ISM 50 - Business Information Systems

Introduction

Guest Instructor: Patrick Mantey
Instructor: John Musacchio
UC Santa Cruz
9/25/2008

ISM 50 - Course Parameters:
- Tuesdays and Thursdays 8-9:45
- Kresge 321
- WEB PAGE: (write this down, go home, and bookmark it!)
  http://www.soe.ucsc.edu/classes/ism050/Fall08

Instructor:
John Musacchio
Office: E2 557
johnm@soe.ucsc.edu
- TBA

ISM 50

TA
- Ning Bao
  - nbao@ucsc.edu
  - Office Hours:
    - TBA

What is this class about?

- Supply Chain Management (SCM)

More Examples

- Customer Relationship Management (CRM)
- Other examples?

Business Process Example

Customer 
Order 
Sales 
Take Order
Enter Order
Print Invoice
Finance
Credit Check
Check Stock
Print Packing List
Find Goods
Ship

Inventory Control
Warehousing

Tell Mfg. to make order
What is an information system?
- Information system
  - A combination of people, hardware, software, networks...
  - that collects, transforms, and disseminates information in an organization.

What is information technology?
- It’s the technology you use to make an information system
  - Computer Hardware, Software, Networks, etc…
Courses Objectives

- The objectives of ISM 50 are to understand
  - The needs of business
  - 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
  - How to conceptualize and analyze new technologies to solve business problems.

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)

What is Information Systems Management (ISM)?

An exciting new discipline that combines engineering and management to address:

- The Technology of Management: the design and use of technologies to efficiently and profitably manage and operate any enterprise or company
- The Management of Technology: how to develop, manage, and commercialize technologies/products (e.g., computers, networks, and software)

Information Systems Management / Technology & Information Management

Management of Technology (MGT)
- Address challenges in the creation / marketing/ support for high-tech products / services
- Manage portfolios of products and services with worldwide suppliers and business partners
- Information Intensive decision and operational contexts
- Complex systems
- Analytics
  - Create economic and engineering / product decisions
  - Supply chain management
  - Resource allocation
  - Portfolio management
  - Service optimization

Technology of Management (TOM)
- Creation of Knowledge-Based services
- Tools for Management
- Integration of disparate data sources
- Responsive to dynamic environments
- Major technology components:
  - Data Mining / Information Retrieval
  - Decision support
  - "Sense making" / "cockpit" / "dashboard"
  - Distributed (global) contexts and participants
  - Telecollaboration
  - Databases / computer systems and networks

Coming Soon in ISM / TIM

- ISM minor
- Revised ISM B.S. degree requirements
- TIM Graduate Program

ISM 50 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
    - Data Bases
    - Networks
  - Case Studies Throughout

Our Textbook

- Author:
  - David Messerschmitt, Professor of EECS, UC Berkeley
- Focus on
  - Technological concepts in computing and communications
  - Applications
- Top down organization, like our course
- Available now at Bay Tree Bookstore!

Reader

- We also have a reader
- The reader is available now at the Bay Tree Bookstore
- The reader contains
  - Case Studies
  - Other Readings

Case Studies (in reader)

- Examples of Businesses using Information Technology
- Illustrates 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
Class Webpage

http://www.soe.ucsc.edu/classes/ism050/Fall08/

Contains
- Syllabus
- Assignments
- Instructor contact information
- Requirements for business paper, database project
- Exam dates

Syllabus (Tentative) on WebPage

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Topics</th>
<th>Assignments</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>9/25</td>
<td>Class Introduction</td>
<td>Assignment 1 out</td>
</tr>
<tr>
<td>2</td>
<td>9/30</td>
<td>IT History and Background</td>
<td>IT Management from 1960-2000 (reader pp 1-26)</td>
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<td>Project Preferences</td>
<td>Assignments due</td>
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<td>3</td>
<td>10/2</td>
<td>Competing with IT, Cash Flows</td>
<td>Chapter 2 - Section I of O'Brien (reader pp 69-77)</td>
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<td>10/7</td>
<td>Competing with IT (Cont'd)</td>
<td>Chapter 2 - Section II of O'Brien (reader pp 78-90)</td>
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<td>5</td>
<td>10/9</td>
<td>Business Processes, Frito-Lay Case (93-103 + figs)</td>
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<td>6</td>
<td>10/14</td>
<td>Applications, Information Access Terms</td>
<td>Messerschmitt Ch 2.3 (38-50)</td>
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<td>Messerschmitt Ch 3.1-3.3 (59-82)</td>
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<td>Folio Article 1 due</td>
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<td>7</td>
<td>10/16</td>
<td>Applications (cont'd)</td>
<td>Cisco Case (114-124 + figs)</td>
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<td>10/21</td>
<td>E-commerce</td>
<td>Messerschmitt Ch 3.4-3.6 (83-98)</td>
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<td>Alibris Case (133-143 + figs)</td>
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<td>Business Paper Proposal Due</td>
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<td>9</td>
<td>10/23</td>
<td>IT Concepts</td>
<td>Messerschmitt Ch 4 (107-132)</td>
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<td>10</td>
<td>10/28</td>
<td>Client Server Computing</td>
<td>Messerschmitt Ch 5 (139-154)</td>
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<td>Sun-N Tier Case (145-164 + figs)</td>
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<td>11</td>
<td>10/30</td>
<td>Modularity and Layering</td>
<td>Messerschmitt Ch 6 (157-190)</td>
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<td>11/4</td>
<td>MIDTERM EXAM</td>
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<td>12</td>
<td>11/6</td>
<td>Computer and Comm. Industry</td>
<td>Database Assignment Out</td>
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<td>Folio Article 2 due</td>
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<td>11/11</td>
<td>Veterans Day Holiday</td>
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<td>13</td>
<td>11/13</td>
<td>Database Management</td>
<td>Messerschmitt Ch 11.1 - 11.2 (325-335)</td>
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<td>Messerschmitt Ch 15.1 - 15.2 (415-425)</td>
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<td>14</td>
<td>11/18</td>
<td>Database Management Case</td>
<td>SQL Database Case (179-199 + figs)</td>
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<td>SQL Database Case (179-199 + figs)</td>
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<td>Networking</td>
<td>Messerschmitt Ch 18 (493-512)</td>
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<td>Networking (Cont'd)</td>
<td>Akamai Case (213-228 + figs)</td>
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<td>11/27</td>
<td>Thanksgiving Holiday</td>
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<td>18</td>
<td>12/2</td>
<td>Applications and the Organization</td>
<td>Messerschmitt Ch 9 (273-289)</td>
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<td>19</td>
<td>12/4</td>
<td>Application Architecture Wrap Up</td>
<td>Messerschmitt Ch 10 (293-321)</td>
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<td>Business Paper Due</td>
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<td>12/10</td>
<td>(Wed.) FINAL EXAM Time: 12-3pm</td>
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Evaluation (posted on web page)

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<th>Value</th>
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<tbody>
<tr>
<td>Particiaption</td>
<td>Each class</td>
<td>10%</td>
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<tr>
<td>Pop Quizzes</td>
<td>3 per qtr.</td>
<td>5%</td>
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<tr>
<td>Oral Presentation or Folio</td>
<td>assigned</td>
<td>5%</td>
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<tr>
<td>Weekly Assignments</td>
<td>Each week</td>
<td>10%</td>
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<tr>
<td>Business Paper Proposal</td>
<td>Oct 21</td>
<td>5%</td>
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<tr>
<td>Midterm</td>
<td>Nov 4</td>
<td>15%</td>
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<tr>
<td>Database Assignment</td>
<td>Nov 25</td>
<td>10%</td>
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<tr>
<td>Business Papers Final</td>
<td>Dec 4</td>
<td>20%</td>
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<tr>
<td>Final Exam</td>
<td>Dec 10</td>
<td>20%</td>
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EXAMS and Quizes

- Midterm
  - Probably Nov 4
- Final
  - December 10
- Closed book
- A mix of short answers and 1 or 2 essays
- One or two analytical questions

Exams
**Pop Quizzes**

- 3 quizzes, unannounced times
- Simple questions pertaining to the reading assigned for that day
- Only your top 2 quizzes will count
- 5% of your overall grade

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**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.

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**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.
- For full participation credit, you need to earn 8 participation points over the quarter.

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**Participation**

- In Summary...
  - You need 8 participation points to get full credit.
- Participation is 10% of your overall grade.

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**ORAL PRESENTATION and NEWS FOLIOS**
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

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
- 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 - 10/14
  - Article 2 - 11/6
  - Article 3 - 12/2

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!**

- Tuesday 9/30: Two News Stories.
- Thursday 10/2: Two News Stories.
- The rest of this quarter’s presentation assignments will be announced next week.

**BUSINESS PAPER**

**Business Analysis Paper**

- 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.

**Business Analysis Paper**

- 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 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?

**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.
  - 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!!!!

"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
  - Find it at: http://library.ucsc.edu
  - Click on "Whole database" on left margin.
  - Click on "ABI/Inform".
  - 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 Sept 30!

- 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 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 October 21st
Assignments

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
- 10% of your grade

Weekly Assignments
- Approximately once every week or two.
- They will be posted on the class webpage in the assignments column of the syllabus.
- Usually,
  - Questions from the textbook
  - Questions pertaining to Case Study Readings.
- However, Assignment 1 is to make a resume and cover letter!

Assignment 1
- Turn in Both:
  - A Resume
  - And Cover Letter
- Due October 2 (1 week from today)
- Resume should be:
  - One page
- Focus:
  - Education, Experience, Skills and Abilities
  - What can YOU do for an employer?
  - You may choose to use a header with the purpose of the resume highlighted.

Personal Resume Criteria
- Looks appealing. (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)
  - Job Title
  - Major responsibilities
  - Major accomplishments
- How do these pertain to the job you are seeking?

Sample

| Blush, K.
| Local address: 2432 Washington St
| City, State:...  Phone number:...
| Email address:... |
| Date:... |

OBJECTIVE

To obtain a career position in business or engineering related field.

EDUCATION

- University of Maryland
  - Bachelor of Science in Engineering
  - GPA:...

EXPERIENCE

- Engineering Co-op & Career Services Office
  - Duties:...

- University of Maryland
  - Employment Dates:...

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.

Sample

| The Original Company Name
| Local address: 2432 Washington St
| City, State:...  Phone number:...
| Email address:... |
| Date:... |

Dear Ms. Smith:

I am writing to apply for the position of Web Architect at ABC Corporation. I feel especially well qualified for this position because of my coursework in both programming and Web Information Systems. I have had the opportunity to work on several major projects in these areas. I have also had hands-on experience designing the websites of XYZ corporation. I have included a copy of my resume. Please contact me if you have any questions about my background. I look forward to hearing from you.

Sincerely,

Bob Brown

Cover Letter

Bob Brown
12345 Ocean St
Santa Cruz, CA 95060

September 21, 2005

Jane Smith
Chief Information Officer
ABC Corporation
Scotts Valley, CA 95069

Dear Ms. Smith:

I am writing to apply for the position of Web Architect at ABC Corporation. I feel especially well qualified for this position because of my coursework in both programming and Web Information Systems. I have had the opportunity to work on several major projects in these areas. I have also had hands-on experience designing the websites of XYZ corporation. I have included a copy of my resume. Please contact me if you have any questions about my background. I look forward to hearing from you.

Sincerely,

Bob Brown
TO DO:

By Tuesday (9/30):
- Read "IT Management from 1960-2000" in Reader
- Read Chapter 1, Section II, of O'brien Book (this material is also in your reader.)
- Business Paper Preferences
  - (Group members, Companies)
  - Turn in as a group

By Thursday (10/2):
- Resume & Cover Letter
  - Turn in as an individual