

**MB 648.01 –Management With Technology
Spring 2007 (Revised based on class input)**

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1. Overview:

Most courses about managing technology focus on the strategic use of technology: creating a competitive advantage, securing and expanding the company's position in the value chain, or reducing costs through automation or other technological streamlining. But, technology has also greatly impacted the way we organize and approach our work and the way we manage the people within our organizations, not just the organization as a whole. This course looks explicitly at how technology interacts with the human side of management: how new technologies have changed the way we organize ourselves, how we manage ourselves, and how we manage others. We start with a broad review of the meaning, history, and evolution of technology. We then look at the interaction of technology and management in terms of managing ourselves, managing others, and managing organizations. The last section of the course deals with ethical issues associated with technologies.

2. Course Objectives:

At the end of this course, students will be able to:

- Identify trends and patterns in the evolution and application of technology as each affects how we organize ourselves and how we manage ourselves and others within our organizations.
- Evaluate new technologies for the opportunities and challenges they bring to the role of managing people and organizations.
- Be able to perform an organizational analysis of an organization as a whole, with a focus on its technological dimensions.
- Further develop critical thinking skills aimed at assessing when specific technologies offer solutions that can improve the ways in which we manage ourselves and others, and when they do not.
- Reflectively apply these concepts to their own activities to improve their personal effectiveness when working in teams and organization.

3. Course Structure

The course is structured as a hybrid between a traditional lecture-based course and a case-base course. We will start with an emphasis on lectures to establish a common understanding of the terms “technologies” and methods for organizational analysis. We then move into specific topics, and will roughly alternate lectures and case analyses.

Specific topics will be decided, in part, by members of the class during the first week of class.

4. Course Materials

Required Texts:

TWIF: Friedman, Thomas L. 2006. *The World is Flat: A Brief History of the Twenty-First Century, Release 2.0*. Abridged Ed. Audio Renaissance: New York. ISBN: 1-4272-0016-5.

HWGH: Kessler, Andy. 2005. *How We Got Here: A Slightly Irreverent History of Technology & Markets*. Harper Collins Publishers: New York. ISBN: 0-06-084097-8

TM: Nye, David E. 2006. *Technology Matters: Questions to Live With*. MIT Press: Cambridge, MA. ISBN: 0-262-14093-4

MSP: Microsoft Project, Standard Edition. For Academic Use Only. (At least one copy per group).

Other Materials:

Class Blog: Early in the semester, we will collectively decide upon a blogging tool to use for class. Students are responsible not only for maintaining their own class blog (part of your grade is based on your blog), but also **reading the class blog on a regular basis. Notices about the class will be posted to the blog.**

Blackboard site (BBV): All students registered for this class have access to the Blackboard site for this class. This syllabus and any additional materials will be posted to the web site. Individual assignments will also be submitted through Blackboard.

HBS Publishing Site (HBSP): In addition to the text books above, we will use Harvard Business School cases to discuss certain topics. These cases will be selected within one week of when we will discuss them and will be added to our HBS Course. You will need to buy the cases (they are generally \$4.00 each) in order to download and read them. I will post directions on how to access the HBS course information in our blog early in the semester.

5. Academic Integrity

Students are responsible for maintaining the highest standards of academic integrity in all aspects of the course. Failure to comply with standards of academic integrity will be treated with appropriate diligence and will have serious consequences in your academic performance in this class and potentially your academic career at Boston College. Please familiarize yourself with the academic integrity policies of the University and if uncertain, please bring any questions or concerns to me **before** handing in an assignment or participating in other activities (such as in-class exams and activities). Two general rules of thumb: When in doubt about using material, make sure you cite it. When in doubt about collaborating, sharing, etc., don't do it without checking with me.

6. Grading

Grading of the course deliberately includes many different deliverables and incorporates both individual and group activities as follows:

Due Date	Assignment	Type	%age
5-Feb	Technology Assessment	Individual	10
25-Mar	Organizational Analyses	Group	10
17-Apr	MS Project Assignment	Group (see below)	15
29-Apr	Consulting Presentations	Group	10
8-May	Final Report	Group	15
Continuous	Contribution to Class Discussion	Individual	10
Once	Technology in the News	Individual	10
Continuous	Blog	Individual	15
Continuous	Discretionary	Individual	5%

6.1 Technology Assessment

Due through Blackboard **before** class on February 5th, everyone will hand in an assessment of an area of technology. For this assignment, you will start by picking a technology to assess. This technology may be linked primarily to a particular product, but must be generic enough to compare across products. For example, the iPhone is not a technology per se, but a product employing smart phone technology, so it might be compared to the Treo and the Dash. Or, if your technology is not productized directly, you can compare applications of a technology. For example, RFID technology is largely productized into one product, but there are many applications of the technology (e.g., inventory tracking, anti-theft devices, spatial tracking). One place you may find interesting (and current) ideas for your technology is by visiting the CES2008 website (www.cesweb.org) and selecting one of the nine major topic areas (Audio, Digital Imaging, Emerging Technologies, Gaming, High Performance Audio & Home Theater, Home Networking, Home Theater and Video, In-Vehicle Technology, or Wireless) and scan through some of the products introduced in that area. However, that is just one idea and you can select your technology as any way you want.

However you select it, your assessment should include three products in one are of technology (e.g., MP3 players, not the iPod; smart phones, not the BlackBerry; DVRs, not TiVo). You should assess those products on dimensions both specific to that product (e.g., contrast ratio and resolution for video-related products) and on several generic dimensions, including: platform compatibility/integration with existing technologies, extensibility/obsolescence, cost of ownership, usability, performance, and system capacity. (Note: system capacity may mean different things for different technologies, e.g., for an iPod it would be song storage, for an HDTV it might mean number and type of video input/output connections.)

Your write up should include an executive summary that explains the technology niche you are assessing and makes a recommendation of the best valued product from your comparison, followed by a more detailed comparison of at least three products or application of a technology (e.g., 3 MP3 players, or 3 applications of Bluetooth technology), and a table which concisely conveys the relevant information upon which the comparison is based. You should assume I have a basic, but not exhaustive understanding of the underlying technologies, so it may be necessary to explain specifics about a dimension upon which you are comparing the products (e.g., if you are doing HDTVs, you might want to explain what “contrast ratio” means, and the difference between static and dynamic contrast ratios) and why that dimension is important.

Since this is a class on Management With Technology, your assessment should also include implications of this technology for managing yourself or others. Although you may take a broad view of what “management” means for these implications, I urge you to **keep this aspect of the assignment in mind when selecting the technology you wish to assess**, as that may affect your ability to complete this aspect of the assignment. (i.e., it may be harder, though not impossible, to write about management implications for gaming technologies than for smart phones.)

This assignment will be assessed based on

- a) how well you execute each of the four parts listed above
executive summary, detailed comparison, comparison table, and management implications
- b) how well you justify your recommendation in the data
- c) your choice and explanation of dimensions used to compare the products
the selection of dimensions is important because a comparison is only as good as the dimensions upon which you base them. For example, just as we do not (or at least should not) vote for a president based on height, or without attention to social policy, we should not compare mp3 players based on company CEO first name or without attention to storage capacity.

6.2 Group Presentation (Organizational Analysis)

Your first group assignment will be an organizational analysis on March 25 or 27. In this presentation you will introduce the class to the organization your group is studying, and its **current** use of technology internally in managing their human resources. At this point, you may present some **preliminary** ideas about recommendations, but it is not

required. The goal of this assignment is to assess your ability to solicit information from within an organization and do a technical organizational analysis. As such, part of the assignment is to incorporate material from our discussion of technology frameworks in identifying how the organization uses technology. You will receive feedback from your classmates and me that you can use in moving forward with the second phase of your group project. As this is a preliminary assessment, the presentation will be graded on:

- a) Conveying an understanding of the nature of the organization
- b) Depth of coverage of relevant technological capabilities
- c) Appropriate use of material from class on “technology frameworks”
- d) Understanding of how technologies apply to the organization and its management
- e) Ability to integrate information into an engaging presentation
- f) Ability to respond to feedback and questions

6.3 MS Project Assignment

Microsoft Project is, in many ways, the most common and concrete formalization of the use of technology in the job of management. It is also a highly marketable skill for virtually any career, from information technology to financial services and from education to product management. You will work in groups of two or three (which can be your major project groups, but do not have to be) to produce a project plan for a significant project of your choosing. You may choose something relevant to your group project organization or something completely different (e.g., developing and launching a new middle school math curriculum, developing & launching the next generation widget, or moving company headquarters to a new campus). The assignment will be assessed on how fully and well you used the features of the software.

6.4 Group Presentation (Technology Consulting)

The second presentation, which should build on the prior organizational analysis, is a super set of the first presentation. In addition to reviewing the current state of the organization and its use of technology, you are **required** to make recommendations on specific cases in which technology can be applied to the management of people in organizations, outline the benefits anticipated from doing so, and suggest mechanisms by which the organization could assess whether or not those benefits are realized. This presentation is graded on the following:

- a) How well you reintroduce the organization and its technology
- b) The quality and feasibility of the recommendations made
- c) The soundness of arguments supporting the recommendations
- d) How realistic the anticipated benefits are
- e) The practicality of assessing the benefits associated with the recommendations
- f) Your ability to integrate these things into an engaging presentation.

6.5. Final Group Report

The final paper is a written report that covers and extends the material from the final group presentation. As the major assignment for the semester, it is expected to be a comprehensive document that covers the organizational analysis presentation and technology consulting presentation, as well as being more comprehensive and addressing

any issues raised during the feedback portion of the final presentation. It should include the following five sections: a) Executive Summary, b) Organizational Analysis & Technology Assessment, c) Technology Opportunities & Benefits, d) Recommendations, and e) Implementation & Assessment. As part of the Implementation and Assessment section, you must also submit a project plan in MS Project detailing how you would implement the recommendations. This need not be as detailed as the MS Project Assignment, but should be relevant to the report and show critical thinking about the implementation and/or assessment issues. This report will be graded on.

- a) The quality of your organizational and technical analyses
- b) The quality of your recommendations and how well justified they are
- c) The practicality of your recommendations
- d) How realistic the delineated benefits are
- e) The practicality of the recommendations for assessment
- f) The quality and applicability of the MS Project Plan
- g) Written communication skills (grammar, spelling, appropriate language, etc.)

6.6 Contribution to Class Discussions

Participation is an important part of your activity in class. The ability to interact with your colleagues effectively, to contribute to a group discussion, and to advocate an informed position is, perhaps, the most relevant *skill set* you can develop in preparing for the transition into a professional career. Your participation grade is based on your preparedness for class (including preparing specific deliverables), a firm grasp of material covered, a willingness to seek clarification as appropriate, and the ability to integrate concepts and multiple perspectives in real-time. You are also responsible for reading the assigned materials for class, and I may cold-call on people to ensure that you have. The following gives behavioral guidelines for the three levels of participation upon which I will grade everyone after each class:

Active Participation:

- Participates regularly and voluntarily in class discussions
- Content of participation is unique and relevant to topics at hand
- Demonstrates ability to apply and analyze course material

Passive Participation:

- Comes to class, but does not voluntarily engage in class-wide discussions.

No Participation:

- Absent from class
- Not completing un-graded assignments or readings assigned for class

6.7 Technology in the News

At least once during the course of the semester, each of you will facilitate a short (5-10 minute) discussion on some news item you have come across. The idea is to facilitate a dialog about the item and how it relates to technology and management, so you must first present the gist of the item (feel free to bring handouts and/or presentations but at a minimum include a *complete citation* so I can find it), then pose questions that are likely to provoke thoughtful discussion about the issues, and facilitate an engage dialog about the issue or topic.

Ideally, these will be very timely, but, where possible you should let me know in advance (even if it's just a couple hours) if you would like to present on a specific day.

This assignment will be graded on:

- a) The appropriateness of the item selected for discussion
- b) How well you capture the essential aspects in your overview
- c) The thoughtfulness of the questions you raise
- d) Your ability to provoke & facilitate a thoughtful discussion

6.8 Blog

As part of your requirement for the course, you will be expected to maintain a blog. Groups will assess blogging tools and make recommendations in the second week and we will select a tool as a class. You are expected to keep a running blog with reflections of the class *all semester long* (i.e., 50 entries in April is not as good as 3/month all semester long). Although I will assign two specific (reflecting specifically on two classes) and two generic (two stated topics for reflection) assignments for the blog, I also expect you to write other reflections to the class and its content in your blog.

The two specific assignments are a) to reflect on the technology frameworks we discuss in class on 28-Feb, and b) to reflect on the experience of holding class via videoconference on 15-Apr. The two generic assignments are to a) write a reflection on at least one of the "Technology in the News" segments from class other than the one you lead, and b) since the final section of the class is about Technology & Ethics, somewhere prior to 22-Apr, you should write at least one entry that deals with Ethics & Technology. This also can be inspired by current events, an article from a relevant newspaper (e.g., WSJ, NYT, GLOBE) or periodical (e.g., BusinessWeek, Fast Company, Sports Illustrated). Remember to reflect on the issues, but also make sure I know what you're reflecting on.

I expect more than half your blog will comprise individual *ad hoc* reflections, not from these required assignments. In general, your blog should show me how you are reflecting on the material from class and being more consciously aware of the interaction of technology in how you manage your daily life and how it applies to management.

Your blog will be graded on these criteria:

- a) The regularity of your blogging
- b) The quality of your reflection
- c) Integration of class materials
- d) The inclusion of at least one reflection on Technology & Ethics prior to 22-Apr

6.9 Discretionary 5%

To "accentuate the positive" and highlight your individual strengths, the remaining 5% of your grade will be added to whichever individual assignment (technology assessment, blog, or contributing to class discussions) you score the best on. However, this 5% is dependent upon completing any/all the non-graded assignments for class not otherwise covered in grading.

7. Absences, Emergencies, and Late Assignments

I understand that situations may arise which require you to prioritize your attendance and work for this course against competing demands. It is your responsibility to resolve these to the best of your ability, carefully weighing your options and the consequences of your actions, and choosing the path with the consequences you are most ready to accept.

While I will generally be recording who is present in each class, absences will only affect your grade in the sense that they inhibit you from contributing to class discussions.

However, class sessions and activities often cover material not in the readings and I will expect you to be able to incorporate it in other assignments when/if appropriate. I am always available to help you work through such decisions or to clarify the impact any action you are considering may have for this class. If you miss a class for any reason, it is your responsibility to make sure you get appropriate notes, handouts, etc. from your classmates.

If you have special circumstances, please inform your Dean who will help you in making sure your professors are aware of the situation and taking appropriate action. I strongly encourage you to follow this procedure, and, as such, I will require appropriate documentation from your Dean for any such circumstance. Other excused absences, such as away games or medical emergencies, also require documentation from the appropriate department.

8. Classroom norms

I expect you to make your best effort to be on time for class. Coming in late is very disruptive to the entire class. If you are unavoidably late, please wait until **after class** to ask your classmates to fill you in on what is going on, because that distracts those who were on time from the current class activity. Please keep your cell phones and any other electronic devices set to silent mode or, even better, turned off if at all possible. If there is a situation which requires you to have a cell phone or other device active and you have an urgent need to respond to it, please plan ahead: sit near the door, quietly leave the room to answer it, and make sure I am aware of the situation ahead of time. (See the section above about emergencies.) Finally, we are going to talk about a lot of issues in this class and there will be times when some of us will disagree with each other. It is imperative that even when we disagree, we do so respectfully. I simply will not tolerate anyone in the class treating anyone else disrespectfully in any way.

This is a course on the intersection of management and technology. I have absolutely no issue if you want to bring a laptop to class to take notes on. I will not (in general) police your use of laptops, other than if I feel they are distracting you from the material in class, it may increase your chances of being cold-called during a class discussion.

9. Course Schedule

Below is the preliminary Course Schedule, but this is subject to change based on the specific content issues of the class members, guest speaker availability, and other factors. If and when there are any changes, I will post the new schedule to both Blackboard and to our class blog, as well as handing out a new version in class.

Management With Technology Preliminary Schedule

DATE	TOPIC	Readings	Deliverables
INTRODUCTION, CONTENT SELCTION, & COURSE FRAMING			
15-Jan	Introduction & Course Overview		
17-Jan	Syllabus adjustments & Group Formation	Review the syllabus carefully. Come to class ready to ask questions about specific topics and to make recommendations for changes you would like.	In class you will work in groups to make recommendations about the content and structure of the course and give a presentation with your recommendations and rationale. Bring laptops to class Those wishing to use the group project to study an organization you have access or belong to should be ready to “pitch” the idea to the class.
22-Jan	What is Technology?	Nye: Chap 1 (pp1-47)	Using Blackboard Chat tool based on groups assigned in class on 22-Jan, coordinate group work on assessing blogging tools. Come to class prepared to make and justify a recommendation.
24-Jan	NO CLASS SESSION		Use time to prepare for group project overviews to be presented next week
HISTORICAL PERSPECTIVES ON TECHNOLOGY			
29-Jan	Historical Perspective (Industrial Revolution)	Kessler , Part 1 (pp1-62)	This week, each group will present a very brief and informal overview of their group project in class.
31-Jan	History Perspectives (Information Technology)	Kessler , Parts 3&4 (pp 103-186)	Remember: You should be writing in your blog on a regular basis .
FOUNDATIONAL TECHNOLOGIES			
5-Feb	Introduction to Foundational Technologies		TECHNOLOGY ASSESSMENT DUE
7-Feb	The Internet (Home Networking)		
12-Feb	The Web – How it works. Social Networking Sites	HBSP: Internet strategy article	
14-Feb	Databases: Part I Legacy databases and technologies		
19-Feb	Databases: Part II SQL & Full Text “Information Exhaust”		Remember to keep up with your blog.
TECHNOLOGY & MANAGING YOURSELF (PRODUCTIVITY)			
21-Feb	Advanced MS Office		Macros, PivotTables, Mail Merge, Presenter View.

26-Feb	Advanced MS Office (All request computing) VBA if time.		Anyone who would like to cover particular topics about how to do something in MS Office should send me email no later than noon on 27-Feb.
TECHNOLOGY FRAMEWORKS			
28-Feb	Technology & Organizations: Frameworks, systematic thinking, and Six Sigma	Blackboard: 1. Chapter by Hatch 2. Article "Three ITs"	Reflecting on this class is one of the required blog assignments.
SPRING BREAK NO CLASS MARCH 4 & 6			
TECHNOLOGY & MANAGING OTHERS			
11-Mar	Project Management I	Find and visit web page for MD255 (Managing Projects)	Remember to keep up with your blog.
13-Mar	Project MS PROJECT		
18-Mar	Workflow Systems (Guest Speaker)	Should have begun listening to TWIF by now	
20-Mar	NO CLASS	HOLY THURSDAY	
TECHNOLOGY & MANAGING YOUR ORGANIZATION			
25-Apr	The World is Flat: I	Friedman: Discs 1-4	Class will take the form of informal debates. I will assign topics and positions to groups in class.
27-Apr	The World is Flat: II	Friedman: Discs 5-7	
1-Apr	Organizational Analysis Presentations	Two Groups each day Order TBD	GROUP PRESENTATIONS Slides due via email before class starts on Tuesday.
3-Apr			
8-Apr	CASE ANALYSIS	HBSP: Washington Post	
10-Apr	CASE ANALYSIS	HBSP: CISCO	
15-Apr	Virtual Teams	HBSP: HBR Article	This class will be held via videoconference and reflecting on that experience is a required blogging assignment.
17-Apr	CASE ANALYSIS	HBSP: Leo Burnett	MICROSOFT PROJECT ASSIGNMENT DUE On BBV before class.
TECHNOLOGY & ETHICS			
22-Apr	Technology & Ethics	Nye: Chapters 2-7	At least one blog entry re technology & ethics due before class
24-Apr	Technology & Ethics	Nye: Chapters 8-11	
29-Apr	Final Presentations		GROUP PRESENTATIONS Slides due via email before class starts on Tuesday.
1-May			
8-May			FINAL REPORT DUE To me on BBV no later than noon on 8-May