Outline

- Announcements
- CISCO review
- ERP
- Student Presentation (news)
- E-commerce
- Alibris case
Announcements

- Homework 2 due Monday 10/31

- Forum
  - Topic: Is it possible for a publicly-held corporation in the U.S. today to be socially responsible?
  - Thought experiment

- Reading for Wednesday
  - Messerschmitt Ch 4

Announcements

Forthcoming presentations

- 10/26
  - ??
  - ??

- 10/28
  - ??
  - ??
Announcements

2nd TA now on board
- Varun Raghavan (varun@soe.ucsc.edu) will be coordinating all business paper issues
  - Groups
  - Presenters
  - Topics to cover
- Send me your presentation slides the night before
  - Failure to do so may result in loss of points
  - We plan to post all student presentations
    - If you want to edit before posting, send in an update

Cisco Summary

Success Factors
- Cross-Functional Team of top people
  - People from across the company involved
- Hungry Vendors
  - Oracle and KPMG needed this to succeed
- Strong Support from Top Management
- Favorable Hardware Contract
- Rapid Prototyping - conference room pilots
- Aggressive pace

Good management or luck? Or merely self-fulfilling outcome?
Cisco Summary

Challenges
- Poor testing Strategy
- Inadequate Hardware
- Software required more modifications than originally hoped.
- Is such an emotional investment on the part of upper management healthy?

Cisco Summary

- What did it cost?

Costs Beyond original budget:
- Non-IT Personnel In Project
  80 personnel X 8 months X 160 hours / month X 100 hour = $10 million
- IT-Personnel beyond original 20
  80 personnel X 4.5 months X 160 hours / month X 100 hour = $5.7 million

- Actually cost more than 15 million more than the original budget of $15 million!
- Was this really a success?!
Cisco Summary

- Top Management made it a priority
  - What effect did this have?
  - Were problems addressed, or merely suppressed?
- Rapid Iterative Prototyping?
  - What was this?
  - Was it a good strategy?
  - Was aggressive pace good, or reckless?
- Project justification
  - Did they do a RoR or NPV analysis to justify the project?

Review: Types of organizational applications

1. **Departmental**
   - Supports a single functional department
   - Example: An accounts management application for an accounting department.

2. **Enterprise**
   - Support enterprise-wide processes and goals.
   - Example: coordinate information between functional departments involved in fulfilling an order.
   (or other cross-functional process.)

3. **Commerce**
   - Supports the purchase/delivery of goods/services
   - Example: product support over the Internet
Student Presentation

- ??
- ?? (Case: Alibris)

Enterprise Resource Planning (ERP)

ERP applications: a networked computing application
- Sophisticated configuration tools and options
- Customizable to local tools
So what exactly is ERP??

1. *Business Modeling Tool*
2. - *Or is it just a Business Model?*
   1. *We are still early in the life cycle of these tools: it may be both, or neither, and different products may be one or the other.*

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Material (Manufacturing) Requirements Planning - MRP

- The precursor of ERP
- **MRP:** A production planning and inventory control system

  - Take:
    - Product Demand forecasts
    - Inventory Balances
    - Replenishment Lead Times

  - Develop a production schedule for a single plant
A desire to Link Across Functional Departments

- Each functional department had its own *legacy* application
  - Programmed in different languages
  - Different data formats

- Often some data was shared between departments by duplicating it.

MRP evolves into ERP

- ERP applications support different business processes that are standardized across organizations
  - Accounting, sales, HRM, material management, CRM, supply chain management, project management, etc...

- Key features:
  - Multi-functional
  - Integrated
  - Modular
Information Integration

- Key issue
- Should integrate different data/applications
- CONSTRAINT: Legacy Applications
  - Applications developed using obsolete technology and worked well for many years...
    - e.g., most commercial applications were built using COBOL
  - ...until unanticipated problems occurred
    - e.g., the Year 2000 (Y2K) problem
    - Some applications were built 40 years ago. Programmers of that era would have been shocked to learn their code would still be in use!
    - The programmers used last 2 digits to represent the year: “1/1/00” => 1900 or 2000?
  - Y2K made many enterprises replace their legacy systems with ERP solutions

ERP

- How would you design an ERP?
- Collection of modules sharing/exchanging information, triggering remote events
- Design a user interface for each module
  - Ask user to fill in certain “fields” at particular times.
  - Set up a sequence of events
    - E.g. When the sales department enters an order, that event triggers an event at the manufacturing department.
Fundamental options

- Build in-house? using a company’s own funds, staff, or resources.

- Customize the off-the-shelf application to existing organization? refers to products that have already been designed and made

- Mold organization to off-the-shelf application?
  - Adapt business processes to “Best practices”
  - When there exist compliance requirements or when process is a commodity

- If all companies use the same “best practices“ how can they gain competitive advantage?

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E-commerce

- The buying and selling, and marketing/servicing of products, services, and information over a variety of computer networks.

[O’Brien book]
E-Commerce

- **Major Categories**
  - **Consumer (B2C)**
    - Example: Amazon.com sells books to consumers.
  - **Inter-consumer (C2C)**
    - Example: e-bay, real estate
  - **Inter-enterprise (B2B)**
    - Example: ?

E-Commerce Principal Steps

- **Matching buyers and sellers**
  - Who are the available sellers?
  - How do I decide?

- **Negotiating terms**
  - Terms and conditions, i.e. price, delivery

- **Consummation**
  - Order, Fulfillment, Payment

- **Customer service**
  - Assistance in usage, repair or replacements
Matching Buyers and Sellers

Information management

- **Catalog** *(pull model)*
  - Seller publishes (web) a catalog of goods and services
  - Willing buyers access at their initiative

- **Advertising** *(push model)*
  - Attach advertisements to other publications or web pages
  - Substantial source of revenue for web sites
  - Example: Spam mail, Banners

- **Intermediary Recommender**
  - Other users recommend a seller/item/service, forums
  - Examples?

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Intermediaries?

- **What roles should intermediaries play in the networked age?**

- **Examples**?
  - Amazon, eBay, Travelocity, etc.

- **What intermediary roles may change or even be eliminated?**
  - Travel Agents?
  - Others?
Negotiating Terms

- Fixed price? Why or why not?
- Price based on buyer characteristics
  - History
  - Demographics
  - Behavior
  - Time
  - Availability of item/service
  - Examples?
- Auctions - price never fixed.

Consummation

- Order
  - Buyer conveys an order to the seller wrt the terms
- Fulfillment
  - Seller conveys goods to buyer
- Payment
  - Buyer conveys payment to seller
- Security?
  - Need to ensure both fulfillment and payment occur
  - Use of intermediate
Payment options

(Topic of Chapter 14)
Account transfer authorization
Credit/debit card
Digital cash

What about security?

- **SET:** Secure Electronic Transactions
  - VISA & MasterCard Initiative
  - Customer authentication
  - Precludes merchant from seeing credit card number
  - Precludes financial institutions from tracking purchases

Customer Support

- Often need to provide post-sales service to the customer
  - In person
  - Over telephone
  - Via Network
    - Email
    - Remote conferencing
    - FAQ board
    - Automatic distribution of new versions or patches
Customer Relationship Management

- The challenge of maintaining the relationship with a customer is called **Customer Relationship Management** (CRM)

- CRM software applications seek to provide customer facing employees a complete view of each customer.
  - What they've bought and returned.
  - What problems they've reported.
  - What other agents they've talked to in the past.

- An opportunity to add value.

Consumer e-commerce (B2C)

- What have you bought on the Internet, or what do you buy most often?

- What are the advantages and disadvantages compared to a retail store or direct mail catalog?
Some Advantages

- **For the Consumer**
  - Check prices at many vendors with minimal effort
  - Anonymity
  - Mass customization
  - Order tracking
  - Recommendations

- **For the Business**
  - Global reach
  - Automate order taking (cost savings)
  - Price Discrimination

Recommender Systems

How do they work?
Recommender Systems

- Find users with similar interests/purchases/visits
- See what they have bought/visited/liked that you haven't bought/visited (yet)
- Suggest them!

- Are smart websites the only example of this?

Inter-Consumer E-commerce (C2C)

- What value does something like E-bay add over a simple classifieds listing like craigslist?
  - Ratings of both buyers and sellers
  - Anything else?

- Potential problems?
C2C Examples

Inter-Enterprise E-Commerce (B2B)

- **Procurement**
  - One enterprise purchases goods or services from another

- **Direct Procurement**
  - Ongoing, consistent, and scheduled procurement

- The relationship between firms involved in direct procurement often called a **Supply Chain**

- The set of problems associated with managing a supply chain is called **Supply Chain Management (SCM)**
**SCM**

- **Need to manage the procurement of parts**
  - Don’t run out of any one
  - Don’t order too many
  - Order far enough in advance

- **Ideally**
  - Know in advance
    - # cars
    - features

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**SCM**

- **Thousands of orders per day, each with different requirements!**
- **Adjusting orders from suppliers constantly according to demand**
- **Minimal inventories**
  - Cut costs
  - Much more sensitive to errors or disruptions
  - Acceptable risk?
- **mass customization** (example Dell) requires sophisticated SCM
Networked Computing in direct procurement

- **Electronic Data Interchange (EDI)**
  - Exchange order information between firms involved in direct procurement
  - Existed since 70’s
  - Usually large firms who could afford proprietary communication links
  - Initially order and invoice

- **Financial EDI (FEDI)** later added EFT payment capability (electronic funds transfer)

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Networked Computing in direct procurement

- **XML (Extensible Markup Language)** is another data interchange format making an impact on inter-enterprise commerce

  - *(We will talk more about this later in the quarter)*
Indirect Procurement

- Sporadic purchase of goods and services to support organizational objectives
  - Example: Office Furniture

Alibris
Alibris

• How is Alibris different from eBay?
• ...from Amazon?