TIM 50 - Business Information Systems

Lecture 5

UC Santa Cruz
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January 26, 2017
Class Announcements

- For next time
  - Read Cisco Case
    - Hwk 2 due by start of class Tuesday, 1/31
    - On ecommons
  - Read Laudon and Laudon Ch 10
  - Database Assignment 1 posted
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)
Project proposals due on 2/7!!

- 2-3 pages
- Give a plan what you will cover in report
- Cite some references, and show that you have started your research!

Remember references must be cited in the body of the text with footnotes or end notes.
Enterprise Applications
Applications

- What is an application?
  - Computer software that performs useful capabilities for a user, organization, incorporating storage, manipulation, and communication of information.

- An organizational application
  - Supports an organization

- Often called enterprise application
  - (An enterprise is an organization with a commercial mission)
Types of organizational applications

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

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

- **Worker Collaboration**
  - Example: video conferencing

- **Operations and Logistics**
  - Example: coordinate movements of goods between sites.

- **Decision Support**
  - Support decision making by middle managers

- **Knowledge Management**
  - Organize and retrieve knowledge in company’s documents and databases
Examples

Software Merchant

- Customer Relationship Management
  - Maintain a case file of customer questions and complaints.
  - Website of Freq. Asked Ques. And documentation.
  - Chat application for customers to communicate with tech-support personnel.
Examples

On-Line Stock Trading

- Information Management application for paying customers
- Specialized software to interface with
  - customers
  - stock exchange
  - Customer’s bank
Some more terms

**Transaction Processing Systems** record and process data from business transactions.

**Batch Processing** – transactions are accumulated over a period of time and processed periodically.

In **Online Transaction Processing (OLTP)**, transactions are processed immediately.
A workflow application supports ongoing repetitive tasks.

Example: An application that passes a case summary of a customer from customer service to tech support.
So what exactly is ERP??
Early MRP

- **MRP (Material or Manufacturing Resource Planning)**
  - Take:
    - Product Demand forecasts
    - Inventory Balances
    - Replenishment Lead Times
  - Develop a Production schedule for a single plant
- At this Point, it is a planning tool
Later on More capabilities added

- Order Processing
- Product Costing

The planning tool begins to take more and more of an active role in the business processes.
A desire to Link Across Functional Departments of firm

- 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

- A common software architecture with modules to support different business functions.
  - Accounting, finance, sales, HRM, material management, etc...

- Key features:
  - Multi-functional
  - Integrated
  - Modular
How would you design an ERP?

Design a user interface for each module

- Ask user to fill in certain “fields” at particular times.
- Set up a sequence of events
  - When the sales department enters an order, that event triggers an event at the manufacturing department.

But by doing this, aren’t we presuming a particular business process?
Questions

How standardized are organizational processes?

- Customer service
- Finance
- Manufacturing
Fundamental options

- Customize the application to existing organization?
- Mold organization to off-the-shelf application?
  - Is software a good way to propagate best practices?
Enterprise Systems

**How Enterprise Systems Work**

- **Integrated software modules**
- **Central database**
- Data shared by different business processes
- …and functional areas

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**Figure 8-1**
This figure illustrates the major entities in Nike’s supply chain and the flow of information upstream and downstream to coordinate the activities involved in buying, making, and moving a product. Shown here is a simplified supply chain, with the upstream portion focusing only on the suppliers for sneakers and sneaker soles.
The difference between push- and pull-based models is summarized by the slogan “Make what we sell, not sell what we make.”

**Figure 8-5**
What Is Customer Relationship Management?

- Knowing the customer
  - In large businesses, too many customers and too many ways customers interact with firm

- Customer relationship management (CRM) systems
  - Capture and integrate customer data from all over the organization.
  - Consolidate and analyze customer data.
  - Distribute customer information to various systems and customer touch points across enterprise.
  - Provide single enterprise view of customers.
CRM Software

- CRM packages typically include tools for:
  - Sales force automation (SFA)
    - E.g., sales prospect and contact information, and sales quote generation capabilities
  - Customer service
    - E.g., assigning and managing customer service requests; Web-based self-service capabilities
  - Marketing
    - E.g., capturing prospect and customer data, scheduling and tracking direct-marketing mailings or e-mail
Customer Loyalty Management Process Map

This process map shows how a best practice for promoting customer loyalty through customer service would be modeled by customer relationship management software. The CRM software helps firms identify high-value customers for preferential treatment.
Operational and Analytical CRM

• Operational CRM:
  • Customer-facing applications such as sales force automation, call center and customer service support, and marketing automation

• Analytical CRM:
  • Analyzes customer data output from operational CRM applications
  • Based on data warehouses populated by operational CRM systems and customer touch points
  • Customer lifetime value (CLTV)
Analytical CRM uses a customer data warehouse and tools to analyze customer data collected from the firm’s customer touch points and from other sources.

Figure 8-11
Business Value of Customer Relationship Management

• **Business benefits:**
  - Increased customer satisfaction
  - Reduced direct-marketing costs
  - More effective marketing
  - Lower costs for customer acquisition/retention
  - Increased sales revenue

• **Churn rate:**
  - Number of customers who stop using or purchasing products or services from a company
  - Indicator of growth or decline of firm’s customer base
Enterprise Application Challenges

- Highly expensive to purchase and implement enterprise applications—total cost may be four to five times the price of software
- Technology changes
- Business process changes
- Organizational changes
- Switching costs, dependence on software vendors
- Data standardization, management, cleansing
Extending Enterprise Software

• To bring greater value from enterprise applications
  • **Enterprise solutions/suites**: make applications more flexible, Web-enabled, integrated with other systems
  • **Service platform**: integrates multiple applications to deliver a seamless experience for all parties
    • Order-to-cash process
    • Portal software
Analytical CRM uses a customer data warehouse to analyze customer data.

Data from firm’s “customer touch points” and from other sources.

Figure 8-11