

COURSE SYLLABUS
School of Management
The University of Texas at Dallas

Course: AIM 6347 Cost Benefit Analysis for Technology Management

Instructor: Ram Natarajan, Ph.D.

Semester: Spring 2006

Course Information

This course emphasizes quantitative techniques used to characterize costs, benefits and risks and the use of accounting information for managerial decision making in technology settings. The use of information systems (IS) and technology presents unique opportunities and challenges for managers of modern enterprises. Understanding the costs, benefits, risks and accounting implications of information systems and technology for their organizations would help managers effectively initiate, plan, control and evaluate IS and technology projects.

Many issues and decisions surrounding the management of information systems and technology can be effectively analyzed using a quantitative approach. Traditional analytical tools such as cost-benefit analysis, quantitative risk assessment, scenario analysis, regression, cost-volume-profit analysis, discounted cash flow analysis, real options analysis etc., can be effectively adapted towards this purpose. This course is intended to help students apply these quantitative methods towards managerial decision-making in settings involving information systems and technology.

Two aspects of the course that will be particularly emphasized to enhance the learning experience include: (1) case study approach, which presents many real-world settings involving information systems and technology in different industries; and (2) numerical assignments, which provide ample opportunities for detailed discussions and quantitatively-oriented exercises. The purpose of such a two-tiered course structure is to help students develop *both* broadened perspectives *and* specialized hands-on knowledge and skills.

Instructor Information

Dr. Ram Natarajan

www.utdallas.edu/~nataraj

972-883-2739

Office: SOM 4.809

Office Hours: Mondays 5 PM to 7 PM. Other days by appointment.

Students are encouraged to send their queries and comments related to the course by e-mail. I will reply to student emails within 3 working days under normal circumstances.

person to discuss lecture material. In addition, I am pleased to schedule late afternoon and early evening appointments in my office at relatively short notice (often that day).

Instructor Bio

Ram Natarajan is Associate Professor of Accounting and Information Management in the School of Management at the University of Texas at Dallas. He has a Ph.D. in accounting from the Wharton School of University of Pennsylvania and is an Associate of the Institute of Cost and Works Accountants of India. He worked in various managerial positions with the Indian subsidiary of Chesebrough Pond's Inc. between 1982 and 1987. Prior to joining UTD in Fall 1998, he taught managerial accounting to BBA and Full/part-time MBA students at the University of Michigan Business School and at Southern Methodist University. He was a nominee for the Chancellor's council outstanding teaching award at UTD in Spring 2001.

Ram's research examines the use of accounting information in top management performance evaluation, benchmarking, productivity and efficiency analysis. His research has been published in *The Accounting Review*, *Management Science*, *Journal of Accounting, Auditing and Finance*, *Journal of Accounting and Public Policy*, *Journal of Productivity Analysis*, *European Journal of Operational Research* and *Managerial Finance*. He has presented his research papers in many universities and academic conferences. His academic honors include a Dean's Fellowship of Distinguished Merit from the Wharton School, a research Fellowship from Ernst & Young, an Outstanding Doctoral Dissertation Award from the American Accounting Association and a Teaching and Research Junior Faculty Fellowship from Arthur Andersen.

Course Materials

A course pack containing the following cases and readings is required.

Cases:

- 1) The Intel Pentium Chip Controversy (A): HBS Case 9-196-001
- 2) Adventurous Computer Games, Inc: HBS Case 9-199-020
- 3) Salem Telephone Company: HBS Case 9-104-086
- 4) Cisco Systems -- Implementing ERP: HBS Case 9-699-022
- 5) I2 Technologies: HBS Case 9-699-042
- 6) Wells Fargo Online Financial Services (B): HBS Case 9-199-019
- 7) Digital Everywhere, Inc: HBS Case 9-298-099
- 8) Whirlpool Europe: HBS Case 9-202-017
- 9) Selecting a Hosting Provider: HBS Case 9-601-171

Readings:

- 1) Web and IT hosting facilities – HBS 9-601-134
- 2) Capital Projects as Real Options: An Introduction: HBS 9-295-074

3) Corporate Financial Management – Options Exercises: HBS 9-293-095

The coursepack is available in UTD Bookstore and Off-Campus Books. In addition to the cases and readings in the course pack, lecture notes, a number of mini cases and readings will be used in the course. These will be made available in WebCT.

Course Access and Navigation

You'll need to have a UTD NetID and password to access the course materials on WebCT. If you have not set up a UTD NetID account yet, please go to the UTD NetID page at <http://netid.utdallas.edu> to initiate your account. Your UTD NetID is your WebCT ID. It is to be used to access all of your UTD WebCT courses plus other UTD computing systems e.g. your UTD email account.

The URL for the course login page is: <http://webct.utdallas.edu>. The course may be accessed at any time. You'll access "My WebCT" page after you login. The page lists all the courses you've registered for. You can click the course title to access the course Home page which displays several icon links. Clicking each icon link will take you to different subsidiary pages containing the course content elements or built-in course tools. Some navigation components such as the Navigation Bar with Course Menu on the left side, the Menu Bar and the path link on the top and the Action Menu on the content page can help you navigate within the course site.

If you have any problem with your UTD account or connection to the UTD WebCT server, you may email to: assist@utdallas.edu or call UTD computer help call center at: 972-883-2911.

Student Assessment

Grading Information:

Grading Policy

Quizzes (5x5)	25%
Participation	15%
Case Assignments	20%
Final Exam	40%

Quizzes

There will be six quizzes. You can drop a quiz. The primary objective behind the quizzes is to ensure that you are working on the course material on a consistent basis throughout the semester.

Participation

Students are required to actively participate in the discussions in class. You can also add comments to the discussion board in WebCT in reference to the lecture topics and assigned readings. Use the Discussion tool and click on the appropriate topic. There is a discussion board for each topic. There is no weekly time limitation or cut-off deadline on discussion board postings - hopefully you will consider all of the topics throughout the semester. Feel free to comment on the contributions of your fellow students. Your participation grade will be based on familiarity with the cases and reading materials, relevance and insight reflected in the questions and commentary and whether your contributions help in creating a positive learning environment. In other words, content counts, not quantity.

Case Assignments

You will submit two case assignments during the semester: Whirlpool Europe and Selecting a Hosting Provider. Each student is required to prepare a **written analysis** of both the cases. At your option, you may work on the written case assignments in groups of no more than two students, with each group submitting a single written analysis. Each student is fully responsible for their decision with regard to working on case assignments in a group, and the associated responsibility to be a responsive team member. If you elect to work in a group for the first written assignment, you must work with the same group to prepare the second written case analysis—even if you grow to dislike one another. Written case assignments are due by 5 PM on the day designated on the course outline. **Late papers will not be accepted.**

Your case analyses must be (1) typed on 8-1/2 x 11 paper, (2) fully double-spaced with 1.25 inch margins, and (3) in a font not less than 12 pt. Papers are limited to no more than eight pages of text. However, an unlimited number of exhibits presenting financial analysis, charts, cash flow projections, etc. may be included. Exhibits should present information that supports your conclusions, but is too detailed to be included in your write-up. Since cases do not have a single “definitive” solution, I will evaluate your analysis on the basis of (1) logic and reasoning, (2) practicality and comprehensiveness, (3) the “value-added” of exhibits, and (4) use of a clear and concise writing style.

Written Case Assignment 1: Whirlpool Europe (This case is in the coursepack and assignment details will be made available on February 6, 2006. The assignment is due on March 13, 2006)

Written Case Assignment 2: Selecting a Hosting Provider (This case as well as the accompanying technology note on Web and IT hosting facilities are in the coursepack and assignment details will be made available on March 27, 2006. The assignment is due on April 24, 2006.)

Final Examination

Each student must complete a “take-home” final examination. Problems included on the final exam may be somewhat more comprehensive than those discussed during the semester. During the final examination period, students may refer to their lecture notes, and the homework solutions that have been distributed during the semester. However, students are expressly prohibited from discussing the examination, either with one another or with anyone else.

Scholastic Honesty

The university has policies and discipline procedures regarding scholastic dishonesty. All students are expected to maintain a high level of responsibility with respect to academic honesty. Students who violate university rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the university. Since such dishonesty harms the individual, all students and the integrity of the university, policies on scholastic dishonesty will be strictly enforced. Credit for anything that is not your own original work must be given properly. This policy applies to all assignments, whether papers, presentations, discussions, etc.

Course Outline/Schedule

CP – material in course pack

WEEK	DATE	TOPIC/LECTURE	READING/CASE/ INCLASS EXERCISE	ASSIGNMENT / ACTIVITY
1	1/9/06	1) Introduction to course 2) Managerial decision-making in settings involving information systems and technology – Examples 3) Costs, benefits and risks assessment in IS and technology decisions	1) Atlantic Insurance Group 2) Tax-on-Web	
2	1/23/06	Justifying investments in technology and IT assets	1) Rosen Manufacturing 2) Arrow Electronics	
3	1/30/06	Product recall and replacement decisions in high tech industries -- Accounting and other implications	1) The Intel Pentium Chip Controversy (A) case (CP) 2) NanoGig Corporation	Quiz 1 covering week 1 and 2 material
4	2/6/06	Evaluation of technological feasibility and accounting for software development expenses	Adventurous Computer Games, Inc. (CP)	Assignment 1: Whirlpool Europe details made available
5	2/13/06	Performance evaluation of subsidiaries providing information services	Salem Telephone Company (CP)	Quiz 2 covering week 3 and 4 material
6	2/20/06	Strategic importance of investing in high quality cost management systems in high tech companies	Sandeesk Corporation	
7	2/27/06	1) Human resources planning decisions in the PC industry 2) Quantitative assessment of the benefits of investing in accurate forecasting mechanisms	Dell call center	Quiz 3 covering week 5 and 6 material

8	3/13/06	1) Costs of and benefits from switching over to ERP systems 2) Implementation of ERP systems	Cisco Systems, Inc: Implementing ERP case (CP)	Assignment 1 due
9	3/20/06	Evaluation and quantitative assessment of the benefits of investing in electronic data interchange and supply chain management	1) I2 Technologies (CP) 2) Snap First Corporation	Quiz 4 covering week 7 and 8 material
10	3/27/06	Estimating the value of expert information		Assignment 2: Selecting a Hosting Provider -- details made available
11	4/3/06	Evaluating new project initiatives in the online financial services industry	Wells Fargo Online Financial Services (B) (CP)	Quiz 5 covering week 9 and 10 material
12	4/10/06	Comparison of various valuation approaches in entrepreneurial firms	Digital Everywhere, Inc. (CP)	
13&14	4/17/06 & 4/24/06	Importance of option value for technology projects	1) Tax-on-Web revisited 2) Capital Projects as Real Options: An Introduction (CP) 3) Corporate Financial Management – Options Exercises (CP)	Quiz 6 covering week 11 and 12 material. Assignment 2 due on 4/24/06
15	4/28/06 to 5/1/06	FINAL EXAM (Take-home)		