

University of Texas at Dallas
MIS 6204
MBA
Information Technology Foundations
Spring 2011
Professor Vijay S. Mookerjee
Class meets on Mondays 6pm – 10 pm

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Readings

Readings and case packet available at bookstore

Other readings will be posted online or handed out in class

INTRODUCTION

The rapid pace of change in Information Technology (IT) has made it critical for managers to possess a conceptual understanding of IT and how IT creates value. We will begin with a study of the IT architecture of a modern firm and focus on the three pillars of IT architecture: data management, knowledge management, and network management. Next, we will discuss each of these components in detail to obtain a deeper understanding. We will also consider the role of IT in transforming business activities.

We then move to a higher level of analysis and consider strategic implications of IT. IT facilitates the creation and operation of a virtual network of organizations enabling each firm to focus on its core competencies. Effective use of IT can radically alter the value proposition delivered to customers and enable firms to respond to customer demand more efficiently and expeditiously. We will discuss how IT can provide a source of competitive advantage and how we may assess the business value of IT.

During class discussions, we will mainly be concerned with decisions that managers make to *make the most* of IT resources available to them. Our interest is in understanding how the challenges presented by information technologies differ from those presented by other firm resources. Our approach will be analytical in nature, sometimes theoretical, and seldom merely descriptive. We will be interested in tools and concepts that enhance our ability to define and analyze IT problems and alternative solutions to them.

LEARNING OBJECTIVES

As a result of our work together you should (session numbers in parenthesis):

1. gain a better understanding of the role that information technology (IT) plays in the firm.
2. better understand how the capabilities provided by information technologies (IT) can enable a firm meet its objectives, including enabling a firm to gain competitive advantage.
3. obtain an understanding of some of the theoretical models that are used the design and operate information systems so that you can become better informed consumers of IT resources.
4. understand some emerging issues in IT
5. be able to use tools and theories developed in other courses, to better manage a firm's information technology resources.

GROUP TERM PAPER

10 page on an IT related topic. A short write up (1/2 page) on the topic is due on the day of the mid-term exam. Some suggested topics are (not an exhaustive list):

Social media	RFID	User-generated content	Knowledge Management
Cloud Computing	Sustainable IT	IT security and Privacy	Software Development
Business Intelligence	ERP systems	Recommendation Systems	Online Advertising
Mobile Computing	Open-Source software	IT outsourcing	Cyber Insurance
IT in Health-Care	Is IT a commodity?		

EXAMS

There will be two open book exams.

COURSE POLICIES

Meaningful Class Participation: Active, consistent participation in class is an essential part of the learning experience. We will be using cases and readings and you must prepare them, either individually, or preferably, with a study group. Meaningful participation in the class discussion is valued and needed. Meaningful participation means making a contribution to our discussion, not merely talking, and it does not mean repeating facts in the readings or simply agreeing with what others have said. Nor does it mean making a point here or there. Our interest is not in "right" or "wrong," it is whether you have made a contribution to the development of the issues under study; whether you have moved the class forward. One clear way of making a contribution is to critically evaluate the comments of your classmates where needed; it is not the instructor's duty alone to decide whether a remark is of value. Failure to participate and disagree where needed, penalizes you and the class in many ways: (1) you lose incentive to prepare the readings and case properly; (2) you lose the chance to develop oral communication skills; (3) you deprive all of us of your insights into the reading material and case; (4) your ideas do not get scrutinized and evaluated by others.

COURSE GRADE

Your final grade in this component is a function of the following elements:

Element Group	Weight
• Case write ups	40
• Term Paper	20
<u>Individual</u>	
• Exams	30
• Class Participation	10

SCHEDULE

JAN 10	INTRODUCTION	SESSION 1
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Lecture Course organization and discussion of the course. Discussion of the terms information, management, systems, and information technology to provide an understanding of how these have changed over time and where they are likely to go.

Discussion

1. What would you consider to be important IT knowledge for today's managers
2. Is IT *over*? In other words, should companies view IT as a source of competitive advantage, or something in the sense of a "must have" similar to a utility such as electricity, janitorial services, or freight?

(Use the web to find what Nicholas Carr has to say on the above question.)

Case

Cisco

Submission Questions

1. Cisco is frequently characterized as an information age company, in contrast to an industrial age company. In your opinion, what factors distinguish Cisco as an information age company?
2. In what ways does IT contribute to Cisco's strategy?
3. Being in a commodity business and often referred to as a "plumbing" company, how should Cisco plan its future?

JAN 24	DATA MANAGEMENT, ENTITY RELATIONSHIP DIAGRAMS	SESSION 2
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Readings

Data Modeling Handout

Lecture

A crucial aspect of the IT architecture of any modern firm is its data. In this session we will cover the basics of data management as well as some recent advances in database technology, including Data Warehouses, Data Marts, and On-line Analytic Processing.

We will also study Entity Relationship Diagrams (ERD) that are used to design a database. An ERD provides a “high-level” view of an organization's data and the relationships (constraints) that exist within the data. ERDs are used extensively by organizations to develop and organize their overall data requirements.

Readings

Handout

Lecture

Information systems use processes to manipulate data. In this session, we will study decision tables and trees as tools to represent and refine decision processes within the organization.

Discussion

Think of an example of a set of rules used to make a decision. What would these rules be?

JAN 31	BUSINESS INTELLIGENCE, INFORMATION BASED STRATEGIES	SESSION 3
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Case

Capital One

Submission Questions

1. How is Capital One's use of IT different from other mass customization strategies?
2. How sustainable is Capital One's advantage?
3. What are the consequences of Capital One's IT strategy for expansion into different segments of the credit card industry, and into other industries?

Case

Akamai Technologies

Questions for Submission

1. Discuss Akamai's business model and whether it makes sense. Hint: Use Porter's 5 force model.
2. What are the key technologies used in CDN? What are some alternatives to CDN services?
3. Discuss how Akamai should price its services, now and in the future?

Open book exam covering the topics so far.

Term Paper Topic write up due (1/2 page)

Readings

I-Premier Case

Questions for Submission

1. How well did the I-premier perform during the 75 minute attack? What would have done differently if you were Bob Turley?
2. The CEO had expressed concerns that the company's operating procedures were deficient in response to such attacks. Do you agree? What additional procedures can you propose?
3. In the aftermath of the attack what would you be worried about? What actions would you recommend?

Readings

Chitika Inc.(To be provided online)

Questions for Submission

1. Compare and contrast the role of business analytics in Chitika with that in Capital One.
2. The CEO would like to approach publishers with a CPM (cost per thousand impressions) price contract. That is, if the ad is shown, Chitika would pay the publisher regardless, but only get paid by the advertiser if there was a click. How would you develop a model to decide whether or not to show an ad?
3. What are some key issues that you would consider to set up an analytics group at Chitika?

Readings

None.

Lecture

Leveraging Social Networks in Business

FEB 21

FINANCIAL EVALUATION, OPTIONS PRICING

SESSION 6

Readings

Dos Santos, B., "Justifying Investments in New Information Technologies," *Journal of Management Information Systems*, Spring 1991.

Lecture

Approaches to evaluating IT investments

Readings

Porter, M., "Strategy and the Internet," *Harvard Business Review*, Mar-Apr 2001, pp. 63-78.

Further discussion of Is IT over?

EXAM WEEK

EXAM 2