ISM 50 - Business Information Systems

Lecture 4

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Outline

- Announcements
- Review: IS-components, roles, categories...
- News Article Presentation

- Strategic Advantage
  - The Porter Model (of competitive strategy)
  - Value Chain Concept

Announcements

- New students: Send me your photo (FirstLast.jpg)
- Visit web site for class details (briefly outlined in 1st lecture)
  - http://www.cse.ucsc.edu/classes/ism050/Winter11/
- Email me or the TA for questions
**Announcements**

Group assignments will be posted on web site
- Contact with the rest people in your group
- Start working on the Business Paper proposal (due on 20th January)
- If you don’t see your name on the list, contact us asap!!

Presentation Assignments will be on web site
- Whoever is NOT assigned to do a presentation must start working on the 1st News Folio (due on 1/20)

**Tuesday’s (1/18) Presentations:**
- ??
  - News Story
- ??
  - Frito Lay Case

**For next time read:**
- Chapter 2 of O’Brien (p. 80-93)
- Frito-Lay Case (reader pp:95-115)

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**Review from last class**

What is a business process?
- A designed succession of actions to the accomplish of some result in a business.

What is a business function?
- A category of activity in a business that requires people with a particular specialization.
  - IT function, marketing function, sales function, etc.

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**Business Process Reengineering**

- A fundamental rethinking and redesign of business processes
  - One of the most important implementations of competitive strategies
  - May achieve dramatic improvements in cost, quality, speed, service
  - BUT: Risk of failure and level of disruption is high

- Minor improvement to a business process is often called **streamlining** the business process
A Business Process

Customer
- Order
  - Take Order
    - Enter Order
      - Print Invoice

Sales
- Credit Check
  - Check Stock
    - Print Packing list
    - Find Goods
    - Ship

Finance
- Make order

Inventory Control

Warehousing

A Streamlined Business Process

Customer
- Order
  - Enter Order
    - Print Invoice

Sales
- Credit Check
  - Check Stock
    - Print Packing list
    - Find Goods
    - Ship

Automatic Credit Check

Finance

Inventory Control

Warehousing

Tell Mfg. to make order

A Reengineered Business Process

Customer
- Order
  - On web

Sales
- Automatic Credit Check
  - Automatic Checking of Stock

Finance

Inventory Control

Warehousing

Print Packing list
And invoice

Find Goods

Ship

Inform Mfg. to replenish stock

Recall: What is a System?

System Definition: A group of interrelated components working toward the attainment of a common goal by accepting inputs and producing outputs in an organized transformation process.
Components of IS

- People resources
- Hardware resources
- Software resources
- Data resources
- Network resources

Information System Roles

- Competitive Advantage
- Support of Strategic for Competitive Advantage

- Effectiveness
- Support of Business Decision Making

- Efficiency
- Support of Business Processes and Operations

A few Information System Categories...

Transaction Processing Systems

- Record and Process data resulting from business transactions
- Example: Credit card trans. processing
- 2 types
  - Real-time
  - Batch-Processing
An example: Process Control Systems

- Monitor and control physical processes

- Example:
  - Hardware resources
  - Software resources
  - Data resources
  - Network resources

Student Presentation

- Taylor William Nevares
- Tiffany Hoi Ling Chan

Competitive Strategies

- How should a business professional think about competitive strategies?
- How can competitive strategies be applied to the use of IS in a business?
- Porter's model of competitive strategies

Porter Competitive Model

- What is it?
  - A model to help understand the competitive environment in which a company operates.

- What are the "5 forces"?
  - Intra-Industry Competition
  - Bargaining power of Suppliers
  - Bargaining power of Customers
  - Substitutes
  - Threat of New Entrants.
The 5 forces

- Rivalry of Competitors
  - Is there a strong competition between existing players?
  - Is one player stronger or all are equal in strength/size?
- Bargaining power of suppliers
  - How strong is their position?
  - Are there only a few suppliers? Monopolies?
- Bargaining power of customers
  - How strong is their position?
- Threat of New Entrants
  - How easy/difficult is for new entrants to start competing?
  - Any existing barriers?
- Threat of Substitutes
  - Potential for alternatives? Especially cheaper ones...

Example: Usefulness of Porter Model

- Bob wants to start a dentist office
  - However, Bob did not go to dental school
  - Bob will hire the dentist and other staff
  - Is this a good model?

<table>
<thead>
<tr>
<th>Suppliers</th>
<th>Bob's Dentist Office</th>
<th>Buyers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentist (Alice)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No! Dentist has too much bargaining power, she could always go into business for herself.
Example: Usefulness of Porter Model

Suppose Alice, who is a dentist, opens an office

- **New Entrants**
  - Dentists moving in from other regions
- **Intra-industry rivals**
  - Other local dentist offices
- **Suppliers**
  - **Staff**
  - **Hygienists**
- **Substitutes**
  - Alternative Medicine?
- **Buyers**
  - Public in general
  - Insurance companies
  - Those wanting cosmetic dentistry

Basic Competitive Strategies

- Counter the competitive forces by implementing 5 basic competitive strategies:
  - Cost leadership
  - Differentiation
  - Innovation
  - Growth
  - Alliances

Porter Model Tips

1. You must define the industry correctly. Not doing so can cause major problems in doing Section I (Industry Profile) of the business analysis paper.
2. You must identify the specific market being evaluated.
3. Your analysis company is the "Strategic Business Unit."

4. Identify rivals by name for majors, by category for minor rivals if needed to present the best possible profile of rivals.
5. Be sure to address the power implications of both customers and suppliers. Power buys them what?
6. Identify customers/buyers and suppliers by categories versus companies
7. **Summarize** your Porter Model analysis.
How IT supports these strategies?

- **Lower Costs**
  - Reduce the cost of business processes
  - Lower costs of customers/suppliers

- **Differentiation**
  - Develop new IT features in products/services
  - Use IT to reduce differentiation of competitors

- **Innovation**
  - Create new products/services
  - Develop new markets/channels using IT
  - Re-engineer business processes

How IT supports these strategies? (cont’d)

- **Growth**
  - Use IT to manage regional and global business expansion

- **Alliances**
  - Create virtual organizations of partners
  - Develop intranets for inter-enterprise collaboration and extranets to support relationships with customer/suppliers etc.

  - Major use of Internet technologies for e-business and e-commerce apps.

More competitive strategies...

- **Lock in customers/suppliers**
  - Build valuable relationships
  - Improve QOS

- **Build switching costs**
  - Develop convenient/efficient systems

- **Raise barriers to entry**
  - Invest on major/complex IT infrastructure

- **Leverage investment on IT**
  - Develop IT components that cannot be easily substituted

Some examples...

- **Amazon.com uses customer reviews**
  - Helps customers decide on which items to buy

- **LEGO offers downloadable software**
  - Customers design their own product and buy it online

- **Medtronic sells “smart” heart implants**
  - Automatically update your health file

- **Netflix recommendations**
  - Based on “similar” users
  - Based on your friends’ likes

  - The future: Interactive “storefronts”

“2-Way Talk”, by Daniel Akst, WIRED Apr 2007
Porter’s Value Chain

- The Competitive Model deals with the environment within which a company competes.
- The Value Chain addresses the flow of a product through the organization.
  - It starts with the original idea in research and tracks its progress all the way to the customers.

**Generic Value Chain**

**Value Chain Purpose**

- A way of classifying a company’s activities and how they help deliver value to customer
- A framework for evaluating decisions like outsourcing, or deployment of IT

**Things to Remember Regarding the Value Chain**

- The ultimate objective is value to customer
- As a new product and/or service moves through the value chain, it is important to maximize value-add activities and minimize things that do not add value to customer.
- Functional departments must be sure to emphasize the ultimate goal of value to customer and not do things that seem to make them look good but contradicts the ultimate objective.
Simple Value Chain for Manufacturing Industry

- Research and Development
- Engineering
- Production and Manufacturing
- Marketing
- Sales and Distribution
- Service

Simple Value Chain for Retail Industry

- Partnering with Vendor
- Buying
- Managing Inventory
- Distributing Inventory
- Operating Stores
- Marketing and Selling

Examples of IT Supporting Value Chain

- Support Processes
  - Administrative Coordination and Support Services
  - Collaborative Workflow Enablers
  - Human Resources Management
  - Employee Benefits Portal
  - Technology Development
  - Product Development Enablers
  - Procurement of Resources
  - E-Commerce Website

- Primary Business Processes
  - Inbound Logistics
  - Operations
  - Outbound Logistics
  - Point of Sale and Order Processing
  - Marketing and Sales
  - Customer Service
  - Customer Relationship Management