ISM 50 - Business Information Systems

Introduction (Lecture 1)

Instructor: Katerina Potika
UC Santa Cruz
1/4/2011

ISM 50

Course Parameters:
- Tuesday and Thursday 8:00-9:45 PM
- J Baskin Engr 152
- WEB PAGE:
  - (write this down, go home, and bookmark it!)
  - http://www.soe.ucsc.edu/classes/ism050/Winter2011/

What is this class about?

Get the "big picture" of the business environment that you will enter in the future.

1) what are business processes
2) information systems used by companies to run their businesses
3) how they are connected
About this class: in a nutshell

**Business Processes**
- are the tasks or activities that companies use to produce goods or/and services

**Information Systems**
- computers, web, software
- support/enhance business processes.

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What is this class about (example)?

- **Supply Chain Management (SCM)**

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More Examples

- **Customer Relationship Management (CRM)**

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Some Examples

- Supply Chain Management
- Customer relationship Management
- Inventory Control
- Transaction Processing
- ...
**What is an information system?**

- First let us answer: what is a system?
  - Interrelated components
    - Input
    - Processing
    - Output

  ![Input Output SYSTEM Output](image)

**What is Information Technology?**

- It's the technology you use to create an Information System
  - Computer Hardware, Software, Networks, etc...

**Status quo of businesses today**

- Global competitive environment operations (globalization)
  - global competition
  - information revolution
  - knowledge worker
Global competition
- Design, manufacturing, materials, assembly, service, etc.
  - Examples: Nike, Apple
  - In different parts of the world
  - Why?
- Increased competition
  - Global markets vs. local
  - Pressures to be more efficient and effective

Information revolution
- Increased use of IS to create, deliver and use information
  - data, documents, voice, video
  - Global enterprise needs to share information quickly
  - Design, forecasts, material availability, etc.
  - Monitoring, Manage, Communicate
- Is IS the cause or result of globalization?

Knowledge worker
- Increasing dependence on information to do their work
- Create, acquire, process, synthesize, disseminate, analyze and use information
- Who are knowledge workers
  - Sales executive, production managers, product manager, financial analyst
- Use structured and unstructured information

Knowledge worker II
- Knowledge work is non-routine, non-repetitive
  - Understand data and impact of work on others and impact of others' work: big picture
- Task workers: routine, structured tasks
  - Customer service representatives, accounting clerks, insurance claims processor
- Key skills
  - Strategic thinking: big picture, process view
  - Information literacy: find and use needed information
  - Communication and collaboration: project team
**Courses Objectives**

- The objectives of ISM 50 are to understand
  - The needs of businesses
  - The role of information systems in supporting those needs
  - How information systems are designed
  - How information technology is evolving
  - How changes in technology can enable new ways of doing business.

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**Information Systems Management 50**

- What it is not:
  - A programming class
    - (Though some simple programming may be required for some assignments and/or projects)
  - A detailed focus in any particular technology.
    - (A survey of IS technology landscape and its relation to business problems)

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**Who Should Take it?**

Q: Are you considering a career in marketing, finance, accounting or start your own business? Have no idea what you want to do?

- ISM Majors, and those thinking of an ISM major
  - A survey of the ISM major.
- BME Majors
  - Seeking a basic understanding of technology and its role in solving business problems.
- CS, CE, and other engineering majors
  - Those seeking a higher level overview of what technologies are used for.

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**Course Pre-requisites**

- No specific programming language knowledge required, though useful
- We will assume you know word-processing and PowerPoint
  - PowerPoint is easy to learn
  - We will assume you are motivated and eager to learn!
- Come to class having done the reading!
What comes first?

- Do business needs drive the design of technology?
- ...Or does the technology drive the design of a business?
- Both!

Course Organization

- Top Down (Roughly)
  - IT Terminology and IT History
  - Businesses and their needs
  - Technological Applications
  - Technology concepts
  - Important "building block" Information Technologies
    - Databases
    - Networks
- Case Studies Throughout

Reader 1 (pages from):

- Author:
  - David Messerschmitt, Professor of EECS, UC Berkeley
- Focus on
  - Technological concepts in computing and communications.
  - Applications.
  - Top down organization, like our course

Reader 2:

- The reader contains
  - Chapters 1&2 from "Management Information Systems" by James O'Brien
  - Case Studies
- Both readers are available at the Bay Tree Bookstore (Reader 1 soon...©)
Case Studies (in Reader 2)

- Examples of Businesses using Information Technology
- Illustrate the concepts we learn in the class
- The case studies are mostly from the Harvard Business School
  - Designed to stimulate classroom discussion in MBA classes

Supplementary Book

Essentials of Business Processes and Information Systems
Simha R. Magal, Jeffrey Word

Use case studies

Class Webpage

http://www.soe.ucsc.edu/classes/ism050/Winter2011/ism50_outline.html

Contains
- General Class information
- Announcements
- Link to online forum
- Link to detailed description of class:
  http://www.soe.ucsc.edu/classes/ism050/Winter2011/ism50_outline.html

- Syllabus
- Homework
- Requirements/Guidelines for business paper, database project
- Important dates

Syllabus (Tentative) ON Web Page

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Evaluation

- Exams (35%)
  - Midterm
  - Final
- Pop Quizzes (5%)
- Participation in class & online forum (10%)
- Oral Presentation / News Folios (5%)
- Business Paper (25%)
  - Proposal
  - Final Paper
- Database Assignment (10%)
- Weekly Homework (10%)

Exams

- Midterm (15%)
  - Tuesday, February 8, 8:00-9:45
- Final (20%)
  - Tuesday, March 15, 8:00-11:00

Exam dates are final

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Pop Quizzes

- 3 quizzes, unannounced times
- Simple questions pertaining to the reading assigned for that day
- Only your top 2 quizzes will count

Participation

- We will have a lot of classroom discussion over the course of the quarter.
  - especially when we read case studies!
- This is an opportunity for you to
  - think through ideas
  - give feedback
  - learn from your classmates
- We will evaluate your participation
• Classroom Participation

- You earn 1 participation point in each class session in which you make an intelligent comment.
  - Participating more than once in a class session is encouraged, but does not earn more points.
- You also earn 1 participation point when posting intelligent comments in online discussions (forum)
  - Discussion forum should begin operating next week!
- For full participation credit (10%), you need to earn 8 participation points over the quarter.

ID please...

- Please say your name every time you speak
- Also, email us a picture of you, file named after you as follows FirstLast.jpg

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Presentation/Folio

You will be assigned either

Presentation

News Folio
Oral Presentations

- 5 minutes in length
- Assigned to present one of the following:
  - Summary of the case study we will discuss in class that day.
  - Recent news story involving business and information systems.
  - Your group's business paper project
- PowerPoint Presentation.
  - E-mailed to me by the night before (till 9pm)

Presentation Evaluation

- Content of presentation
  - Did the case summary outline the most important aspects of the case study?
  - Was the news story relevant, and furthermore where the points most relevant to the class discussed?
- Delivery:
  - Organization
  - Voice Articulation
  - Professionalism
  - Timing
  - Eye Contact
  - Enthusiasm

Presentation Tips

- Ask the following question: Who is my audience and what is my major message?
- Don't try to say too much for five minutes
- Avoid jargon – explain technical concepts with simple examples.
- Avoid reading from the slides
- Act interested!

Folios

- There are too many of you to have everyone give a presentation.
- Those who are not assigned a presentation will do a "news folio."
- Task:
  - Collect 3 news articles that are relevant to the class
  - print/copy them
  - For each article, write a 200 word description of how the article relates to issues discussed in class.
- Due dates:
  - Article 1 – January 20
  - Article 2 – February 10
  - Article 3 – February 24

Hardcopies – drop in class
Presentation /Folio Summary

- You will be assigned either a news folio or an in-class presentation.
- In either case this will be worth 5% of your grade.

Need Presentation Volunteers!

- Thursday 1/6: 2 News Stories
- Tuesday 1/11: 2 News Stories
- Thursday 1/13: 2 News Stories
- The rest of this quarter's presentation assignments will be announced next week.

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Write a paper about a company of your choice.

Pick a company for which information systems played a key role in making that company successful

- How did information systems help make the company successful?

Paper Organization

- Up to your group (Work in groups of 3 to 4)
- Chronologically, by topics, or some combination of both.

The paper should answer questions like:

- What industry does the company compete?
- What is the competitive environment like?
  - "Porter model" (competitors, substitute products, buyers, suppliers, new entrants...)
- How did your company use IT to gain a competitive advantage?

How does the company use IT to support or enable its business processes and competitive strategies?

- What technologies in particular does it use?
- How much of the company's success do you attribute to its use of IT and/or the company's early adoption of IT into their business processes?

Detailed Business Paper Guidelines will be posted on the website

Citing Sources

- Plagiarism is illegal and cheating and will not be tolerated!!!
- More than thirty words verbatim must be cited.
- Any facts or figures that are not your own must be cited.
  - e.g. Ebay's revenues in US Revenues in 2002 were $1.39 billion [1].
Citing Sources

You must cite your sources in the body of the text!!!

e.g.:
"Semiconductors have found a place in virtually every electronic device in existence. This helps explain why the industry was able to reach $200 billion in sales before a slump brought the figure back down in 2001" [1].

End Note:

Suggested sources of Information

- Company website
- 10K report
  - (This is the annual report public companies file with Security and Exchange Commission.)
- ABI/Inform article database
  - A database of articles from magazines like "Business Week" and economics journals/newspapers.
  - Find it at: http://library.ucsc.edu
  - Click on "article database" on left margin.
  - Click on "Proquest Newspapers"
  - Try this tonight! And let us know if you have problems
- Industry specific publications
  - Example: Aviation Week
- Books
- Good Magazines (The Economist)
- Consulting groups: Forrester, Gartner, ...

Business Analysis Paper Preferences

*** Due Tuesday January 11th ***

- You are encouraged to try to form your own groups.
  - However, we want a mix of
    - Engineers and non-engineers
    - Experience levels
  - So, we may modify the groups.
- As a group, turn in 3 things:
  1. List of your proposed group members.
  2. List of companies you would like to study.
  3. Suggested person to do the 5 minute presentation on your group's project.
  - If you don't have someone in mind to work with, turn in the above 3 things as an individual.
**Business Analysis Paper Preferences**

*** Due Tuesday January 11th ***

- At least two of your preferred companies must be from this list:
  - Southwest Airlines
  - Federal Express
  - Home Depot
  - Wal-Mart Stores
  - Charles Schwab
  - Amazon
  - EBay

- With your preferences in mind, we will make the final company assignments to the groups.

**Business Paper Proposal**

- As a group write a 2-3 page description of what you plan to investigate in your business paper!
- Show that you've done some research!
- Cite some facts, and some technologies and or strategies that you've heard about the company that you would like to investigate further.
- Remember to cite your sources properly!!!!
- **PROPOSAL DUE:** January 20
- **FINAL PAPER DUE:** March 8

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**Database Assignment**

- Learn and Use database software
- An opportunity for "hands-on" experience without having to use advanced programming.
- Assignment will be done individually
- We will give you the details of the assignment sometime after the midterm.
- Database Tutorial later in the quarter
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• Weekly Homework

- Approximately once every week or two.
- They will be announced and posted on the class webpage.
- Usually,
  - Questions from the textbook
  - Questions pertaining to Case Study Readings
- However, Homework 1 is to make a resume and cover letter!
- Individual hardcopies!!

Homework 1

- Turn in Both:
  - A Resume
  - And Cover Letter
  - Due 1/11 (1 week from today)

Resume should be:

- One page
- Focus:
  - Education, Experience, Skills and Abilities
  - What can YOU do for an employer?

Personal Resume Criteria

- Appealing look (fonts, format, margins)
- No Spelling mistakes
- Avoid irrelevant information from too far in the past
- One Page

- It takes time to build a good resume...
Building Your Resume

Some things employers look for:

- Academically Qualified.
- Well Rounded (includes extra curricular activities)
- Summer Internships, or Part-time work During School
- Professional Presence (Society Memberships)
- Interested and Understanding of Employer's Area.

Educational Content

- Degrees held or degrees you are currently working on.
  - Name of the university.
  - Degree Type and Program
  - (Expected) Completion date
  - GPA
- Include High School degree?
  - Maybe if you are a freshman or sophomore.

Work Experience Content

- Reverse Chronological Order
- Provide Complete Information
  - Company Name
  - Location (city and state)
  - Employment dates (from - to)
  - 1999 to Present if still employed
  - Job Title
  - Major responsibilities
  - Major accomplishments

Sample

Bjorn A. Khan
Local address: 1578 Paganino Road, College Park, MD 20740 • (514) 555-4445
Home address: 1234 Fifth Street, Montclair, CA 91765 • (513) 555-4555
E-mail address: bvkahn@andu.edu

EDUCATION

University of Maryland
B.Eng., Biomedical Engineering
GPA: 3.7

Virginia Polytechnic Institute & State University
Chemical Engineering major

EXPERIENCE

Engineering Design & Career Services Office
- Lead Engineer
- Managed design of a student team's project, overseeing construction and deadlines.
- Planned and organized engineering-related events.
- Coached and mentored students on design and construction.

University of Maryland
Engg. Design, Faculty Member
- Lead designer for a student team's project, working closely with project coordinators and deadlines.
- Trained and supervised students in design and construction.
- Assisted in the design and development of projects.
- Participated in the interdisciplinary team to complete the project.

INTERESTS

Basketball, hiking, and design.
Sample

Cover Letter

- A letter of introduction, to accompany resume.
- Include brief description of background
- Write it as if you were applying to take the class, or pretend like you are applying to a job.
- Format it as a business letter.

TO DO:

By Thursday (1/6):
- Read "IT Management from 1960-2000" in reader
- Read:
  - Chapter 1, Section II, of O'Brien book (this material is also in your Reader 2)
  - Chapter 1, Introduction, of Messerchmitt book (or Reader 1)

By Tuesday (1/11):
- Send me (cc: TA) your photo
- Business Paper Preferences
  - Group members, Companies, and suggested person to give presentation
- Turn in as a group
- Resume & Cover Letter
  - Turn in individually
Some Terminology from Messerschmitt

Definitions

- **An application**
  - a software program that provides direct and specific value to a user or organization
  - Ex. Microsoft Word
- **A networked application**
  - distributes programs across 2 or more computers which collaborate in realizing an application.
  - Ex. Distributed Database

Definitions

- **Information Technology**
  - the suite of technologies that manage the storage, communication, and manipulation of information.
- **Infrastructure**
  - part of the information technology shared by many applications
  - Hardware - computers and the network
  - Software - operating system, middleware

Definitions

- **Middleware**
  - software falling between the operating system and the application.
  - Ex. connects software components or applications based XML, Web services
History of Computing

- **Centralized**
  - A few big mainframes to automate business functions such as payroll and accounting

- **Time-Shared**
  - Terminals added so many could access mainframe

- **Decentralized**
  - PCs on every desk

- **Networked**
  - Applications could be geographically distributed

Definitions

**Legacy Applications**
- Applications implemented in the technology of yesterday.

Next time

- Read "IT history from 1960-2000" (found in Reader 2)
  - Read Chapter 1 – section II of O’Brien (found in reader)
- Read Chapter 1 – Messerchmitt
  - (also found in Reader 1)