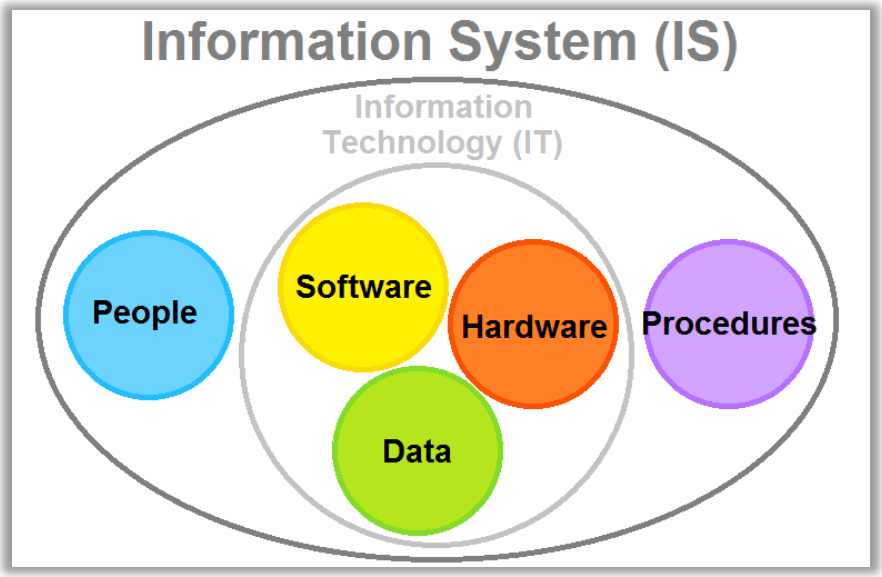
What is an Information System?

- **Purpose: To provide accurate, timely and useful information**
  - Each element must be present and all of the elements must work together
- **An Information System consists of FIVE PARTS, including:**
  - People,
  - Procedures,
  - Software,
  - Hardware, and
  - Data
- **Information system (IS) is more than just IT. IS = IT plus procedures, and people that produce & utilize information.**
  - IT = hardware + software + data
    - Products
    - Methods
    - Inventions
    - Standards



- **An IS cannot be bought – because people and procedures cannot be bought. However, you can buy IT because – hardware can be leased or bought, programs and databases can be licensed…**
- **Any new *system* requires training tasks, overcoming employees' resistance to change, and managing employees as they utilize new system.**
- **Information Systems aid the Decision-Making Process:**
  - **Improve productivity**
  - **Monitor organizational performance**
  - **Planning and decision-making**
  - **Enhance Competitive Advantage**

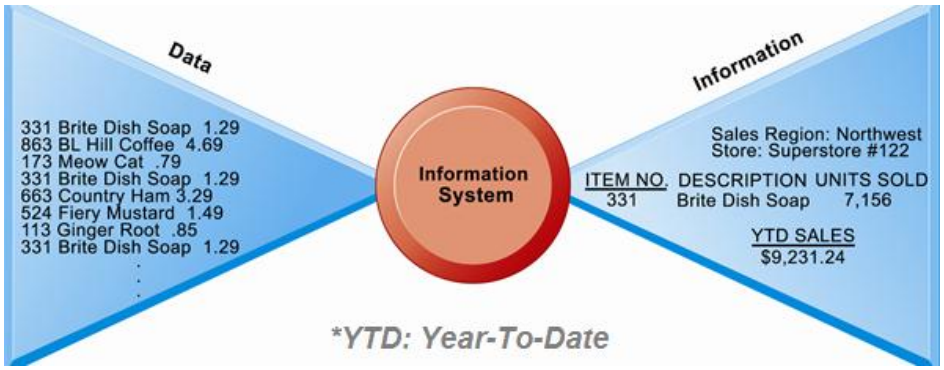
Information System Elements

Hardware	Monitor Keyboard Printers Thumb drive Hard disk Scanner	
Software	Operating systems Application software Word processing Spreadsheet Database Presentation graphics Custom software	
Data	Raw facts / usually with no inherent meaning Not useful in decision-making process	
People	ICL : Knowledge, Skills & Abilities Training & Certification Requirements	
Procedures	User manuals Data entry procedures Step-by-Step guides Guidelines Workflows	

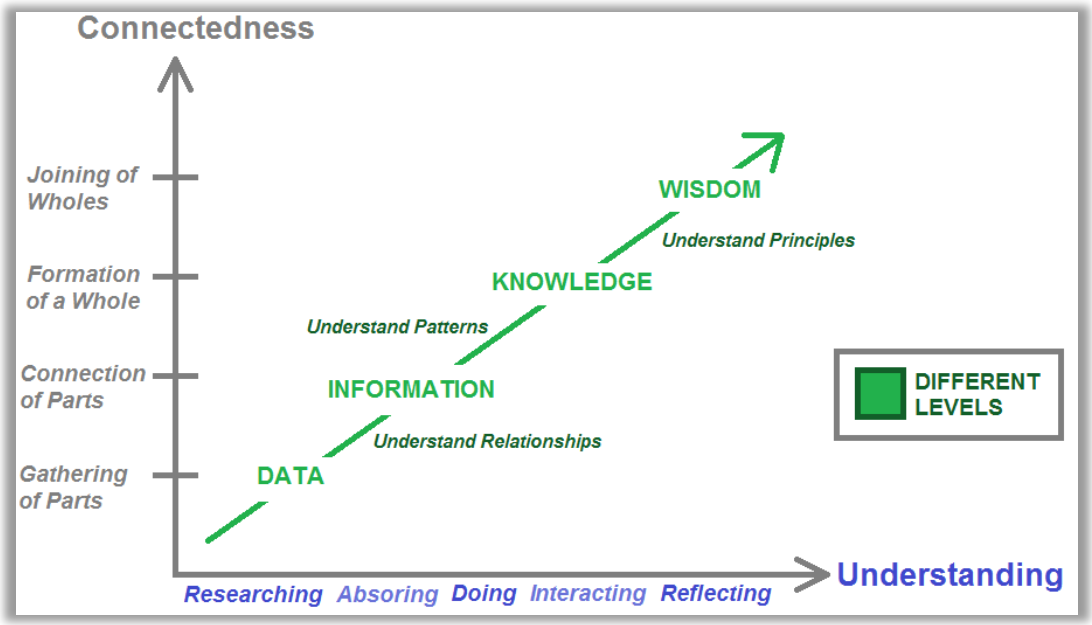
- **Information system:**
  - **Set of interrelated components**
  - **Collect, process, store, and distribute information**
  - **Support decision-making, coordination, and control**
- **Data versus Information:**
  - **Data are streams of raw facts**

    Symbols = Data
  - **Information:** Processed data that conveys meaning and is useful to people / in the decision-making process. When you process data/ connect the dots, it becomes information.

    Information is data shaped into meaningful form
    - Examples :
      - Employee payroll report
      - Student grade sheet
      - Telephone bill statement
      - Raw data from a supermarket checkout counter can be processed and organized to produce meaningful information, such as the total unit sales of dish detergent or the total sales revenue from dish detergent for a specific store or sales territory.



The Relation Between Data, Information, and Other Levels



DATA	Symbols	
INFORMATION	Provides answers to *Who? What? Where? When?*	Combining Data allows you to get information.
KNOWLEDGE	Provides answers to *How?*	Combining information allows you to get knowledge.
WISDOM	Evaluated understanding	Combining knowledge allows you to get wisdom.
Understanding	Appreciation of *Why?*	

- Knowledge provides information you can act upon
- Understanding can help you get to another level (Data→ Information→ Knowledge…)
- Wisdom can be reached through interaction and reflection (Wiki tools, for example, allow you to interact)

- **Whether or not IT has wisdom is debatable. Most people would say that IT is on a level somewhere between *Knowledge* and *Wisdom.***

- **Three core activities of information systems:**
  - **Input:** Captures raw data from organization or external environment
  - **Processing:** Converts raw data into meaningful form
  - **Output:** Transfers processed information to people or activities that use it
- **Advanced information systems also incorporate one additional functionality:**
  - **Feedback:**
    - **Output returned to appropriate members of organization to help evaluate or correct input stage**
- **It is important to remember that these functionalities are not limited to technologies:**
  - **Can you think of these activities in a management context?**
- **Computer/Computer program vs. information system:**
  - **Computers and software are technical foundation and tools, similar to the material and tools used to build a house**
- **System: something that has a structure, can be decomposed, has smaller pieces that are connected to one another.**

Information Systems > Technology

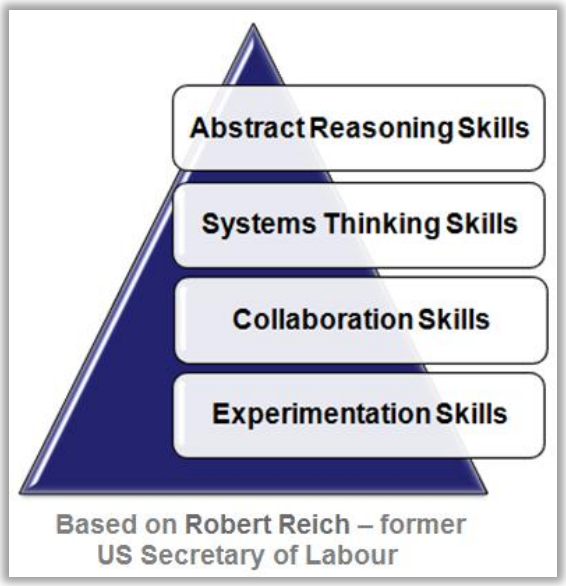
- **Technology ⊂ Information Systems**
  - **Using information systems effectively requires an understanding of the organization, management, and information technology shaping the systems. An information system creates value for the firm as an organizational and management solution to challenges posed by the environment.**

Why Study Information Systems?

- **Benefits of an IS education for a management student:**
  - **In today's workplace, it is imperative that IS work effectively and reliably.**
  - **IS managers DO NOT only work with the IT dept.:**
    - IS will be part of your job in other business functions such as Marketing, Operations, HR, Finance, Accounting etc.
  - **As an IS manager for your business function, you will play a vital role in the implementation and administration of technology within your divisions and for the benefit of your organization.**
    - You will plan, coordinate, and direct research on the computer-related activities of firms.

- You will consult with other managers, help determine the goals of an organization and then implement technology to meet those goals.
- You will coordinate with pertinent people about the technical aspects such as software development, network security, and Internet operations.

Four Skills required for most future job roles



*** A good IS education is comprehensive across these skills ***