TIM 50 - Business Information Systems
Lecture 4
Instructor: John Musacchio
October 4, 2016

Announcements
- Project team and company assignments posted on ecommons
- Project proposal due 10/18
- Assignment 2 posted (due 10/11)
- Database assignment 1 coming soon
- Database tutorials next week (times on next slide)

Reading
- Finish Laudon and Laudon Ch 9 by Thursday

Database Tutorials
October

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<th>Sun</th>
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All tutorials in Ming Ong PC lab in Merrill Room 103

Porter Model and Information Systems:
1. Build barriers to prevent a company from entering an industry
2. Build in costs that would make it difficult for a customer to switch to another supplier
3. Change the basis for competition within the industry
4. Change the balance of power between a company and its customers or suppliers
5. Provide the basis for new products and services

Information System Strategies for Dealing with Competitive Forces
- Low-cost leadership
  - Use information systems to achieve the lowest operational costs and the lowest prices.
- Product differentiation
  - Use information systems to enable new products and services, or greatly change the customer convenience in using your existing products and services.

Essentials of Management Information Systems
Chapter 3 Achieving Competitive Advantage with Information Systems
Using Information Systems to Achieve Competitive Advantage
Information System Strategies for Dealing with Competitive Forces

- Strengthen customer and supplier intimacy.
  - Strong linkages to customers and suppliers increase switching costs and loyalty
  - Toyota: uses IS to facilitate direct access from suppliers to production schedules
    - Permits suppliers to decide how and when to ship suppliers to factories, allowing more lead time in producing goods.
  - Amazon: keeps track of user preferences for purchases, and recommends titles purchased by others

Synergies, Core Competencies, and Network-Based Strategies

- Synergies:
  - When output of some units can be used as inputs to other units
  - When two firms can pool markets and expertise (e.g., recent bank mergers)
  - Lower costs and generate profits
  - Enabled by information systems that tie together disparate units so they act as whole

Network-based strategies:

- Network economics:
  - Marginal costs of adding another participant are near zero, whereas marginal gain is much larger
  - E.g., larger number of participants in Internet, greater value to all participants
- Virtual company:
  - Uses networks to link people, resources, and ally with other companies to create and distribute products without traditional organizational boundaries or physical locations

Core competency:

- Activities for which firm is world-class leader.
  - E.g., world’s best miniature parts designer, best package delivery service.
  - Relies on knowledge that is gained over many years of experience as well as knowledge research.
  - Any information system that encourages the sharing of knowledge across business units enhances competency.
  - E.g., Procter & Gamble uses intranet to help people working on similar problems share ideas and expertise.

Prior to the Internet, competing globally was only an option for huge firms able to afford factories, warehouses, and distribution centers abroad.

The Internet drastically reduces costs of operating globally.

Globalization benefits:

- Scale economies and resource cost reduction
- Higher utilization rates, fixed capital costs, and lower cost per unit of production
- Speeding time to market

Hewlett-Packard and other electronics companies assign distribution and production of their products to a number of different countries.
Global Business and System Strategies

- Domestic exporters
  - Heavy centralization of corporate activities in home country
- Multinationals
  - Concentrates financial management at central home base
  - decentralize production, sales, and marketing to other countries
- Franchisers
  - Product created, designed, financed, and initially produced in home country
  - rely on foreign units for further production, marketing, and human resources
- Transnationals
  - Regional (not national) headquarters and perhaps world headquarters; optimizing resources as needed

Global System Configurations

- Centralized systems:
  - All development and operation at domestic home base
- Duplicated systems:
  - Development at home base but operations managed by autonomous units in foreign locations
- Decentralized systems:
  - Each foreign unit designs own solutions and systems
- Networked systems:
  - Development and operations occur in integrated and coordinated fashion across all units

Global Business Organization Systems Configurations

<table>
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<tr>
<th>SYSTEM CONFIGURATION</th>
<th>Strategy</th>
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<tr>
<td>Domestic Exports</td>
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<tr>
<td>Duplicated</td>
<td>X</td>
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<tr>
<td>Decentralized</td>
<td>X</td>
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<tr>
<td>Networked</td>
<td>X</td>
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The large Xs show the dominant patterns, and the small Xs show the emerging patterns. For instance, domestic exporters rely predominantly on centralized systems, but there is continual pressure and some development of decentralized systems in local marketing regions.

Businesses are collections of business processes—

- Sometimes they are written in manuals, but in many cases business processes are informal.
- To use IS effectively, you need to change business processes.
- Before changing processes, you need to change people’s attitudes and behaviors, and even the organization itself.

Business process management = continuous improvement

- Identify processes for change.
- Analyze existing processes.
- Design new process.
- Implement new process.
- Measure new process.

Business Process

- Customer
  - Order
    - Payment
      - Yes
        - Packaging
        - Yes
          - Ship
          - Yes
            - Completed
            - Yes
              - Send
              - Yes
                - Complete

Figure 3-5

Figure 3-6
Business Process Reengineering

- A radical form of fast change
- Not continuous improvement, but elimination of old processes, replacement with new processes, in a brief time period
- Can produce dramatic gains in productivity, but increases organizational resistance to change