TIM 50 - Business Information Systems

Introduction

Instructor: Yihsu Chen, P.h.D.
UC Santa Cruz
1/5/2016

(Slides initially were produced by Prof. Musacchio)
WEB PAGE:

(write this down, go home, and bookmark it!)
http://classes.soe.ucsc.edu/tim050/Winter16/

Be sure to capitalize Winter16.

Instructor:
   Yihsu Chen
   Office: E2 549b
   Office hours: Thur 3-5 pm
   (cancelled week 1 of quarter)
   yihsuchen@ucsc.edu
About myself

Education:
- Ph.D. in System Analysis and Economics in Public Decision Making, The Johns Hopkins University, USA
- MS. in Public Health, Harvard University, USA
- BS. Environmental Science and Engineering, Tunghai University, Taiwan

Research:

Employment:
- Associate Professor, Technology Management, University of California Santa Cruz, 07/2015-
- Senior Lecture, University College London, London, 9/2015-
- Associate (Assistant) Professor, University of California Merced, 7/2006-6/2015
TIM 50

TAs

- Duan Zhang  
  dzhang33@ucsc.edu
- Chandrahas Jagadish Ramala  
  cjagadis@ucsc.edu

Tutor

- Anshika Kumar  
  ankumar@ucsc.edu
What is this class about?
Acquiring a Song in 1980

Drive to record store

Search for hours for desired music

Buy
Acquiring a car in 2015

Push iTunes Button

Type name of song

Press “Buy”
1980: Who's got the power?
2015: Who's got the power?
UPS

- DIAD (Delivery Information Access Device)
A Streamlined Business Process

**Business Functions**
- Customer
- Sales
- Finance
- Inventory Control
- Warehousing

**Process Diagram**
- **Customer**
  - Order
    - Take Order
      - Credit Check
        - Automatic Credit Check
        - Enter Order
          - Check Stock
            - Print Packing list
          - Find Goods
            - Print Invoice
            - Ship
          - Tell Mfg. to make order
A Reengineered Business Process

Customer
  - Order
    - On web

Sales

Finance

Inventory
  - Automatic Credit Check
  - Automatic Checking of Stock

Control

Warehousing

Inform Mfg. to replenish stock

Print
  - Packing list
  - And invoice

Find
  - Goods

Ship
Some Examples

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

First let us answer: what is a system?

- Interrelated components
  - Input
  - Processing
  - Output
What is information technology?

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

Information system

- A combination of people, hardware, software, networks.
- That collects, transforms, and disseminates information in an organization.

Or

- **People** use a combination of hardware, software, networks, to collect, transform, and disseminate information in an organization to facilitate their business process.
The objectives of TIM 50 are to understand

- needs of business
- 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.
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)
TIM 50 Course Pre-requisites

- No specific programming language knowledge required, though useful
What comes first?

- Do business needs drive the design of technology?
- ...Or does the technology drive the design of a business?
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**
Reading Material 1

Selected Chapters from:
D. Messerschmitt, *Understanding Networked Applications*

Case Studies + Harvard Business Publishing = Reading Material 1
Selected Chapters from: Laudon & Laudon, Essentials of MIS, 9th edition
Case Studies

- Otis Elevator
- Cisco Systems
- Alibaba
- Zhejiang Corporation
- Amazon Web Services
Class Webpage

http://classes.soe.ucsc.edu/tim050/Winter016/

Contains

- Syllabus
- Assignments
- Instructor contact information
- Requirements for assignments and projects
- Exam dates
<table>
<thead>
<tr>
<th>Class #</th>
<th>Date</th>
<th>Topics</th>
<th>Reading</th>
<th>Assignments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1/5</td>
<td>Class Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1/7</td>
<td>Business Background and Terminology, Types of Enterprise Information Systems</td>
<td>Laudon &amp; Laudon Ch 2 (1-33, can skip cases on 15 and 17) <strong>Online material</strong></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>1/12</td>
<td>Competing with IT, Transforming Business Processes</td>
<td>Laudon &amp; Laudon Ch 3 (41-69, can skip cases on 53 and 67) <strong>Online material</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1/14</td>
<td>Business Process Transformation Cont'd, Enterprise Applications</td>
<td>Otis Case (Reader 125-144) Laudon &amp; Laudon Ch 9 (79-92, can skip cases on 89)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1/19</td>
<td>Enterprise Applications (cont'd)</td>
<td>Laudon &amp; Laudon Ch 9 (92-102, can skip cases on 97)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>1/21</td>
<td>Conclude Enterprise Applications, Begin E-commerce</td>
<td>Cisco Case (Reader 145-164) Laudon &amp; Laudon Ch 10 (111-122)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>1/26</td>
<td>E-commerce (cont'd)</td>
<td>Alibaba Case (Reader 165-184) Laudon &amp; Laudon Ch 10 (122-144, can skip cases on 128)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1/28</td>
<td>IT Concepts</td>
<td>Messerschmitt Ch 4 (Reader 1-26)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>2/2</td>
<td>Client Server Computing</td>
<td>Messerschmitt Ch 5 (Reader 27-42)</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>2/4</td>
<td>Modularity and Layering</td>
<td>Messerschmitt Ch 6 (Reader 43-76)</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>2/9</td>
<td>MIDTERM EXAM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>2/11</td>
<td>Computer and Server Industry</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2/14</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week</td>
<td>Date</td>
<td>Topic</td>
<td>Reading Material</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>--------</td>
<td>----------------------------------------------</td>
<td>-------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>2/11</td>
<td>Computer and Comm. Industry</td>
<td>Messerschmitt Ch 7 (Reader 77-106)</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>2/16</td>
<td>Applications and the Organization</td>
<td>Messerschmitt Ch 9 (Reader 107-123)</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>2/18</td>
<td>Databases and Data Management</td>
<td>Laudon &amp; Laudon Ch 6 (155-176, can skip cases on 174)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>2/23</td>
<td>Databases and Data Management (cont'd)</td>
<td>Zhejiang Cooperation of China Case (Reader 185-198)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Laudon &amp; Laudon Ch 6 (177-180, can skip cases on 179)</td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>2/25</td>
<td>Networking</td>
<td>Laudon &amp; Laudon Ch 7 (191-217, can skip cases on 204 and 208)</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>3/1</td>
<td>Networking (cont'd)</td>
<td>Laudon &amp; Laudon Ch 7 (218-224)</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>3/3</td>
<td>Cloud Computing</td>
<td>A Berkeley View of Cloud Computing</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>3/8</td>
<td>Cloud Computing (cont'd)</td>
<td>Amazon Web Services Case (Reader 199-224)</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>3/10</td>
<td>Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>03/15</td>
<td>FINAL EXAM</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Time: 12PM – 3PM</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Evaluation (posted on web page)

<table>
<thead>
<tr>
<th>Item</th>
<th>Due Date</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular Assignments</td>
<td>multiple</td>
<td>10%</td>
</tr>
<tr>
<td>Database Assignments</td>
<td>multiple</td>
<td>10%</td>
</tr>
<tr>
<td>In-class exercises / Quizes</td>
<td>multiple</td>
<td>10%</td>
</tr>
<tr>
<td><strong>Business Paper Proposal</strong></td>
<td>01/28</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Business Paper First Draft</strong></td>
<td>02/23</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Business Paper Final Draft</strong></td>
<td>03/10</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm Exam</td>
<td>2/9</td>
<td>20%</td>
</tr>
<tr>
<td><strong>Final Exam</strong></td>
<td>03/15</td>
<td>25%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td>100%</td>
</tr>
</tbody>
</table>
Regular Exercises  (10%)

- Exercises pertaining to the reading and class discussion

- About 5 or so of these in the quarter

- First one assigned given on 1/12, due in a week.
  - See class web site for link to ecommons.
  - On ecommons, there is an assignment 1, due Tue 1/19
  - (Pleas check it now so that you can see the course website on ecommons.)
  - On the reading...
Database Exercises (10%)

- Early in the quarter, TAs will hold tutorial sessions on MS Access
  - Choose from 3 times (1/18, 1/21 and 1/22).

- Times to be announced this week.
Some classes, we will break into groups to discuss readings and case studies
- Groups will turn in answers after class

Pop quizzes (In-Class)
- ~3 per quarter. Easy questions pertaining to reading
Exams

- Midterm
  - Feb 9

- Final
  - Mar 15

- Closed book

- A mix of short answers and multiple choice
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.
- You’ll work in groups of about 4-5.
Business Analysis Paper

Paper Should address the following areas:

- Industry Profile
- Company Profile
- Information Technology
- Leadership
- Market and Financial Performance
- Trajectory
Business Analysis Paper

Industry Profile

- What is the industry?
- What value does the industry provide to its customers?
- Describe the competitive environment (Porter Model)
Company Profile

- What business is your company in?
- What value does it provide its customers?
- In what ways is it different than its competitors?
- How has it's history shaped what it can offer its customers?
Information Technology

■ How does the company use IT to support or enable its business processes and competitive strategies?
■ What technologies does it use?
■ Does the company use existing technologies, develop its own technology, or some combination of both?
■ 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?
■ Is it used to enhance or differentiate their product, reduce costs, or both?
Leadership

- Who are/were the key leaders of the company
- What decisions did these leaders make, in particular decisions relating to the deployment of IT?
- What opportunities did they identify that helped make their company what it is today?
Market and Financial Performance

- What is the company’s revenue and profit, and how has it evolved over the years?
- How does the company’s performance compare to its competitors?
- Industry specific measures:
  - Cost per Available Seat Mile (Airlines)
  - Sales per square foot (retail)
Business Analysis Paper

- **Trajectory**
  - If the company successfully used information systems in its past, has it continued to innovate and improve up until today?
  - Is the company effectively postured for the future?
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 US Revenues in 2002 were $1.39 billion [1].
“Semiconductors have found a place in virtually every electronic device in existence... industry was able to reach $200 billion in sales ...” [1].

End Note:

Citing Sources

- The easiest way to lose points on your paper is to not cite sources!

- Guides on class website will be posted soon to help you cite your sources correctly.

- Talk to the TA or instructor if you have questions.
Suggested sources of Information

- Company website
- 10K report
  - (This is the annual report public companies file with Security and Exchange Commission.)

- Business article database
  - See UCSC Library website!

- Industry specific publications
  - Example: Aviation Week
- Books
- Good Magazines (The Economist)
- Consulting groups: Forrester, Gartner, ...
Citing Sources

- To receive Full Credit, you must cite at least 5 print sources.
  - If your source is available both online and in print, cite the print version.
Business Analysis Paper Preferences
Due NEXT WEEK - Tuesday 1/12!

- We want you to try to form your own groups.
  - However, we may modify the groups to balance skills and experience

- As a group, turn in (paper):
  - Names of proposed group members with emails
  - List of companies you would like to study

- Use the form we provide on the class webpage!
Business Analysis Paper Preferences
Due Tuesday 1/12!

At least two of your preferred companies must be from this list:

- Emirates (airline),
- CVS Caremark,
- eBay,
- Carrefour (Supermarket Chain),
- Charles Schwab,
- Inditex (Clothing retailer),
- Netflix,
- Toyota,
- Amazon

With your preferences in mind, we will make the final company assignments to the groups.
To help us create balanced groups...

...you will self identify your best skills from:

W: Writing
A: Accounting and finance
C: Computers and technology
S: Business strategy
L: Literature Search
Business Paper Preferences

- **Example:**
  - Bob Smith  smith@yahoo.com  A, L
  - Jane Do  do@hotmail.com  C, W
  - Chris Tomas  chris@gmail.com  S, W

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!!!!

DUE: Jan 28
Business Paper

First Draft

- draft of your final paper
- The closer to “done” the better

- Due Feb 23
Final Draft

Due March 10 (Last Day of Class).