

# Strategic Use of Information Technology in the Digital Economy

Management Information



- Code: 164292-02
- Course: Management Information
- Period: Autumn 2013
- Professor: Sync Sangwon Lee, Ph. D
- D. of Information & Electronic Commerce

1

## 00. Contents

- 01. Digital Economy
- 02. Business Models
- 03. Information System
- 04. Trends in Technology
- 05. Why Study Information Systems?

2

# 01. Digital Economy

- Digital Economy– New Economy
  - E-Business: The use of electronic technologies to transact business.
  - Collaboration: People and organizations interact, communicate, collaborate and search for information
  - Information exchange: Storing, processing and transmission of information.

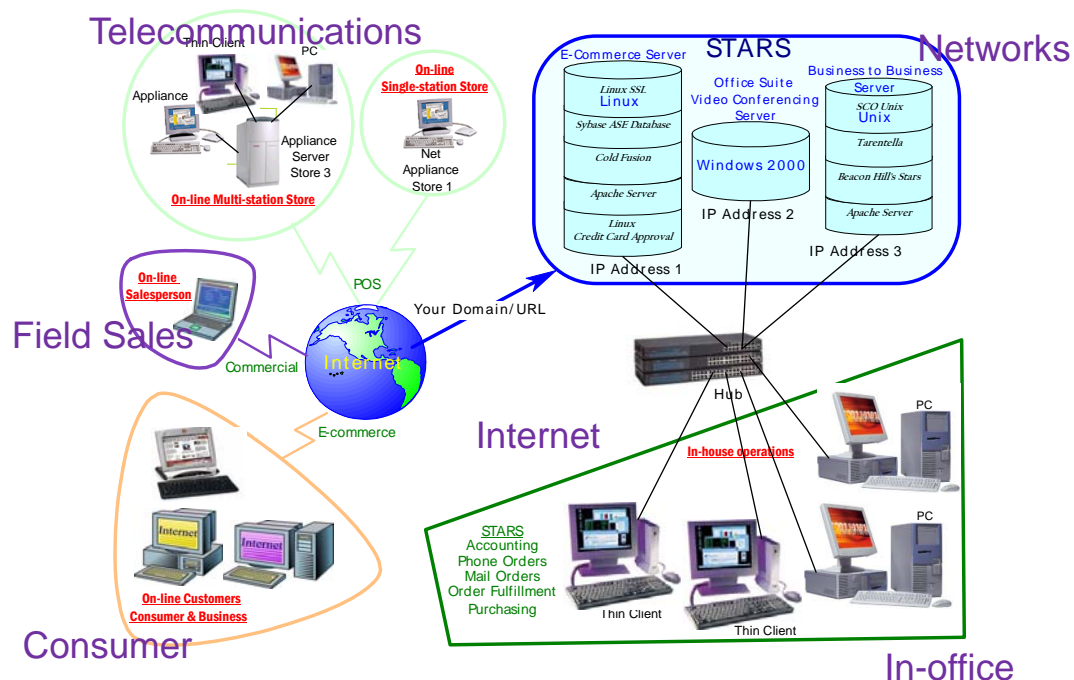


<http://www.hulldigital.co.uk>

3

# 01. Digital Economy

- Digital Business



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

4

## 01. Digital Economy

- The Old Economy– Taking Photos
  1. Buy film in a store
  2. Load your camera
  3. Take pictures
  4. Take roll of film to store for processing
  5. Pickup the film when ready
  6. Select specific photos for enlargement
  7. Mail to family and friends



5

## 01. Digital Economy

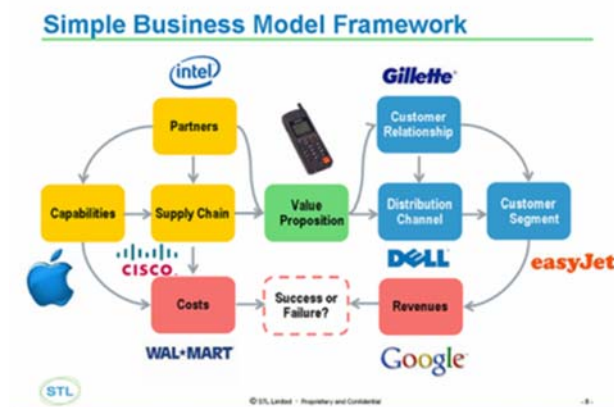
- The New Economy– Taking Photos
  - 1<sup>st</sup> Generation digital photography
    - Old economy except 6 and 7 were replaced by using a scanner and emailing
  - 2<sup>nd</sup> Generation digital photography
    - Use a digital camera, no film, no processing.
  - 3<sup>rd</sup> Generation digital photography
    - Your digital camera is now your mobile phone, in your binoculars or a palmtop computer.



6

## 02. Business Models

- Business Model
  - A business model is a method of doing business by which a company can generate revenue to sustain itself. The model spells out how the company adds value to create a product or service. (Value Chain)
  - Nokia makes and sells cell phones
  - A TV station provides free broadcasting. Its survival depends on a complex model involving advertisers and content providers.
  - Internet portals, such as Yahoo, also use a complex business model.

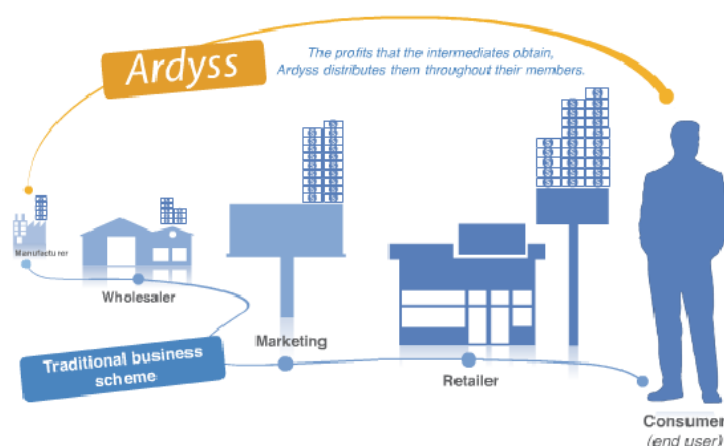


<http://www.telco2.net>

7

## 02. Business Models

- Digital Age Business Models
  - Name-your-own price
  - Reverse auctions
  - Affiliate marketing
  - E-marketplaces and exchanges
  - Electronic aggregation (buying groups)



<http://www.ardyss.com>

8

## 02. Business Models

- Drivers Forcing Changes in Business Models
  - Business pressures
    - Environmental, organizational, and technological factors are creating a highly competitive business environment these factors or forces can change quickly, sometimes in an unpredictable manner.
  - Business critical response activities
    - Therefore, companies need to react frequently and quickly to both the threats and the opportunities resulting from this new business environment. A response can be a reaction to a pressure already in existence, an initiative intended to defend an organization against future pressures, or an activity that exploits an opportunity created by changing conditions.

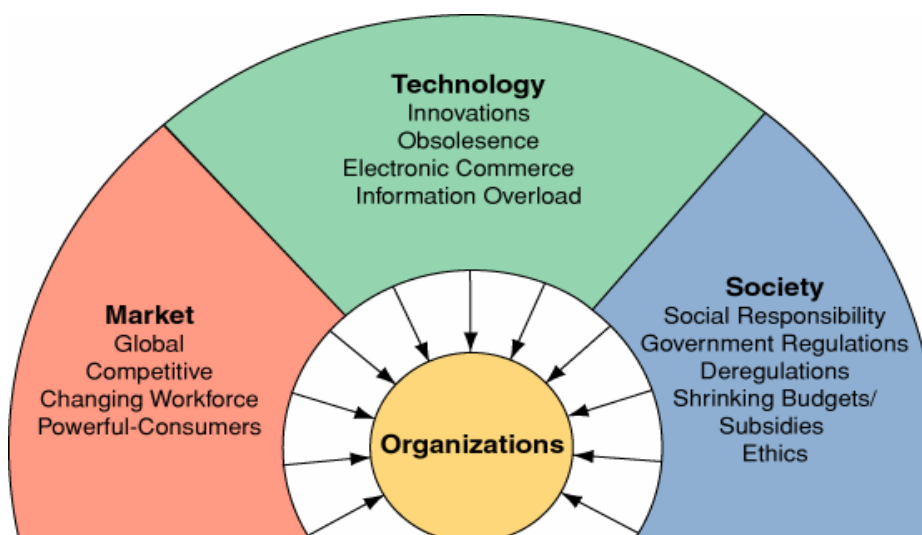


<http://www.21weeks.com/>

9

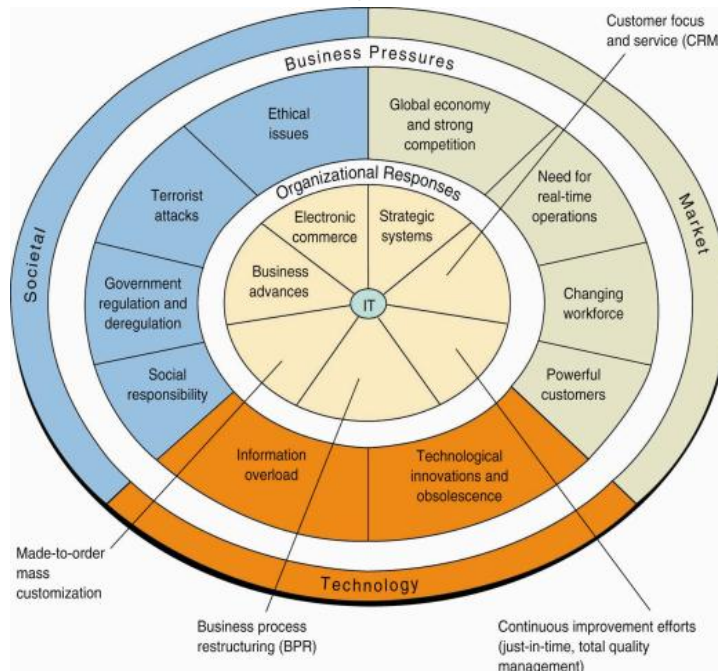
## 02. Business Models

- The Drivers of Change
  - Business pressures on an organization that force change.



## 02. Business Models

- The Drivers of Change
  - Business pressures on an organization

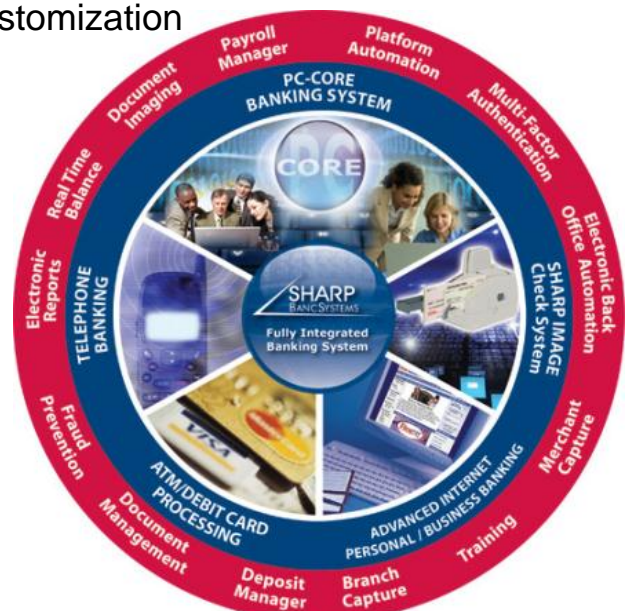


Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

11

## 02. Business Models

- Organizational Response to These Drivers
  - Strategic management & systems
  - Continuous Improvement – operational efficiency
  - Restructuring business processes
  - Manufacturer to order, mass-customization
  - Customer focus strategy
  - Electronic business
  - Business alliances



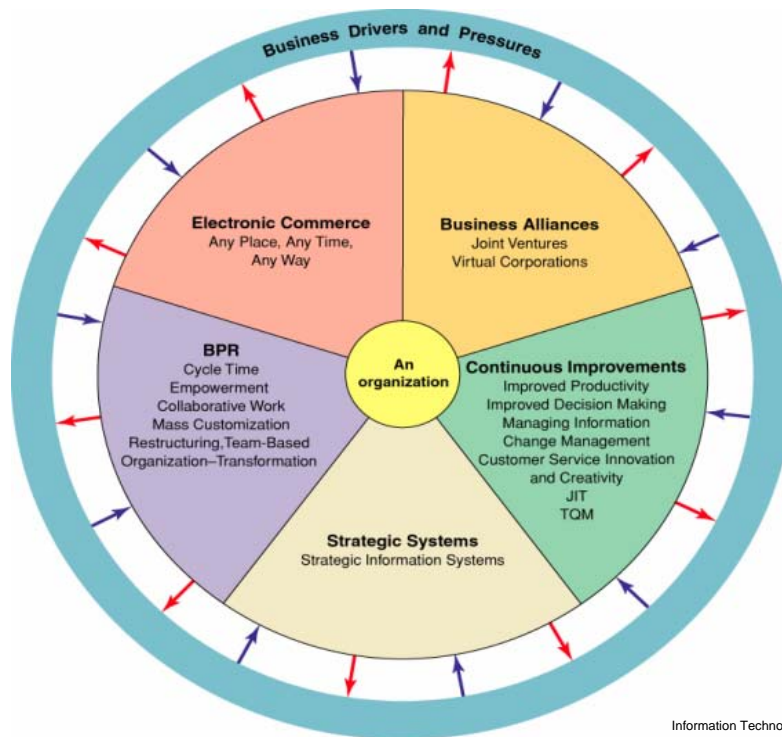
<http://www.workflow-process.com>

12



## 02. Business Models

- Organizational Response to These Drivers



Technology is required to effectively implement these critical responses!

Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

13

## 03. Information System

- Information System
  - An information system (IS) collects, processes, stores, analyzes, and disseminates information for a specific purpose. Like any other system, an information system includes inputs (data, instructions) and outputs (reports, calculations). It processes the inputs by using technology such as PCs and produces outputs that are sent to users or to other systems via electronic networks and a feedback mechanism that controls the operation.

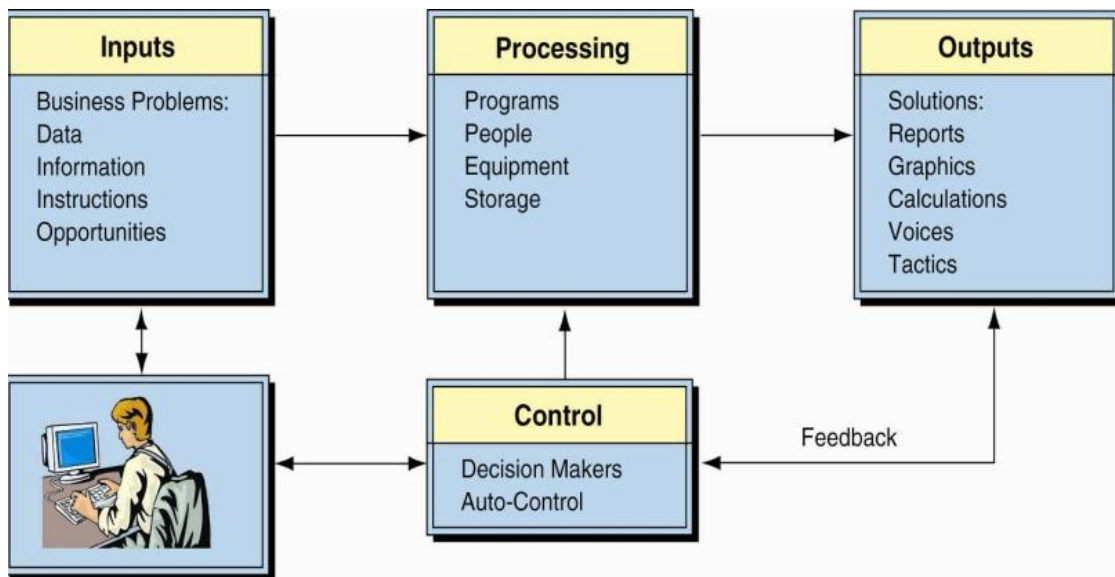


Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

14

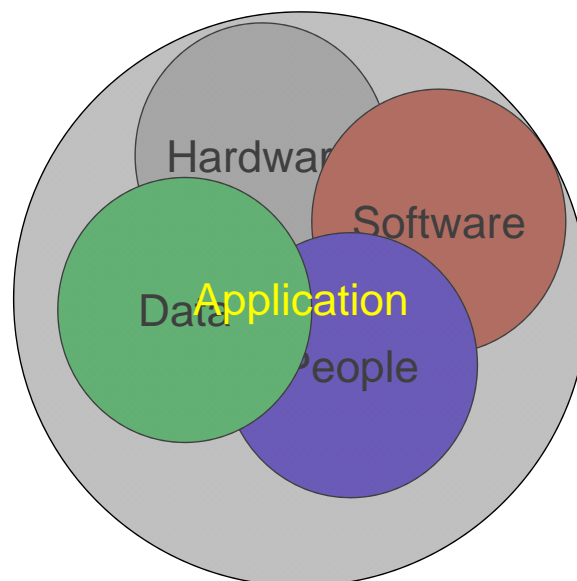
## 03. Information System

- Information System is a System.



## 03. Information System

- Computer Based Information System
  - Hardware
  - Software
  - Data
  - Network
  - Procedures
  - People



More than hardware and software



## 03. Information System

- Applications and Operations
  - Retail operations
  - Wholesale
  - Manufacturing
  - Human resources
  - Marketing
  - Content management
  - ...



<http://www.accountingtracy.com>

17

## 03. Information System

- Functional Perspective
  - Marketing
    - Identify customers
    - Determine what they want
    - Planning products
    - Advertising and promoting products
    - Determine prices for products



<http://www.auburnbusiness.com>

18

## 03. Information System

- Functional Perspective
  - Sales
    - Contact customers
    - Sell the product
    - Take the order
    - Follow-up on the sale
    - 5 year sales forecast



<http://morethanamummy.blogspot.com>

## 03. Information System

- Functional Perspective
  - Manufacturing
    - Control equipment and machinery
    - Design new products
    - When and quantity of products to produce
    - New production facilities
    - Generate the work order



<http://www.artists4kids.com>

## 03. Information System

- Functional Perspective
  - Purchasing
    - Which vendors
    - Quantity to purchase
    - Coop, rebate tracking
    - Handle delivery discrepancies
    - Generate the purchase order



<http://calendar.kennesaw.edu>

## 03. Information System

- Functional Perspective
  - Finance
    - Financial assets
    - Investment management
    - Banking
    - Long term budgets



<http://blogperso.univ-rennes1.fr>

## 03. Information System

- Functional Perspective
  - Accounting
    - Accounts receivable
    - Disbursements
    - Payroll
    - Depreciation
    - Earned coop and rebates



<http://www.magentheme.com>

## 03. Information System

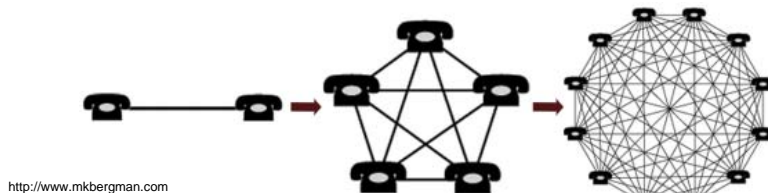
- Functional Perspective
  - Human resources
    - Employee wages, salaries & benefits
    - Long term labor requirements
    - Tracking vacation, sick,
    - Track employee skills
    - Interview and review employees



<http://www.graphicleftovers.com>

## 04. Trends in Technology

- Trends in Technology
  - Cost-performance ratio of chips keeps improving. (Moore's Law) The processing power of silicon chips would double every 18 months.
  - According to McGarvey & tenornetworks.com, states that the performance of optical communication networks is growing by a factor of 10 every three years
  - Several new devices and methods to increase storage capacity price performance
  - Object technology enables the development of self-contained units of software that can be shared
  - Networked and distributed computing is emerging rapidly (Metcalfe's Law).



## 04. Trends in Technology

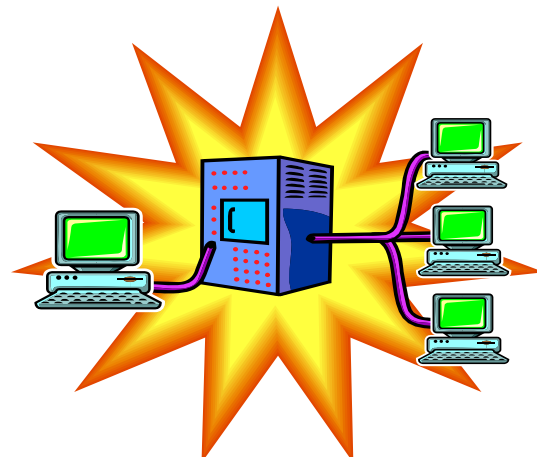
- Trends in Technology
  - Internet
  - Mobile computing and m-commerce
  - Wireless networks
  - Pervasive computing
  - Smart devices



## 04. Trends in Technology

- Trends in Technology
  - Network computer
  - Optical networks
  - Storage area networks
  - Intranets & extranets
  - Internet

*The Networked Enterprise*



Information Technology for Management, Ed. 5, Efraim Turban et al., Wiley

27

## 05. Why Study Information Systems?

- Why Study Information Systems?
  - You will be more effective in your chosen career if you understand how successful information systems are built, used, and managed.
  - You also will be more effective if you know how to recognize and avoid unsuccessful systems and failures.
  - According to the US Bureau of Labor Statistics, “Top seven fastest growing occupations fall within IT or computer related field”
  - Developing “Computer” Literacy will only enhance your “Information” Literacy



<http://pcte-abhaygoel.blogspot.com>

28