Announcements

- Business Paper Preferences due.
- Resume and Cover Letter due.
- Assignment 2 will be posted on the website tonight!

More Announcements

- The readers are up.
- O’Brien Chapter 2 is important to be able to write your paper.
- We will present the material today.
- Go off and read chapter 2 before Wednesday.
- We will spend some time discussing it again on Wednesday, so come with questions.
  - We will add a discussion thread for people to post questions about chapter 2.

Revised Lecture and Reading Plan

<table>
<thead>
<tr>
<th>Class #</th>
<th>Date</th>
<th>Topic</th>
<th>Textbook Reading</th>
<th>Case Reading</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>4-Apr</td>
<td>Business Processes, Strategies</td>
<td>Strategy and the Internet, by M. Porter (Optional)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>5-Apr</td>
<td>Enterprise Applications: ERP, CRM, SCM</td>
<td>O’Brien Ch1 (optional)</td>
<td>Cisco ERP Case (Required)</td>
</tr>
<tr>
<td>5</td>
<td>5-Apr</td>
<td>Enterprise Applications Continued</td>
<td>Maser comedian Ch 3.3, 3.2, 3.3 (Required)</td>
<td></td>
</tr>
</tbody>
</table>

Student Presentations

- Yang, Steve
- Bradley-Jungemann, Roger

What is a Business?

An organization that provides a product and/or a service that satisfies a need for which people are willing to pay money.

Makes money if revenues exceed costs.
Why Does a Company Need to Make a Profit?

- Invest in new product development.
- Invest in facilities and equipment.
- Invest in operational improvements.
- Expand by acquiring another company.
- Invest in employees (training and salary increases)
- To justify borrowing money.
- To pay stockholders a dividend.

Business as a system

A business is an organizational system where economic resources (input) are transformed by various organizational processes (processing) into goods and services (output).

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.

- Input
- Processing
- Output
- Feedback
- Control

A Business is a System

Helps to remember and to tie together:

- Some business basics while remembering the importance of making a profit.
- The understanding of business functions.
- The appreciation for the importance of business processes.

Business as a system

A business is an organizational system where economic resources (input) are transformed by various organizational processes (processing) into goods and services (output).

Information systems provide information (feedback) on the operations of the system to management for the direction and maintenance of the system as it exchanges inputs and outputs within its environment.

Why Businesses Need IT

- The Fundamental Roles of Information Systems
- The Increasing Value of Information Technology

Made possible through the inter-networking of computers to create an inter-networked enterprise.

This is often motivated by the need to achieve and sustain a competitive advantage through the use of information systems.
Stakeholders in the Business Environment

- The Community
- Government Agencies
- Suppliers
- Financial Institutions
- Labor Unions
- Stockholders
- Customers
- Competitors

Economic Resources: People, Money, Material, Machines, Land, Facilities, Energy, Information

Organizational Processes: Marketing, Development, Delivery, Support, Other Processes

Important Things to Understand

Two terms:
1) business functions
2) business processes

Will be frequently used throughout this course.

It would be a good idea to make absolutely sure that you know what they are.

Business Functions

Function: A group of people with related skills (specialized) seems to be a good starting point in understanding functions but this is a fairly loose definition.

What prompts the creation and justification of business functions?

Manufacturing Companies Took a Simple Process

... And Complicated It

Complex Business Processes

Leading to:
- More Complexity
- More Cost
- Longer Production Cycle Times
- More Levels of Management
- Higher Overhead Costs
Why So Many Business Functions?

- Size
- Specialization
- Cost Effective
- Contribute to Basic Business Objectives

Manufacturing Business Functions

- Research and Development
- Manufacturing
- Marketing and Sales
- Distribution
- Customer Service
- Finance and Accounting
- Human Resources

Research and Development

A major business function and the starting point for most new products and/or services.

Research and Development

- What is it?
- How important is it to the success of a business?
- Is this importance the same for all companies and all industries?
- How important is IT and IS in this business function?

Research and Development

Although the terms are frequently used together these are actually two different business functions.

Research is the diligent and systematic inquiry into a subject in order to discover or revise facts or theories. (scientific/engineering research)

Development, often called product development, takes a proven concept and/or technology and makes it into a product.

Research

Advanced technology endeavors involving highly trained engineers and scientists (physicists, chemists, etc.)

An example of research is using superconductor material as storage devices.

The research part of this example is for scientists to make the breakthroughs in physics and/or chemistry or both to create a new type of storage technology.
Development

The development part is to figure out how to package these technology breakthroughs into a presentable form for products that can be manufactured and sold.

Product development success can be measured by product sales volumes and market share.

Research success is often indicated by the number of new patents a company has obtained.

Time Dimensions

Since it is focused on truly new findings, research is time consuming, very costly and frequently has high risk.

Adapting new technologies to marketable products can also take a considerable amount of time.

Shortening Time to Market

Taking less time to bring a new product to market is a high priority for companies in general and particularly high-tech companies.

Intel Strategy

Intel has three development teams in place at the same time.

One is dealing with the about to be announced new product.

The second is working on the product that will replace it.

A third group is working on the successor of this replacement product.

Intel Use of IT for Development

Can’t develop microprocessors any other way than with computer-based systems because of skill shortages, costs, and time pressures.

Use computer-based design systems with standardized design factors and performance and configuration simulators.

Development Strategies

• In-house
• Alliances
• Acquisitions, e.g. Cisco Systems
Cross-Functional Processes

The IS Function Is:
- A major business function.
- An important contributor to company goals and objectives.
- A major resource to support effective decision making within the organization.
- A contributor to developing competitive products and/or services and/or business processes that enable them.
- A significant cost factor and management challenge.

Functional Requirements for a New Information System

Don’t confuse business functions with functional requirements.

The information system capabilities required to meet the information needs of end users.

Also called systems requirements.

Business Processes

Can overlap with business functions but not necessarily.

A process is a structured, measured set of activities designed to produce a specified output for a particular customer or market.

How necessary, important work is done within an organization

Processes with the Finance Business Function

1. Cash Management
2. Budgeting
3. Performance Reporting
4. Investment Planning
5. Foreign Exchange
6. Investor Relations
7. Leasing
8. Credit Management
9. Facilities Management
10. Acquisition and Divestment of Business Units
Business Process Reengineering

The structured aspects of a process is key to achieving the benefits of process innovation. Unless there is agreement on how work is, and should be done, it is unlikely that it can be systematically improved.

**Business Process Reengineering Definition**

Business Process Reengineering is a *fundamental* rethinking and redesign of business processes — in the attempt to achieve...

- Dramatic performance improvement in terms of cost, quality, service, speed, etc.

**Time Out of Processes**

1. Eliminate.
2. Consolidate.
3. Streamline.
4. Maximize the value-add and minimize the non-value add activities.

**Role of Information Systems?**

Support of any and/or all of these business processes. Enable the reengineering of business processes.

**Processes with the Marketing Business Function**

- Market Analysis
- Product Assessment
- Channel Selection and Management
- Pricing
- Product Announcement
- Advertising
- Customer Events
- Consumer Marketing

**Processes with the Sales Function**

- Direct Marketing (field sales force)
- Sales Branch Management
- Distributor Marketing
- Contracting
- Customer Education
Processes with the Manufacturing Function

- Capacity Planning
- Production Planning (scheduling)
- Production Control
- Quality Management
- Procurement
- Inventory Control
- Distribution
- Outsourcing

Legal Function Processes

- Regulatory Compliance
- Patents and Intellectual Property Rights
- Insurance
- Safety
- Environmental
- Labor

Possible Exam Questions

1. What is a business process and what challenges do they represent within many organizations?
2. What objective does process reengineering have in most cases?

Success and Failure with IT

- It is not something that you can jump into. It needs to be carefully planned, managed, and understood.
- The quality of existing systems and business processes can have a major bearing on success or failure.
- Business and IT leadership are often key factors.
Fundamentals of Strategic Advantage
Information Systems that support business strategies that give a company an advantage over a competitor because of products, services, and/or capabilities.

Based on delivering value to the customer.

Don’t forget that these must be achievable and sustainable.

Strategic Information Systems
Strategic Information Systems can be any kind of system that:
1. Helps to gain a competitive advantage.
2. Reduces a competitor’s advantage.
3. Meets other strategic objectives.

In today’s global business environment.

IT Significance
Information Technology can change the way that an organization (business or public sector) competes.

• As the foundation for organizational renewal.
• As a necessary investment that should help achieve and sustain strategic objectives.
• As an increasingly important communication network among employees and with customers, suppliers, business partners and even competitors.

Understanding the Competitive Environment of a Company
Companies do not exist in a vacuum:
It is necessary to understand the competitive environment to assess the current competitive position of a company.
It has become increasingly necessary to posture a company for challenges in its future.

Strategic Roles of Information Systems
Specific Examples:
- Lower Costs
- Differentiate
- Innovate
- Promote Growth
- Develop Alliances
- Improve Quality and Efficiency
- Build an IT Platform
- Support (enable) other Strategies

Some Notable Quotes
Awareness of competitive forces can help a company stake out a position in its industry that is less vulnerable to attack.

Michael E. Porter

A nation’s competitiveness depends on the capacity of its industry to innovate and upgrade.

Michael E. Porter
Porter Models

1. The Porter Competitive Model
2. The Value Chain
3. The Diamond of National Advantage **

** will not be used in this course

The Point Being . . .

Porter has focused on the factors that are critical for a company to compete within a specific industry through the use of the Competitive Model and Value Chain.

He also led a study that produced the Diamond of National Advantage that focuses on the role of the nation as the home base for companies that have become dominant in a specific industry on a global basis since the end of WWII.

Porter Competitive Model

There is a need to clearly understand the Porter Competitive Model as it must be used in the Business Analysis Paper.

The Competitive Environment

Porter’s Competitive Model

- Provides understanding of the structure of an industry’s business environment and of competitive threats within and from other industries.
- The model breaks an industry into logical parts, analyzes them and puts them back together. (just like an engineer would do)
- Avoids viewing the industry too narrowly.
Porter Competitive Model

Was not developed as an Information Systems tool.

Was developed for use by people that run businesses and for those that deal with developing strategic plans for businesses.

Competitive Model Focus

- What is driving competition in the current or future industry?
- What are current or future competitors likely to do and how can a company respond?
- How can a company best posture itself to achieve and sustain a competitive advantage?

Competitive Advantage

How does a company define and/or achieve a competitive advantage?

“We’re bigger, better, been around longer, have had a long time relationship with the customer, have done lots of business with them, go to baseball games with them and they know us and like us.”

Value to customer—real or perceived so that when the customer needs what you sell they deal with you versus your competitor.

Porterese: Can 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 in the relationship that a company has with customers or suppliers?
5. Provide the basis for new products and services, new markets or other new business opportunities

Porter Competitive Model

(Identify the Industry and the Specific Market Being Evaluated)

Intra-Industry Rivalry

Strategic Business Unit

Bargaining Power of Buyers

Bargaining Power of Suppliers

Potential New Entrants

Substitute Products and Services

Competitive Model Forces

Intra-industry Rivals: SBU and major rivals

Buyers: Categories of major customers

Suppliers: Categories of major suppliers that play a significant role in enabling the SBU to conduct its business.

New Entrants: Companies that are new as competitors in a geographic market or existing companies that through a major shift in business strategy will now directly compete with the SBU.

Substitutes: An alternative to doing business with the SBU.
Porter Competitive Strategies

Primary Strategies
- Cost Leadership Strategies
- Differentiation Strategies
- Innovation Strategies
- Growth Strategies
- Alliance Strategies

Supporting Strategies
- Innovation
- Growth
- Alliances

Porter Primary Strategies
- Differentiation—customer values the differences that you provide in products, services or capabilities.
- Cost—least cost. If this is the primary strategy, over time, there will only be one ultimate winner.

Porter Supporting Strategies
- Innovation—either with business strategies or use of information systems or both.
- Growth—deals with growth in revenue and other business volumes. Can be a key factor in establishing a market position. Can also be a major requirement to offset high fixed operating costs.
- Alliances—importance of establishing a strong relationship with suppliers and other business partners often on a contractual basis.

Rules Regarding Strategies
1. You must pick one of the two primary strategies.
2. You can pick any combination of supporting strategies.

Let’s test the logic of this using Dell and Wal-Mart Stores.

Dell, Inc. Strategies
- Primary Strategy: Differentiation
- Least Cost
- Supporting Strategies: Innovation
- Growth
- Alliances

Wal-Mart Strategies
- Primary Strategy: Least Cost
- Differentiation
- Supporting Strategies: Innovation
- Growth
- Alliances
Reality Versus Conjecture

Buyers and Suppliers are reality.

New Entrants are definitely conjecture. What is the likelihood of a new entrant to compete with Wal-Mart?

Substitutes are probably reality in that they already exist but they could be conjecture.