TIM 50 - Business Information Systems

Lecture 4

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Announcements

- Project team and company assignments posted on ecommons
- Project proposal due 2/7
- Assignment 2 will be posted soon on eCommons
- Database assignment 1 coming soon
- Database tutorials THIS week (times on next slide)

Reading

- Finish Laudon and Laudon Ch 9 by Thursday
Database Tutorials

• Times & Locations

Wednesday 1/25/17, 11:00am – 12:00pm at BE 109 Windows lab
Thursday 1/26/17, 8:30am – 9:30am at BE 109 Windows lab
Friday 1/27/17, 4:30pm – 5:30pm at Social Science 1 Windows lab
(Room 135)
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.
Information System Strategies for Dealing with Competitive Forces

• Focus on market niche.
  • Use information systems to enable specific market focus, and serve narrow target market better than competitors.
    • Analyzes customer buying habits, preferences
    • Advertising pitches to smaller and smaller target markets
  • E.g., Hilton Hotel’s OnQ System
    • Analyzes data collected on guests to determine preferences and guest’s profitability
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 supplies 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 ties together disparate units so they act as whole
Synergies, Core Competencies, and Network-Based Strategies

- 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
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.
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)
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.
- 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
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.

**Figure 3-5**
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