Book and lecture notes

- **Information Technology for Management**
  8th Edition
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  Wiley, 2011

For this part, you can study on the lecture notes

NOTICE

The current version has been modified by the instructor.

1.1 Positioning Information Technology (IT) to Optimize Performance

Business performance depends on:

- **AGILITY:** Importance of being an agile enterprise (able to adapt rapidly) has never been greater because of bad economic conditions and advances in mobile technology.
- **MOBILITY:** Connect with customers anywhere/time. The shift from PCs to mobile devices has made location irrelevant to a large extent.
  - Touch-navigate devices running on 5G networks together with innovative IT create business opportunities.

IT creates a competitive edge —

until it's duplicated by a competitor or replaced by newer technology (that usually happens quickly).

- *Past decade:* companies were adapting to social networking. Facebook, LinkedIn, YouTube, Twitter and blogs became extensions of businesses to reach customers, prospects, and business partners.
- *Today:* companies want to grab the attention of potential and current customers on their mobiles. Companies are developing ways to connect with & push content to social networks and mobile devices.

Innovation leads to profitable growth if that innovation does one or more of the following:

- Generates new profit pools
- Increases demand for products and services
- Attracts new customers
- Opens new markets
- Sustains the business for years to come

It is important to recognize that some types of IT are commodities that do not provide a special advantage. Commodities are basic things that companies need to function, like electricity and buildings. Computers, databases, and network services are examples of commodities.

How a business applies IT to support business processes transforms those IT commodities into competitive assets.

Business model

Business model is a method of doing business. Usually it is composed by 6 elements:

- Description of products and services the business will offer
- Description of the business process to make and delivery product and services
- A description of the potential customers
- Required resources
- Organization of the supply chain
- Revenue and costs expected

Information Systems

What is an Information System (IS)?

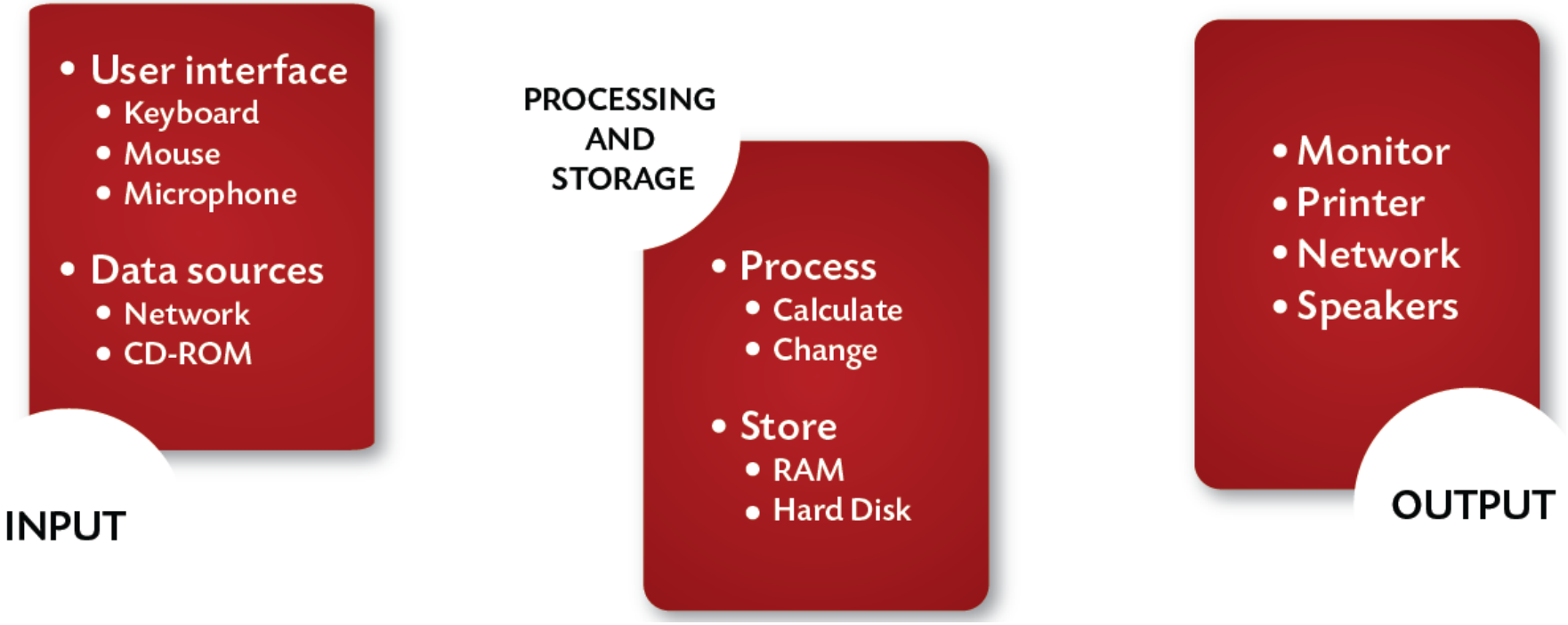
- is any combination of information technology (IT) and people's activities that support operations, management and decision making.
  (from http://en.wikipedia.org/wiki/Information_system)

- IT is the application of computers and telecommunications equipment to store, retrieve, transmit and manipulate data, often in the context of a business or other enterprise.
  (from http://en.wikipedia.org/wiki/Information_technology)

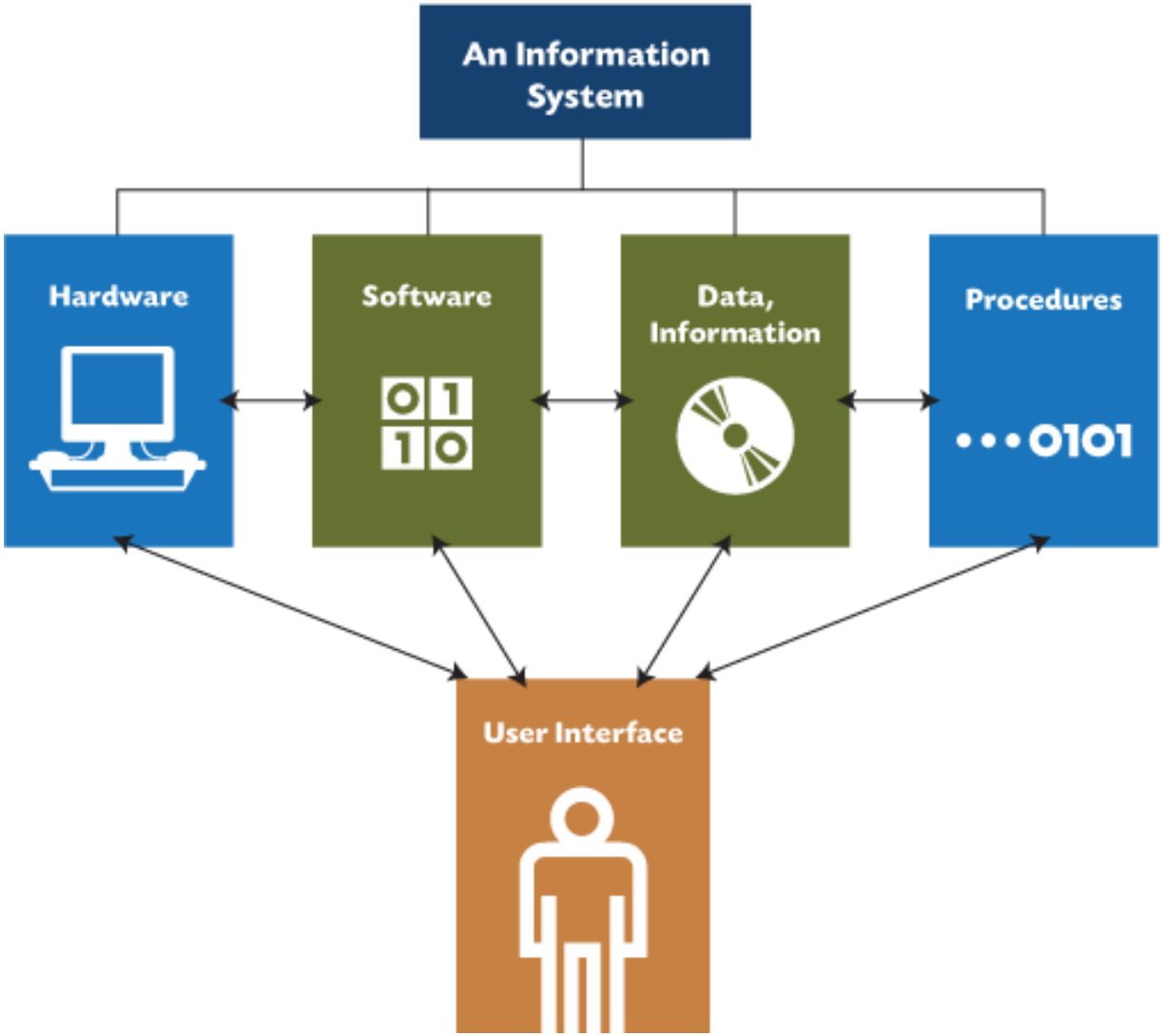
- An IS COLLECTS, PROCESSES, STORES, ANALYZES, AND DISTRIBUTES information for a specific purpose! (From our textbook)

- IT is the technological side of an information system, that is the collection of computing systems used by an organization. (From our textbook)

Information Systems and IT: Core Concepts



Four Basic Functions of an Information System:
Input, Processing, Storage, & Output



Components of Information Systems

Major Capabilities of ISs and Supported Objectives

- Perform high-speed, high-volume, numerical computations
- Provide fast, accurate communication and collaboration unrestricted by time and location
- Store huge amounts of information that is accessible via private networks and the Internet
- Enable automation of routine decision making and facilitate complex decision making

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IS capabilities support these objectives:

- Improve productivity
- Reduce costs and waste
- Improve the ability to make informed decisions
- Facilitate collaboration
- Enhance customer relationships
- Develop new analytic capabilities
- Provide feedback on performance

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Business Performance Management (BPM) and Measurement

- Organizations and managers set goals and objectives;
- for example, to increase the number of new accounts by 4.0% within the next quarter or to decrease labor costs by 7.0% within six months.
- Performance is measured by how well those goals and objectives are met. Despite how simple this sounds, measuring business (or organizational) performance is extremely challenging.

Business Performance Management (BPM) and Measurement

To manage performance, 2 basic requirements are:

- **Being able to measure**. *You cannot manage what you cannot measure. Stated in reverse, if you cannot measure a process, you cannot manage or control it*. The more accurate & timely the data, the better the ability to measure.
- **Knowing that your indicator is measuring the right thing.** Not all performance metrics are clearly linked to the desired outcome.
  - Consider how much easier it is to measure **sales revenues** than to measure **customer loyalty (for instance you can immediately know how much customers have purchased on a particular day, but not how many customers you've lost that day).**

Measuring business performance requires:

1. identifying the most meaningful measures of performance;
2. being able to measure them *correctly;*
3. selecting the set of measures that provides a global indicator of total business performance;
4. identifying who should receive the reports and in what timeframe.

Business Performance Measurement (BPM) Process

Major steps in BPM are:

Step 1. Decide on desired performance levels. (*What does the company want to achieve?)*

Step 2. Determine how to achieve the performance levels (*How to get there?*).

Step 3. Periodically assess where the organization stands with respect to its goals, objectives, and measures (*How are we doing*?).

Step 4. Adjust performance and/or goals. (*How do we close the gap?)*

- *If performance is too low, corrective actions need to be taken to close the gap.*

Ethical Issues

- IT creates challenging ethical issues ranging from employee e-mail monitoring to invasion of customers' privacy.
- Ethical issues create pressures or constraints on business operations.
- ***Ethics*** relates to standards of right and wrong.
- ***Information ethics*** relates to standards of right and wrong in information management practices.
- Ethical issues are challenging! In part because what is considered ethical by one person may seem unethical to another. Likewise, what is considered ethical in one country may be considered unethical in others.

Green IT

- Concern about environmental damage and reducing a company's carbon and energy footprints on the planet has triggered efforts for **green IT.**
- It is very important measuring and managing the impact a business' activities have on the environment—in particular, climate change.
- It relates to the amount of greenhouse gases produced through burning fossil fuels for electricity and power production. For example, energy use in data centers (a data center is a facility used to house computer hardware and telecommunication systems) is a major concern to managers.
- IT purchase decisions regarding data center power, cooling, and space consumption affect a company's green status.
- Data center servers are known to be both power-hungry and heat-generating.
- PC monitors consume about 80 to 100 billion kilowatt-hours of electricity every year in the United States. Both Intel and AMD are producing new chips that reduce energy usage.
- Discarded PCs and other computer equipment are waste disposal problems.
- Green software refers to software products that help companies save energy.

Cloud computing

- As businesses are encountering frequent harsh economic conditions, concepts such as outsourcing, agile and lean management, change management and cost reduction are constantly gaining more attention.
- This is because these concepts are all aimed at saving on budgets and facing unexpected changes.

- **Cloud computing** promise to turn IT, that has always been viewed as a cost centre, into a source of saving money and driving flexibility and agility to the business.

- Cloud computing adds agility benefits to information systems.