - Moore's Law: The processing power of silicon chips would double every 18 Months.
  - McGarvey, states that the performance of optical communication network is growing by factor of ten every three years
- Object-Oriented Environment & Document Management (see Table 1.3)

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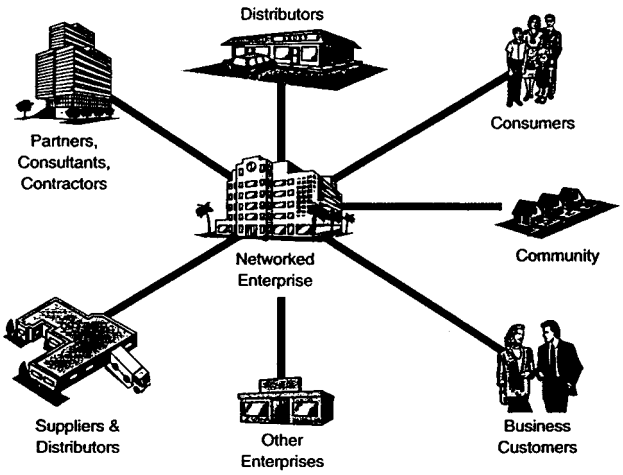
Networked Computing

- Metcalfe's Law: The value of the network grows roughly in line with the square of the number of its users. (n^2)
- Kelly extension: The value of the Internet is much larger, On the internet we can make multiple simultaneous connections between group or people. (n^n)

Development in NC

- Mobile Commerce (M-Commerce) ⇒ Location-Based Commerce (L-Commerce)
- The Network Computer
- Integrated Home Computing
- The Internet ⇒ Information Superhighway
- Intranets & Extranets are accessed via information portals
- Corporate Portal
- The Networked Enterprise

The Networked Enterprise



Why Should You Learn About IT?

- Being IT Literate On the Job and off
- Finding Employment Opportunities in IT
- Its necessary for anyone who aspired to lead a firm in future

General Ethical Principle

- The Golden Rule "treat other people in the same way that you would like them o treat you"
- The Categorical Imperative "if an action is not suitable to everyone to take, then is not suitable to anyone"
- The Slippery Slope Rule "if action can be repeated over and over again with no negative consequences, then no problem. But if such a repeated action would lead to disastrous consequences, then the action should not be undertaken even once"
- The Utilitarian Rule " the best action is the one that provides the most good for the most people"
- No Free Lunch "if you want to use it, you should compensate the owner for doing so"

Ethical Dilemmas

- It is acceptable to buy a software product, but then to install twice?
- How about if you install it , then give it to a friend for personal use?
- Alternatively, what if you install it and use a CD writer to create 100 copies – and sell them for profit to any one who wishes to buy?
- What about making the software available on the Web site for other to download?
- What about trading software on the Web (customers to customers)?