How does information technology create business value? How can firms capture this value? How companies align information technology investments to business strategy? What is the right portfolio of Information Technology investments? This course examines these questions by surveying industry practices and academic research, and introduces a framework to quantify and understand the true business value of strategic IT investments. This course introduces contemporary technologies and discusses their implications to company strategy, operations, marketing, decision making, and e-Business activities. It examines the role of technology and factors that govern the choice of IT investments, and how IT influences business strategy. The course also covers key challenges in managing IT resources, and factors that limit business’ ability to exploit the latest technologies.

Text: Course pack, made available via study.net.

From Jackie Romo @ GSM: “Textpaks are available through study.net to students who are officially enrolled in the course. You will receive an email from the GSM textpak managers with password and login information and instructions on how to access materials. Please contact Study.net directly at 1888-462-0660 or email customerservice@study.net or textpaks@exchange.gsm.ucdavis.edu.”

Note: Syllabus is tentative. Final design will depend on class size, availability of guest speakers, and scheduling flexibility. Number of cases discussed in class may vary in each section. Assignments will be handed out at least one week in advance.
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Course Structure

Information technology impacts the firm, industry and the economy. It can alter industry structure and competition; make markets more efficient; increase productivity; and redefine a firm’s core activities and processes. Almost 50% of capital expenditures in developed economies today are on IT, totaling about $2 trillion worldwide. Given the pervasiveness and large scale of IT, it is critical for managers to understand the variety of technologies and applications relevant to modern business; know how IT can add value to the firm; and learn how to manage in an increasingly IT-intensive world.

Types of information technologies covered in course:
- Transaction processing technologies and decision support technologies, including database and ERP systems,
- Personal productivity and Collaboration Technologies
- Internet and Web-based technologies, including inter-firm and business to consumer communication technologies.

Learning objectives by the end of the course, you should understand
- how IT creates business value and the link between IT and business strategy use of IT for business transformation,
- how to apply a framework for Managing IT budget; Managing IT Business Value; Managing the IT capability; and Running IT like a business;
- how IT influences business strategies and practices in various functions, and.
- Key aspects of IT management: evaluation of IT projects, portfolio management, outsourcing, intra-sourcing, governance, Service delivery etc.

Grading and evaluation
- Student project: 20% (team)
- Case write-ups, assignments and case presentations: 25% (Team)
- Take home exams: 30% (Individual)
- In-class participation, including case discussions: 25% (Individual)
### Tentative Course Schedule

The course is designed in ten 3-hour sessions. TUE and THU 6:30-9:30pm

<table>
<thead>
<tr>
<th>Session</th>
<th>Topics</th>
<th>Discussion</th>
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<tr>
<td>1</td>
<td>June 15</td>
<td>Course Overview IT: Technical &amp; Historical Overview, IT and Business Alignment</td>
<td>Students expectations Value Disciplines</td>
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<tr>
<td>2</td>
<td>June 17</td>
<td>Introduction to Managing IT for Business Value IT and business strategy alignment</td>
<td>Case Discussion MDCM, Inc (A) Strategy Synchronization</td>
</tr>
<tr>
<td>3</td>
<td>June 22</td>
<td>Economic impact of IT Business value of IT Managing the IT Budget IT &amp; Business Transformation</td>
<td>Case: eChoupal eChoupal due</td>
</tr>
<tr>
<td>4</td>
<td>June 24</td>
<td>Process-enabling IT, ERP Business value of ERP Inter organizational IT Managing the IT Business Value IT-enabled supply chain mgmt Evaluating IT investments</td>
<td>Case: Cisco Web-enablement BVI tool Cisco Due</td>
</tr>
<tr>
<td>5</td>
<td>Jun 29</td>
<td>Managing the IT Capability Managing IT resources: Evaluating IT investments, Introduction to IT Portfolio Management.</td>
<td>Case: MDCM, Inc. (B): Strategic IT Portfolio Management Selection of Student projects MDCM(B) due Project Abstract due</td>
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<td>7</td>
<td>July 6</td>
<td>Technology Overview: Web 2.0 and the consumerization of IT Cloud Computing; Use of Social media demand forecast</td>
<td>Speaker: Jay Hopman IT Researcher Intel Corporation Speaker: Hong Li Principal Engineer Intel Corporation</td>
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<td>8</td>
<td>July 8</td>
<td>IT innovation Disruptive technologies Managing IT as a Service</td>
<td>Vish Viswanathan IT Program manager Intel Corporation</td>
</tr>
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<td>9</td>
<td>July 13</td>
<td>Data collection and IT-enabled marketing</td>
<td>Speaker Jack Anderson IT Innovation Manager Chevron Case: Harrah’s Entertainment Harra’s due</td>
</tr>
<tr>
<td>10</td>
<td>July 15</td>
<td>Course wrap-up</td>
<td>Student presentations</td>
</tr>
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July 20 Take Home Final (individual) Final Due
Sessions Details

2.1 Session 1

Required Readings
1. Mastering the Three Worlds of Information Technology HBR 17Nov06

2.2 Session 2
IT and business strategy: strategic alignment.
Managing IT for Business Value Capability Maturity Frame Work Introduction
Case Discussion MDCM Inc.( A) IT Strategy Synchronization

Required Readings
6. Martin Curley A Value Based IT Capability Maturity Framework IVI Working Paper 0701

2.3 Session 3
Business value of IT, impact of IT investments
CMF1 Managing the IT Budget
Case discussion: ITC eChoupal

Required Readings
8. Strategic Intent of IT sourcing MIT Sloan Vijay Gurbaxani
9. Defining the Value of e-Business Intel IT May 2003

2.4 Session 4
CMF2 Managing the IT Business Value
Business Value Dials. Business Value Index
Technology overview ERP
IT-enabled supply chains: supply chain integration, inter-organizational technologies for data exchange, collaborative workflow, messaging and electronic exchanges.
Case discussion: Cisco Web enablement and IT strategy
Required Readings
12. Managing IT Investments Intel IT August 2003

2.5 Session 5
Managing IT resources: Evaluating IT investments, Introduction to IT Portfolio Management.
CMF3: Managing the IT Capability
Case Discussion: MDCM, Inc. (B): Strategic IT Portfolio Management
Required Readings

2.6 Session 6
Managing IT like a business
Case Discussion: Does IT Payoff? Strategies of Two Banking Giants
Required Readings

2.7 Session 7
Cloud Computing;
Other use of information technology demand forecast
Technology Overview: Web 2.0 and the consumerization of IT
Required Reading

18. Maged N. Kamel Boulos* & Steve Wheeler†, The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education


20. Jay W. Hopman, Managing Uncertainty in Planning and Forecasting Information Services and Technology Group, Intel Corporation Volume 09 Issue 03 Published, August 3, 2005 ISSN 1535-864X DOI: 10.1535/itj.09032

2.8 Session 8

New Trends in IT, IT Innovation,
Disruptive technologies
Managing IT as Service
Required Reading

21. Christensen, Clayton Joseph Bower “Disruptive Technologies” Catching the wave HBR Jan-Feb 1995


23. Morgan Stanley Internet trends March 9, 2010 mary.meeker@ms.com / scott.devitt@ms.com / liang.wu@ms.com

2.9 Session 9

Case Discussion: Case discussion: IT-enabled marketing – Harrah’s entertainment
IT-enabled Marketing: Knowing your customer - learning without asking
Case Discussion: Harrah’s entertainment
Required Readings:


2.10 Session 10

Course wrap-up: Student presentations.
Complete Reading List

1. Mastering the Three Worlds of Information Technology HBR 17Nov06


6. Martin Curley A Value Based IT Capability Maturity Framework IVI Working Paper 0701

7. Defining the Value of e-Business Intel IT May 2003


9. Strategic Intent of IT sourcing MIT Sloan Vijay Gurbaxani


12. Managing IT Investments Intel IT August 2003


16. Maged N. Kamel Boulos* & Steve Wheeler†, The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education1
17. Jay W. Hopman, Using Forecasting Markets to Manage Demand Risk
Information Technology Innovation & Research, Intel Corporation.
Volume 11 Issue 02 Published, May 16, 2007 ISSN1535-864X
DOI:10.1535/itj.1102.04

18. Jay W. Hopman, Managing Uncertainty in Planning and Forecasting
Information Services and Technology Group, Intel Corporation Volume
09 Issue 03 Published, August 3, 2005 ISSN 1535-864X DOI:
10.1535/itj.09032

19. Christensen, Clayton Joseph Bower “Disruptive Technologies”
Catching the wave HBR Jan-Feb 1995

20. Curley, Martin 2006 “IT Innovation, a new Era” Proceedings of the
International Conference of Computational Science, Reading UK

21. Nicholas Carr and various letter writers. IT doesn’t matter (and

22. CASE: Does IT Payoff? Strategies of Two Banking Giants
Author(s): Ali Farhoomand, Minyi Huang. HBS HKU-753, Dec, 2007

23. CASE Rajiv Lal and Patricia Carrolo. Harrah’s entertainment, inc.
4  Administrative Details

4.1  *Session Format*

- Typical sessions will be 3 hours long, with one 10-15 minute break. Student participation is encouraged and required.
- Most sessions will include multiple formats - lecture, discussion, and case analysis.
- Suggestions are welcome.

4.2  *Grading and Evaluation*

The grading plan listed below is tentative and subject to minor changes.

- Student project (see below for details): 25% (team grade)
- 3 Case write out assignments: 25% (team grade)

Teams should write up the MDCM (B) portfolio management case using the BVI tool and Value Risk Analysis Matrix. Teams will choose any other 2 case assignments in the course for case write-up. There is a 2-page limit (plus oral graphics and other necessary attachments), longer submissions will lose points.

- Take Home Exams (normally 2): 25% (Individual grade)
- In-class participation, including case discussions: 25% (Individual grade)

Each class is an opportunity to earn 3 points for participation. Especially valued is an effort to contribute towards the discussion by providing examples (or counterexamples) based on your reading and experience. Typically, presence in class will earn 1 point, outstanding performance earns 3, and moderate participation earns 2 points. Absence without notification earns -1.

Historically, the typical grading pattern is an A-/A grade for a score of 85% or above, B+ for 75-85, and B for 65%-75.

4.3  *Team formation*

Please form your project groups early and communicate this information to me via email. Group size will be between 2-3 students, and will depend on overall class enrollment, and will be decided first day of class. The ideal number of groups in each section is 4-5.

4.4  *Class Policies and Rules*

- Please attend class, read material in advance, and contribute to discussion. Class will begin on time. Please try to arrive before start and remain through the session. One absence is permissible under certain circumstances. More than two absences are not.
- All reports and written assignments should be delivered on time electronic format at due date time – (20% penalty for each level of delay). Case write-ups cannot be submitted after the case discussion in class.
Reports should be easy to read and as concise as possible. Please separate essential points and details, by moving details into an Appendix. Excessive use of color or other attempts to beautify the report are unnecessary.

- Please avoid distractions - cell phones, talking among yourselves, food, music, etc. If you have something relevant to discuss, please share with the class.
- Please report any exigencies and constraints to me as early as possible.

In addition to these, you are expected to conduct yourself according to the University of California’s standards of ethical conduct for students, in particular, the sections on academic conduct and integrity.

Details may be obtained from the GSM Associate Dean or the Office of Judicial Affairs.

5 Case discussion and presentations

Cases are an important aspect of this class, but to be successful it relies on active and meaningful participation of class members. Everyone should read and be prepared to discuss the assigned case. I will post a list of relevant questions a week before the case. Your write-up should specifically respond to these questions as well as a useful guide as you prepare for case discussion. During the discussion, you should be prepared to participate and present your analysis of these issues. Many of these issues raised in the case are only semi-structured and sometimes without a definitive answer. What is important is a logical analysis leading to some clear insight and recommendation, where appropriate.

For each case, one student group will be responsible for presenting an in-class 15 minute overview to kick-off the case discussion. This summary should be based on the case document as well as your independent research (e.g., you might search for relevant facts and events in the period before or after what is discussed in the article). It should include company and competitor background, facts, relevant technology, strategic considerations, and should end by motivating and raising the key issues for discussion.

6 Team Project

Your team can choose one of the following 3 types of projects, and feel free to consult me once you have one or more candidate topics in mind. The project work should adhere to the following timeline and deliverables, counting from weeks after start-of-class.

- Sessions 1-4 Initiate email discussion of your project plans.
- Session 5 Project Abstract- list the topic and describe the intended final output. Half a page.
- Session 10 Project presentation, structured as “presentation to the board”. Written report is an executive summary (approximately 3-5 pages) supported by additional materials from your presentation.
6.1 to 6.4 are examples of IT projects. Students are also encourage to bring innovative uses of Information Technology as projects.

6.1 **Creating business value with IT**

Identify an organizational unit of manageable size (e.g., a small business, or a division in a larger corporation) - and investigate how you would use IT to create business value, transform the organization and/or create a new organization, product or market. Discuss what new technologies you would use (and what information-processing mechanisms they would replace), what changes this would make in information availability, latency and accuracy, and how these information changes should imply business transformation.

A useful way to structure your research and project results is the following.

1. Introduce the context: the organizational unit of analysis, its products, markets, mission.
2. Explain the new technology and its key characteristics, and relate it to current information processing abilities.
3. Explain how the new technologies would lead to redesigned processes and other aspects of business transformation, and examine the direct and indirect effects (on business value) of these transformations.
4. Summary.

6.2 **Consulting Report on IT Strategy**

Identify an organizational unit of manageable size (e.g., a small business, or a division in a larger corporation), apply your knowledge about IT and business to analyze the role of IT for this unit, and develop an IT Plan for it. The plan would specify (at a high level) the key IT applications that the unit should focus on, the underlying infrastructure technologies necessary to support these applications, how to go about achieving this (e.g., sequencing the introduction of major applications), whether services should be delivered via in-house resources or outsources, etc. Explain how the IT plan is consistent with (and whether it suggests changes to) the units strategy, financial resources, competitive position etc.

6.3 **Emerging Technology**

Select an emerging information technology topic (e.g., RF id, VOIP, wide-area wireless technologies, bio-computing) for in-depth research and business analysis choose a technology that has the potential to become a significant aspect of business computing in coming years. Develop an understanding of the underlying technology - what's new or neat about it, what existing technologies does it replace and how it differs, how does it work, and what set of supporting technologies would comprise the technology ecosystem? What is the business potential and likely use of this new technology? How will it change business practice - and in what industries? Who are the vendors (of the core and related sub-technologies) and what will the industry structure look like?

Your report and presentation should cover (a) a description of the technology and the technology ecosystem that should grow around it, (b) a discussion of what the supply side would look like, and (c) on the user side: its business potential, likely applications, and important ways in which it will cause changes in business practices; this part of the report should employ a concrete context and offer at least a couple of specific illustrations that make precise the general points in your analysis.

6.4 **IT-enabled process redesign**

Identify a business process of significant scope and importance in a particular firm or industry, which might be impacted by changes in information technologies - perhaps because the process currently employs outdated methods and technologies for information processing. Analyze the potential introduction of new information technologies and discuss how the process and organizational responsibilities should be redesigned in order to best extract the advantages of the new technology. Your report should (a) describe the context of the
research a detailed description of the process and its objectives, and the information technologies presently in use for managing the information flow and computation, (b) propose and justify process redesign in light of new technology, and (c) explain how these changes should lead to a positive payoff from the new technology.