

## IFSM300: Information Systems in Organizations

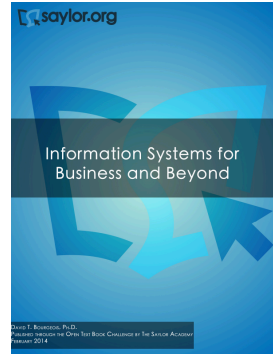
### ❖ Week 1

- ◆ Introductions
- ◆ Hybrid Class
- ◆ Content on LEO
- ◆ Saylor.org eBook
- ◆ Week 1 Quiz

### ❖ Week 1 Chapters

- ◆ 1 = What is an Information System?
- ◆ 7 = Does IT Matter?

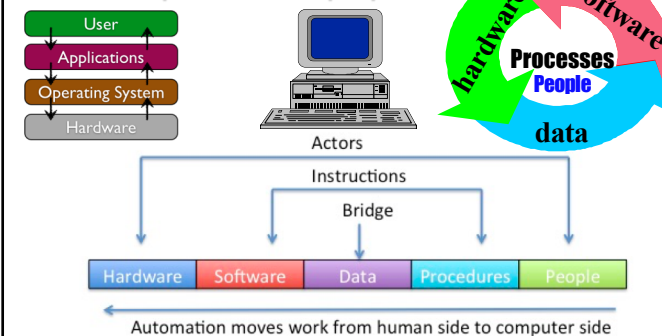
### ❖ Watch videos



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## Chapter 1: What is an Information System?

Information Systems Technology consist of computer hardware, software, and data, that control processes for people



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## Brief History of Computers

### ❖ Mechanical Calculators increase speed and accuracy of numerical computations

- ◆ Abacus over 5,000 years ago (+/-)
- ◆ Adding machines and cash register (+/-) 1800's
- ◆ Slide rules (x/+) 1800's
- ◆ Bomb sites and ballistic sites (x/+/-) 1900's

### ❖ Electric Computers developed since 1945

- ◆ ENIAC (Electronic Numerical Integrator and Calculator)
  - ◆ Weight 33 tons, power 175 kw, 17,000 vacuum tubes,
  - ◆ 5k (+/-) per second, but sometimes hardware bugs
- ◆ IBM sold 100's of vacuum tube computers in 1950's
  - ◆ Computers used for for business accounting and research
  - ◆ Machine Language and Assembly Language programs

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## Electronic Semi-Conductor Computers

### ❖ AT&T developed Transistors 1950's

- ◆ AT&T developed computers for telephony switches
- ◆ IBM and DEC computers (transistors) 1960's
- ◆ Mainframe Era

### ❖ Microprocessors and Integrated Circuits

- ◆ Personal Computing developed 1970s
- ◆ Floppy disks and Hard drives
- ◆ Commodore, Atari, Apple, IBM
- ◆ Movie: Pirates of Silicon Valley
- ◆ What computer devices do we use today?



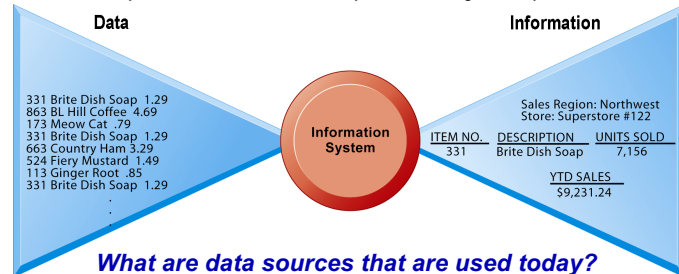
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## Perspectives on Information Systems

### ❖ Information system:

- ◆ Set of interrelated components (*hardware and software*)
- ◆ Collect, process, store, and distribute information
- ◆ Support decision making, coordination, and control

Raw data from a supermarket checkout counter can be processed and organized to produce information.



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## Activities of an Information System

### ❖ Four activities produce information organizations need

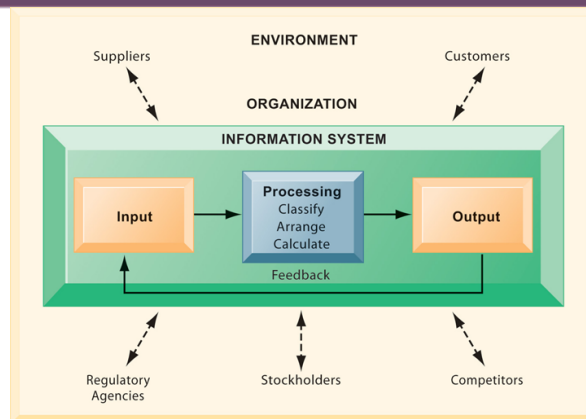
- ◆ **Input:** Captures data from organization & environment
- ◆ **Processing:** Converts raw data into meaningful information
- ◆ **Output:** Transfers information to people or activities for use
- ◆ **Feedback:** Output returned to evaluate or correct input stage

### ❖ An information system contains information about an organization and its surrounding environment.

- ◆ Environmental actors
- ◆ Customers
- ◆ Suppliers
- ◆ Competitors
- ◆ Stockholders
- ◆ Regulatory agencies

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## Interactions with Organization



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## Role of Information Systems in Business

### ❖ Information systems is transforming business

- ◆ **Mobile Digital Platforms** using wireless technology
- ◆ Internet, World Wide Web, and **E-commerce**
- ◆ **Cloud Computing** business software uses Internet
- ◆ Shifts in media and advertising to **WWW**, **google.com**
- ◆ Web 2.0 enables networked computing, **zoho.com**
- ◆ It provides opportunities for **Competitive Advantage**

### ❖ Globalization opportunities

- ◆ Internet enables operating business on global scale

### ❖ In the emerging, fully digital business firm

- ◆ Relationships are digitally enabled and mediated
- ◆ Data connectivity achieved using **digital networks**
- ◆ Time shifting (24/7) and Space shifting (global)

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## Information Systems Business Examples

- ❖ How Kmart Went From Beating Walmart And Target To Bankruptcy
- ❖ How Target Is Challenging Amazon
- ❖ Walmart's RetailLink system links suppliers to stores for superior replenishment system
- ❖ Amazon's Warehouse IT robotic assistant system links suppliers to stores
- ❖ Why Is Costco Opening Its Own Chicken Farm?

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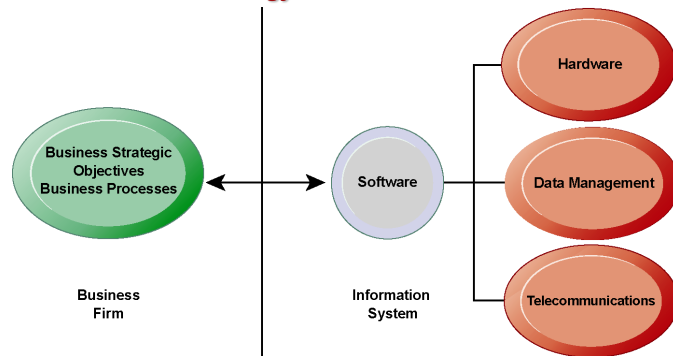
## Chapter 7: Does IT Matter?

- ❖ Organizations have spent trillions of dollars on IT. Has this investment made a difference?
- ❖ The Productivity Paradox Erik Brynjolfsson  
Mismeasurement of outputs and inputs
  1. Lags due to learning and adjustment
  2. Redistribution and dissipation of profits
  3. Mismanagement of information and technology
  4. MIT Original Paper from 1991
- ❖ Does IT Matter? By Nicholas Carr 2003  
Manage as commodity: Low cost and low risk
  - ◆ Firm should never be first to try a new technology
  - ◆ Letting others take the risks
  - ◆ Goal is best service with minimal downtime

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## IT Should Enable Corporate Strategy & Goals

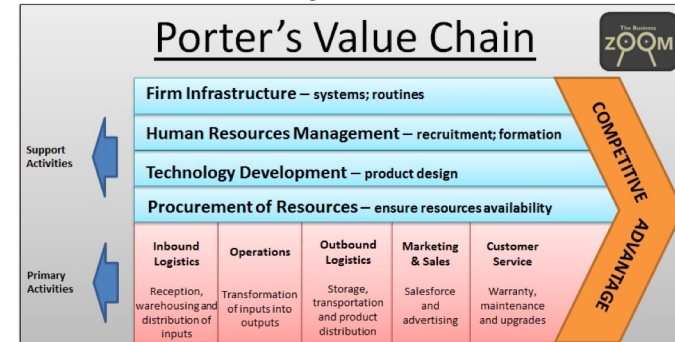
### The Interdependence Between Organizations and Information Technology



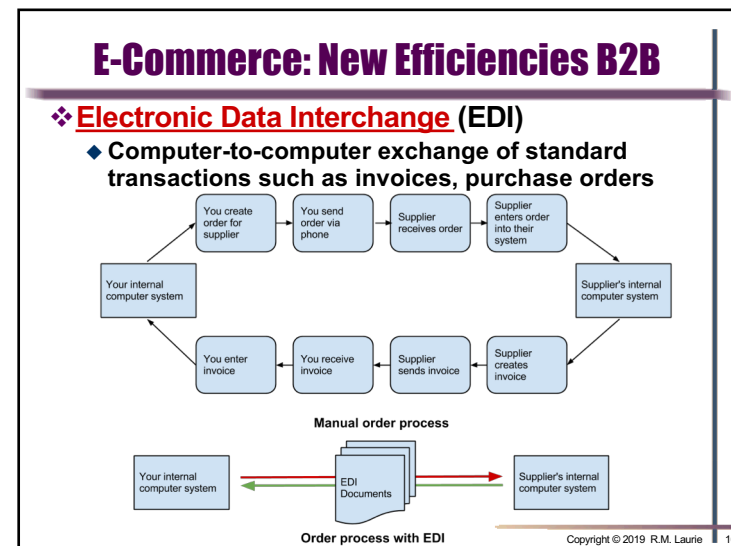
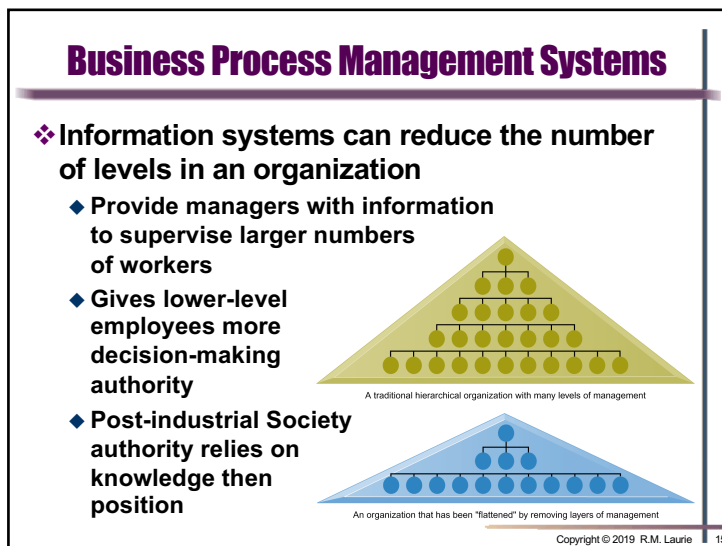
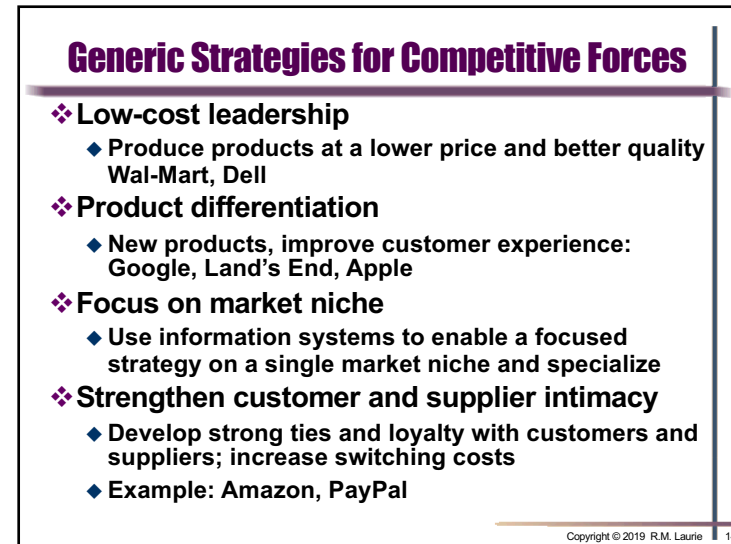
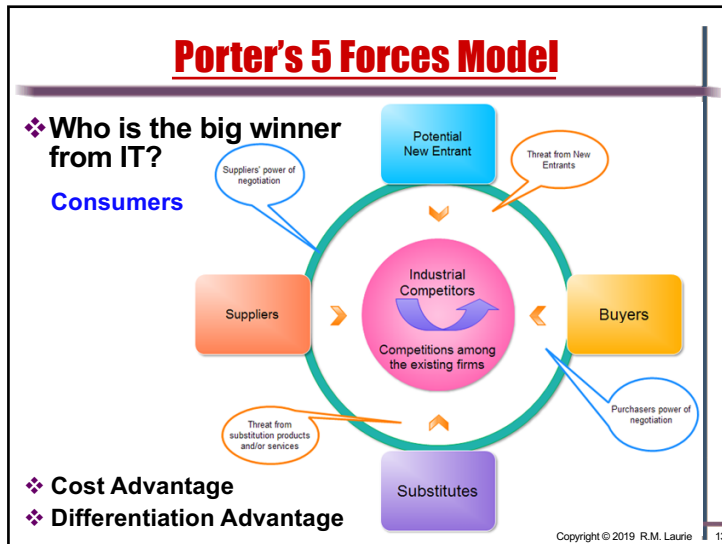
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## Porter's Value Chain Model

- ❖ Michael Porter on Competitive Advantage
  - ◆ Cost Advantage
  - ◆ Differentiation Advantage



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## E-Commerce: New Efficiencies B2B

### ❖ Collaborative Systems

- ◆ Cloud Storage: Document sharing and backup  
Dropbox, Google Drive, iCloud, GitHub,
- ◆ Sharepoint and Lotus Notes
- ◆ Email *asynchronous*
- ◆ Teleconference *synchronous*: Skype, WebEx, Zoom
- ◆ Browser based Web apps: Google docs and Zoho

### ❖ Net marketplaces (e-hubs)

- ◆ Single market for many buyers and sellers
- ◆ Generate revenue from transaction fees
- ◆ Use prices established through negotiation, auction, Request For Quotes, or fixed prices
- ◆ Long-term contract or short-term spot purchasing

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## Decision Support Systems

### ❖ Supports decision making process

- ◆ Can Serve all levels of management
- ◆ Customer Service Management

### ❖ Supports unstructured non-routine decisions

- ◆ Labor or Legal issues
- ◆ May involve unknowns
- ◆ Managers may use intuition

### ❖ Semi-structured decisions

- ◆ Most factors known, but human experience helpful
- ◆ Investment decisions
- ◆ Medical **Watson Health** [www.isabelhealthcare.com](http://www.isabelhealthcare.com)

### ❖ Highly structured decisions can be automated

- ◆ Inventory management
- ◆ Robotic automation

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## The Internet and Organizations

### ❖ The Internet increases the accessibility, storage, and distribution of information and knowledge for organizations

### ❖ The Internet can greatly lower transaction and agency costs

- ◆ Customer service
- ◆ Marketing

### ❖ The Internet's impact on competitive advantage

- ◆ Transformation, destruction to some industries
- ◆ Competitive forces, but rivalry more intense
- ◆ Universal standards allow new rivals
- ◆ New opportunities for building brands and loyalty
- ◆ Empowers customers

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