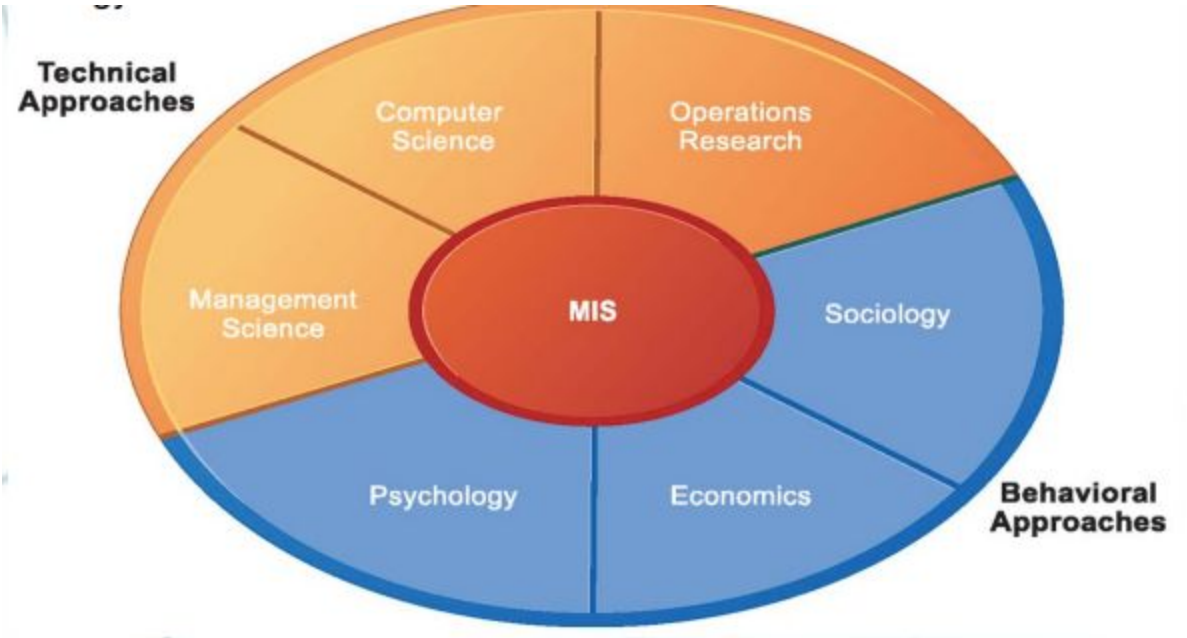
ADM1370 Lecture 2 Notes

- digital firms use information systems to enable the seamless flow of information between different parts of the organization as well as between the organization and its suppliers and customers
- 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
- conducting business electronically enables new levels of efficiency, competitiveness, and profitability (i.e. strategy): 'Digital Economy'
- 'Digital Persona' of Business
    - how businesses, customers, suppliers etc. interact in the digital era
        - everyone needs to know about the types of technology that is being used in departments
    - often changes the landscape of how business processes are done
    - impacts many things including marketing, branding, communicating and relationship building

<u>Socio-Technical View of IS</u>

- Includes issues and insights contributed from technical and behavioral disciplines
- Technical Approach
    - Emphasizes mathematically based models)
    - Computer science, management science, operations research
- Behavioral Approach
    - Behavioral issues (strategic business integration, implementation, etc.)
    - Psychology, Economics, Sociology



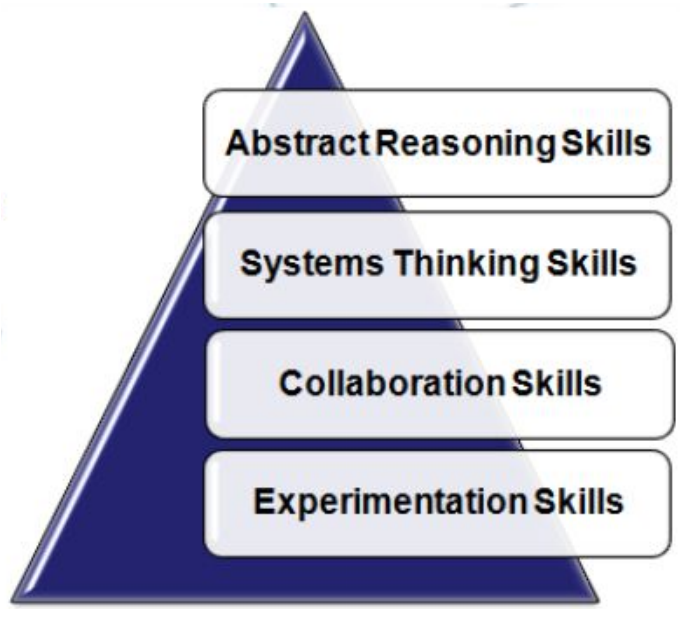
A "Systems" Perspective of IS

- **systems thinking** skills is when you get a problem, break it down in little bits, and then solve those problems little by little which means you've solved the entire problem
- 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
        - changing things in your program
- it is important to remember that these functionalities are not limited to technologies:
    - can you think of these activities in a management context?

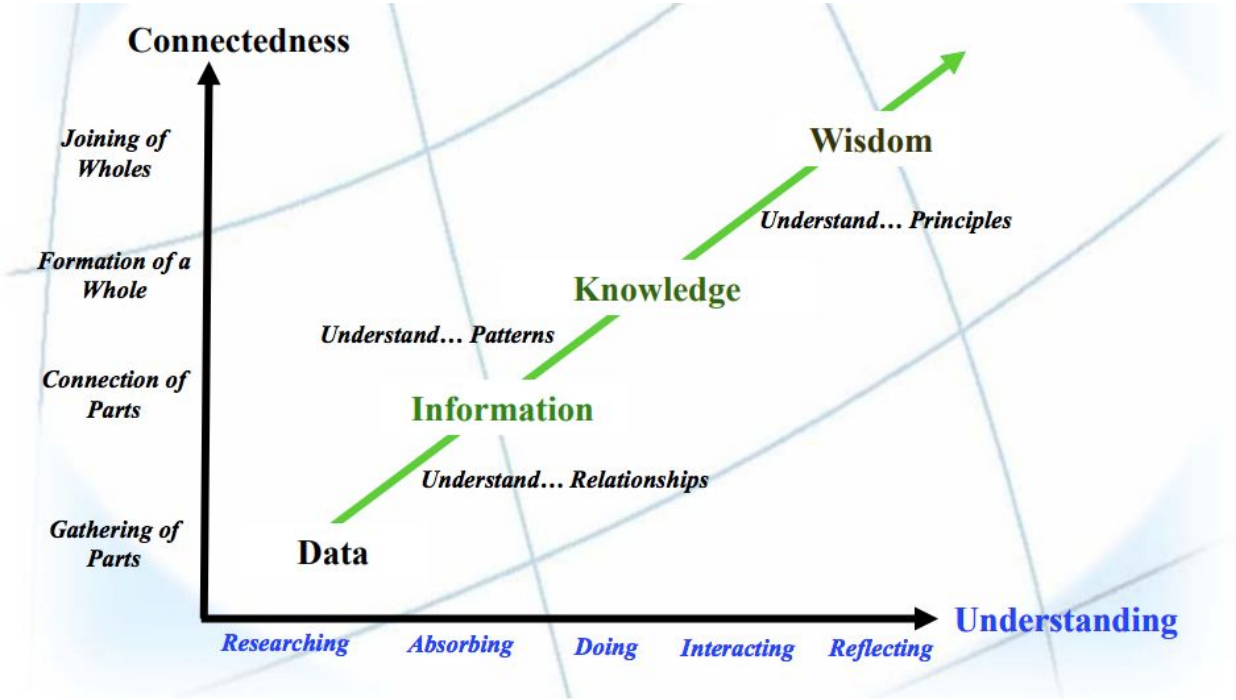
End-User Computing in Organizations

- use of technology applications across the organization
- Data Entry, Reporting, Searching, Organizing etc.
- End-User Development:
    - Programming is so easy now that people do not need the IT department to help them use simple tools such as Excel to program
    - Specific / Advanced form of End-User Computing
    - Development of functional applications by end-users (non IT-specialists) by using light-weight programming tools or multi-purpose end-user applications

Learning Goals in Business Education (based on Robert Reich, former U.S. secretary)



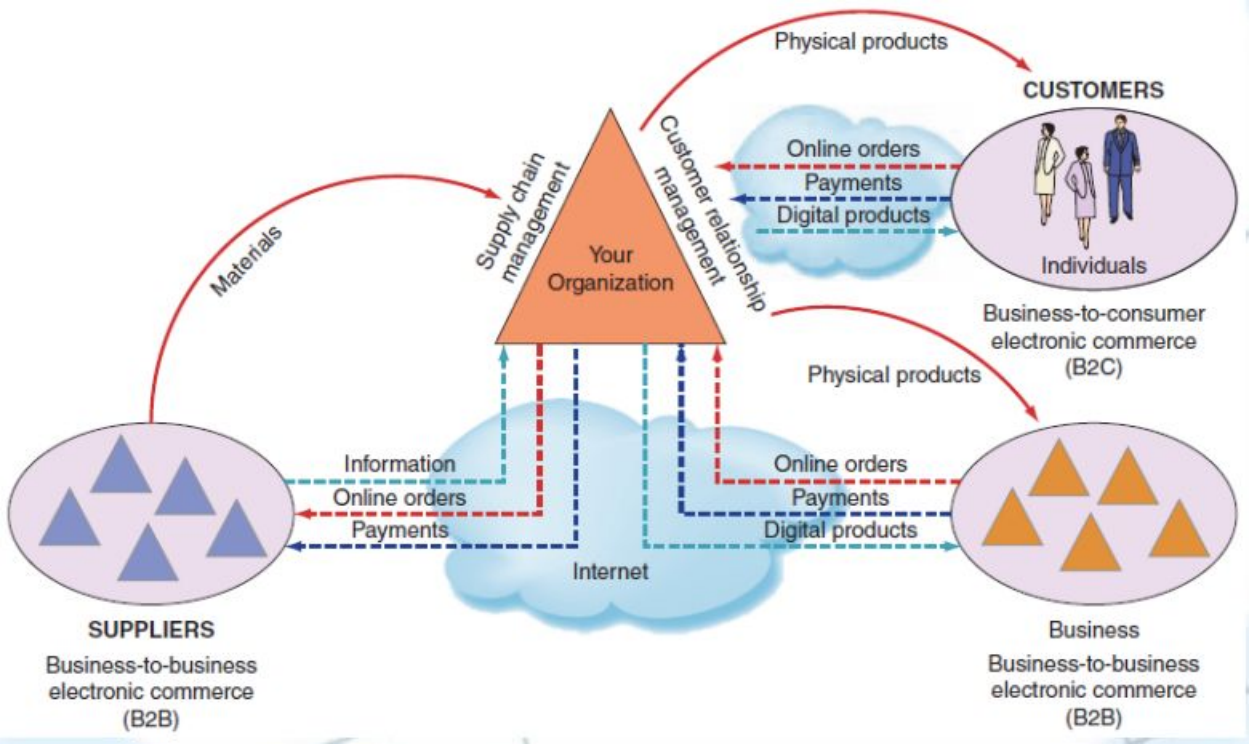
IS Elements: Data & Information



- actions (what we do with data), representations (how it is presented, stored communicated), and tools (ICTS that can be used to facilitate actions and rep) A short answer question that we could see would be based on this

Types of Information Systems

Intra-Organizational and Inter-Organizational Information Systems



TYPE OF SYSTEM	FUNCTION	EXAMPLE
Functional area IS	Supports the activities within specific functional area	System for processing payroll
Transaction processing system	Processes transaction data from business events	Walmart checkout point-of-sale terminal
Enterprise resource planning	Integrates all functional areas of the organization	Oracle, SAP system
Office automation system	Supports daily work activities of individuals and groups	Microsoft® Office
Management information system	Produces reports summarized from transaction data, usually in one functional area	Report on total sales for each customer
Decision support system	Provides access to data and analysis tools	"What-if" analysis of changes in budget
Expert system	Mimics human expert in a particular area and makes decisions	Credit card approval analysis
Executive dashboard	Presents structured, summarized information about aspects of business important to executives	Status of sales by product
Supply chain management system	Manages flows of products, services, and information among organizations	Walmart Retail Link system connecting suppliers to Walmart
Electronic commerce system	Enables transactions among organizations and between organizations and customers	Payment processes at *www.dell.com*

- social media platforms and applications have changed how we communicate, socialize, access and use information, and shop
- but these tools are means to doing things and not the ends
- as business managers we need to know how to leverage their potential to achieve strategic advantage

<u>What is Social Media?</u>

- a group of internet-based applications that build on the **a and technological foundations of Web 2.0** and that allow the creation and exchange of User Generated Content (Kaplan & Haenlein, 2010)
- Web 2.0 & User Generated Content as a foundation
- Web 2.0
    - term first used in 2004
    - software as a **continually updated service** that gets better the more people use it, **consuming and remixing data** from multiple sources,

including individual users, while providing their own data and service in a form that allows remixing by others, creating **network effects through an architecture of participation** (O'Reilly, 2005)

- User Generated Content
    - term popularized in 2005
    - various forms of media content that are publically available and created by end-users
    - 3 basic requirements for UGC: (OECD, 2007)
        - needs to be published either on a publically accessible website or on a social networking site accessible to a selected group of people
        - needs to show a certain amount of creative effort
        - needs to have been created outside of professional routines and practices

<u>What is Web 2.0?</u>

- the ability to tap into the collective intelligence of users
- data is made available in new or never-intended ways
- relies on user-generated and user-controlled content and data
- lightweight programming techniques and tools let nearly anyone act as a website developer
- the virtual elimination of software-upgrade cycles makes everything a perpetual beta or work-in-progress, applications can be designed quickly to meet changing needs