TIM 50 - Business Information Systems
Lecture 4
Instructor: Ram Akella
October 6, 2015

Announcements
- Project team and company assignments to be posted soon
- Project proposal due 10/29
- Assignment 2 to be posted by tonight

Reading
- Finish Laudon and Laudon Ch 9 by Tuesday

Database Tutorials
Database tutorial sessions will be:
Thursday 10/8/15, 4:30 – 6:00pm at Merrill Ming Ong PC lab
Friday 10/9/15, 4:30 – 6:00pm at Merrill Ming Ong PC lab
Monday 10/12/15, 4:00 – 5:30pm at Merrill Ming Ong PC lab

Synergies, Core Competencies, and Network-Based Strategies

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.

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
Disruptive Technologies: Riding the Wave

- Disruptive technologies:
  - Technologies with disruptive impact on industries and businesses, rendering existing products, services and business models obsolete:
    - Personal computers
    - World Wide Web
    - Internet music services
  - First movers versus fast followers
    - First movers of disruptive technologies may fail to see potential, allowing second movers to reap rewards (fast followers)

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

An HP Laptop’s Path to Market

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

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>
<thead>
<tr>
<th>SYSTEM CONFIGURATION</th>
<th>Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Exporter</td>
<td>X</td>
</tr>
<tr>
<td>Multinational</td>
<td></td>
</tr>
<tr>
<td>Franchiser</td>
<td>X</td>
</tr>
<tr>
<td>Transnational</td>
<td></td>
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</tbody>
</table>

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.

The Internet and Globalization

- 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.
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What Is Quality?

- **Producer perspective:**
  - Conformance to specifications and absence of variation from specs
- **Customer perspective:**
  - Physical quality (reliability), quality of service, psychological quality
- **Total quality management (TQM):**
  - Quality control is end in itself
  - All people, functions responsible for quality
- **Six sigma:**
  - Measure of quality: 3.4 defects/million opportunities

How Information Systems Improve Quality

- Reduce cycle time and simplify production process.
- Benchmarking
- Use customer demands to improve products and services.
- Improve design quality and precision.
  - Computer-aided design (CAD) systems
  - Improve production precision and tighten production tolerances.

Businesses are collections of business processes—

- Some times 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.

**Figure 3-6**

**Figure 3-7**
**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

**Synergies, Core Competencies, and Network-Based Strategies**

- Network-based strategies:
  - **Network economics:**
    - Network effect = value of the network grows the more connections it enables
    - IT can help create networks
      - (of users, employees, etc.)
  - **Virtual company:**
    - link people, resources, and ally with other companies to create and distribute products without physical locations

**The Internet and Globalization**

- Prior to the Internet, competing globally was only for huge firms
- Not any more...
- Globalization benefits:
  - Cost reduction
  - Access to more markets
  - Speeding time to market