

Mgt 671WS
Technology & Innovation Management

I. COURSE CONTENTS

1. **MODULE I, Introduction to Technology & Innovation Management**
2. **MODULE II, Linkage of Business Strategy to the Tech. Strategy**
3. **MODULE III, Strategic Technology Roadmapping & Platform Management**
4. **MODULE IV, Core Competencies, Competitor Assessment**
5. **MODULE V, Technology Transfer, Patents & Intellectual Property**
6. **MODULE VI, Technology Strategy Development**
7. **MODULE VII, Development Strategy and Strategic Portfolio Management**
8. **MODULE VIII, Service Industry Innovation**

II. COURSE DESCRIPTION

The conceptual; framework of this course is an evolutionary process perspective on technology management and innovation. The focus is on **PROCESSES** to help firms better manage technology and innovation. The fundamental ideas underlying this evolutionary perspective are 1) a firm's technology strategy emerges from its technological competencies and capabilities; 2) technology strategy is shaped by external (environmental) and internal (organizational) forces; and 3) the enactment of technology strategy, through the experience it generates, serves to further develop the firm's technological competences and capabilities. We will deal with typical issues that managers in technology based firms deal with. This course discusses the strategic management of technology and innovation. Our goal is to develop managerial skills, methodologies and critical thinking in order to achieve a sustainable technological competitive advantage for the firm- this is often expressed in superior performing new products and services. You will be exposed to cutting edge tools and concepts for managing the technology and innovation process. Subjects covered include the technological basis of the firm, integrating technology with the business strategy, assessing the firm's innovation capability, technology life cycles, type and characteristics of new projects, technology roadmapping, core competence assessment, competitor assessment, technology transfer, strategic alliances, intellectual property, project portfolio selection and management, and technology and development strategy implementation for successful product development. The course concludes with the challenge of innovation and entrepreneurship in established manufacturing and service industry firms. Individual case studies and a final team project to develop an actual 5-year technology and innovation strategy will be used to build competence and confidence in the concepts. Student's final grade will be based on written postings/answers to the individual and team case assignments and the insight and quality of the critique offered during the class discussions on the course discussion page as well as a final quiz. Students are expected to participate each week in class postings and discussions. The student's role in this classroom is one of learning together and sharing critical insights with others in an individual and team based learning environment.

III. COURSE OBJECTIVES

The overall objectives of the course are:

- To develop an awareness of the range, scope, and complexity of the issues and problems related to the strategic management of technology and innovation
- To develop an understanding of the “state of the art” of the strategic management of technology and innovation
- To develop a conceptual framework for assessing and auditing the innovative capabilities of a business organization
- To expose you to tools and concepts used by companies engaged in technology-intensive industries.
- To offer some practice in defining and working out strategic management problems related to technological innovation and corporate entrepreneurship.
- To learn the basic skills necessary to construct a technology strategy for a firm.
- To pioneer distance learning pedagogical approaches to ensure a meaningful and quality educational experiences for the student.

The content of each module is carefully designed to build your capabilities over the length of the course. The course ends with a final case team project where you are expected to integrate what you have learned into a professionally written and creative 5 Year Technology and Innovation Strategy for a high technology company that your team chooses.

Module I: Introduction to Technology and Innovation Management

The course is organized into 8 modules taught over a 13-week session. The course is designed to better enable the student to manage technology and the innovation process in the firm. The objective of this module is to introduce the subject of technology and innovation management and its impact on the company. The course requirements, expectations, final team project, and key terminology/definitions are introduced.

Module II: Linkage of Business to Tech. Strategy

The objective of this module is to provide the students with a brief overview of corporate strategy as it relates to technology and innovation strategy. The importance of achieving a technology based competitive advantage is emphasized. This Module serves as a very brief introduction to business strategies and the role of technology and innovation strategy in technology based companies. The Porter Model is used as a framework to analyze the firm and industry competitiveness and profitability.

Module III: Strategic Technology Roadmapping & Platform Management

The objective of this module is to provide the students with an overall view and description of the types and characteristics of new product and service projects and how they integrate with the technological expertise of the firm aimed at competitive advantage. Topics included are strategic roadmapping comparison of types of projects and development approaches - radical, platform and incremental projects. Technology roadmapping is emphasized as a means of communicating multiple parameters: customers, technical and business needs and choices in technology strategy development for the firm as well as for the industry the firm competes in over time.

Module IV: Core Competencies, Competitor Assessment

The objective of this module is to provide the students with an understanding of core competencies, strategic outsourcing and competitor assessment. Core competencies and core technologies are defined

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along with how they lead to competitive advantage. Management, investment and nurturing of core competencies are a focus of this module. The linkage between customer needs, business strategy, core technologies/competencies and internal and external value are discussed.

Module V: Technology Transfer & Intellectual Property

The objective of this module is to provide the student with a basic understanding of technology transfer. The strategic value of patents, trade secrets and licensing are discussed. The importance of developing strategic alliances are also discussed and practical techniques (The Alliance Development Pyramid) for implementing an alliance formation processes in technology based firms are taught.

Module VI: Technology Strategy Development

This module ties all of the previous modules together enabling the student to formulate a technology strategy. The technology strategy framework is discussed with a focus on adding value, gaining competitive advantage, timing and capability sourcing. The development funnel, portfolio development and management are also discussed. The “Front End of Innovation” it also discussed. At this point in the course students have formed teams, have chosen a final project company and have begin developing an actual technology strategy document that utilizes the key elements of the course with a focus on integrating the theory and practice of the course into a real life example exercise.

Module VII: Development Strategy and Strategic Portfolio Management

The objective of this module is to discuss key aspects of implementing the technology strategy and product/service development as well as the strategic management of the company's portfolio of innovation projects. Portfolio assessment and capacity are discussed and proven methods of managing a portfolio are reviewed. The “Stage Gate” method is also briefly reviewed. The innovation process is discussed with a focus on the least understood and most challenging element of the innovation process, often called the “front end of innovation.”

Module VIII: Innovation in the Service Industry

The management of the innovation process for the service industry will be studied and the latest theories and practices will be reviewed to better prepare the student to lead this process in the firm. Innovation in the Service Industry is a relatively new area of management research and we will cover some of the latest theories and ideas in this rapidly expanding field. We will contrast the differences and similarities between the service and manufacturing industries and best practices in both. Recent examples of innovative ways service companies develop new service offerings will be discussed via case studies and HBR articles.

IV. MGT. 671WS Syllabus

Wk#	MGT. 671 TECHNOLOGY & INNOVATION MANAGEMENT	Readings/Case Studies
0	Distance Learning Orientation	See Week 0 - Folder
1	Module I – Course Overview and Introduction	-Read <u>Syllabus</u> /content/expectations/course overview & Read Module I- Lecture Slides

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2	<p>Module II – Linkage of Business to Technology Strategy- Achieving Competitive Advantage</p>	<p>-Read Module II- Lecture Slides (1)*HBR - Porter, M, “<u>How Competitive Forces Shape Strategy</u>”, 1987, 79208 (2)*Hamel, G. and Prahalad, <u>Strategic Intent</u>, 2004, HBS, #6557</p>
3	<p>Module III – Strategic Technology Roadmapping and Platform Management</p>	<p>-Read Module III- Lecture Slides (3)*Koen, P.A., “<u>Technology Maps: Choosing the Right Path</u>”, <u>Engineering Management Journal</u>, 9 (4), PG. 7-11, 1997, Download Pdf. Week 3 Folder (4)*Hamel, <u>Competing for the Future</u>, 2003, HBS, #4929</p>
4	<p>Module III – Strategic Technology Roadmapping and Platform Management continued Case I – Business Strategy - Due (TEAM CASE)</p>	<p>- Complete Reading Module III- Lecture Slides and work on your Team Case 1- Business Strategy.</p>
5	<p>Module IV – Core Competencies, Competitor Assessment</p>	<p>-Read Module IV- Lecture Slides (5)*Prahalad, & Hamel, “<u>The Core Competence of a Corporation</u>,” 2001, HBS, #6528</p>
6	<p>Module IV – Core Competencies, Competitor Assessment –continued Case II – Advent -Due (Individual)</p>	<p>Case II- <u>Advent Corporation</u>, Download Pdf. Week 6 Folder Mid-Course Quality Survey Distributed</p>
7	<p>Module V–Technology Transfer, Managing Intellectual Property & Strategic Alliances</p>	<p>-Read Module V- Lecture Slides (6)*Yoffie, “<u>Intellectual Property and Strategy</u>, HBS Case 704493, May, 2004. (7)*Meza, Burglemans, “<u>Finding the Balance: Intellectual Property in the Digital Age</u>,” 2003, HBS, #SM107 To Do: Post a comment or an article on a IP issue from your industry for class to read. Newspapers, trade journals, etc.</p>
8	<p>Module V– Technology Transfer, Managing Intellectual Property & Strategic Alliances-Continued Case III – Roadmapping Framework Matrix - Due(TEAM)</p>	<p>(8)* “<u>Collaborative Advantage: The Art of Alliances</u>” Kanter, R.M., <u>Harvard Business Review</u>, July-August, 1994, HBS, #94405</p>
9	<p>Module VI Technolgoy Strategy Development</p>	<p>-Read Module VI- Lecture Slides TEXT: Christensen, <u>The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail</u>, HBSP, 1997, #5851. Read Introduction and Chapters 1,2, 5, 6, (9)*Koen, P., et al, “<u>Providing Clarity and a Common Language to the “Fuzzy Front End.”” <u>Research Technology Management</u>, March-April 2001, pg. 46-55. Download pdf. Week 9 Folder</u></p>

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10	<p>Module VI– Technology Strategy Development -continued. <i>CaseIV- Strategic Technology Roadmapping Due</i></p>	<p>-Complete Reading Module VI- Lecture Slides <i>(10)*Moore, <u>Crossing the Casm-and Beyond</u>, Downlaod pdf. Week 10 Folder</i></p>
11	<p>Module VII- Development Strategy: Management of the Innovation Process & Portfolio Management <i>Case V – 3M Notepads Discussion in class only</i></p>	<p>-Read Module VII- Lecture Slides <i>(11)* Wheelright and Clarke, <u>Creating Project Plans to Focus Product Development</u>. 1992, HBS, #92210. (12)*Thomke and Ningade, <u>Note on Lead User Research</u>, 1998, HBS, #699014 (13)*Case V - Nayak, P. R. and Ketteringham, J. M., * “3M Notepads”, <u>Breakthroughs</u>, Pfeiffer, pg. 35-56, 1994. <u>Download pdf. Week 11 Folder</u></i></p>
12	<p>Module VII- Development Strategy: Management of the Innovation Process & Portfolio Management–Continued <i>Case VI – Improving the Product Development Process at Kirkham Instrument Corporation Due- Individual</i></p>	<p>-Complete Reading Module VII- Lecture Slides <i>*TEXT: Christensen, <u>The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail</u>, HBSP, 1997, #5851. Read Chapters 7, 10, 11. *Case VI-Improving the Product Development Process at Kirkham Instrument Corporation, 1997, HBS, #697058</i></p>
13	<p>Module VIII - Innovation in the Service Industry <i>Case VII – Booz-Allen or Bank of America Case Due Individual</i></p>	<p>Read Module VIII- Lecture Slides <i>(13)*R&D Comes to Services: Bank of America’s Path breaking Experiment, S. Thomke, HBR On Point Article. 2003, #3426. * Case VII – Cultivating Capabilities to Innovate: Booz-Allen Hamilton,” 1997, HBS, #698027 OR *Case VII - Case Studies on Innovation in Banking: Bank of America A & B, HBS 603022 and 603-023</i></p>
Final Week	<i>Case VIII - FINAL PROJECT DUE (TEAM)</i>	5 Year Technology and Innovation Strategy

Italic indicates article or references that need to be purchased from Harvard Business School Press or posted on course web site in weekly folder. The Harvard Business School Press code number for this course is c04163

CASE STUDY ASSIGNMENTS – Individual and Team Assignments

Case I - Corporate Strategy

Case II - Advent

Case III - Roadmapping Framework Matrix

Case IV- Core Competency/ Roadmap

Case V - 3M Notepads - post comments - not graded as Individual Quiz

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Case VI - Improving the Product Development Process at Kirkham Instrument Corporation

Case VII - Booz Allen or Bank of America

Case VIII - Final Project – Technology Strategy

V . PEDAGOGICAL OVERVIEW

A. Method of Teaching

Concepts and theories of technology and innovation management will be taught using a combination of traditional texts, journal articles, case studies, students experiences and the professor's notes. Students are required to read all the assigned readings/cases and answer specific assigned questions. The quality and insight of each students comments and the level of engagement in the class postings are important components of the final grade. The last case (Term Project) integrates the work of all the preceding lectures and is to be submitted as a team project where we will develop a complete technology & innovation management strategy for a chosen company that will be presented to the class.

B. Major Learning Objectives:

1. To develop skills, methodologies and critical thinking to enable students to understand technology and innovation management from the perspective of obtaining a sustainable competitive advantage and integrating technology into the business strategy.

Competitive advantage allows corporations to achieve higher profits and increases the probability of survival during competitive "warfare". The linkage of technology strategy to the innovation process and competitive advantage is emphasized throughout the course.

2. To develop competence and confidence by problem solving.

Case problem solving will allow students to develop competence and confidence by using the concepts presented.

Students completing this course will be able to develop a technology & innovation management strategy for competitive advantage and understand the relationships between internal and external dependencies. In addition, they will be able to communicate technology strategy cross-functionally and be able to critically evaluate technology from a corporate perspective. Students will also understand the relationship of technology strategy to the innovation process and develop skills to help effectively **manage, implement and lead** both.

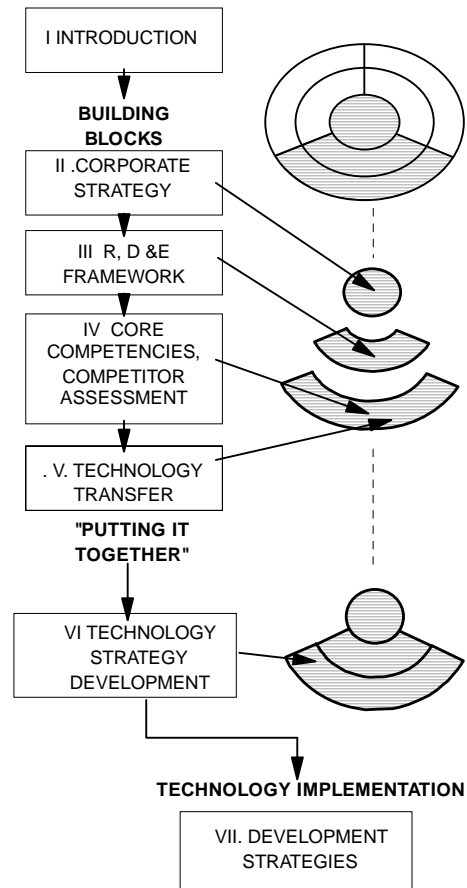
C. Linkage of Modules

Linkage of Modules

The course begins with an introduction. Components or building blocks from which a technology & Innovation management strategy is developed are covered in Modules II through VI. Technology strategy is developed in Module VI, which build on and integrates the preceding modules. The last modules cover the innovation process and development strategies in both the manufacturing and service industries.

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VI. Course Grading

Case Analysis:

- 3 Team Cases: = 20% (All Teams)
- 3 Individual Cases = 35% (See Below)

Final Project:

Class Participation:

TOTAL =

= 25% (All Teams)
= 20% (Individual)
= 100%

40% Team
60% Individual

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- **TEAM CASES/Requirements (All Teams)**

- Case I - Corporate Strategy
- Case III - Roadmapping Framework Matrix
- Case IV - Core Competency/Mapping
- Case VIII- Final Project – 5 Year Technology Strategy

5%
5%
10%
25%

45%

- **INDIVIDUAL CASES Required**

- Case II - Advent Corporation
- Case V - 3M Notepads
- Case VI - Product Development Process at Kirkham Instr.
- Case VII – Booz-Allen or Bank of America

10%
5%
10%
10%

35%

- **Class Participation**

20%

100%

Class Participation: Your active participation each week is necessary for a successful class experience. Unlike a traditional face to face classroom, if you do not post your contributions you are basically missing in action! Each student is expected to post at least two original/insightful graduate level postings/comments each week in addition to the Individual case assignments which you submit confidentially to me. If you do less in class than the two postings in class for the 13 weeks, you will receive less than the 20 points for class participation. The more you contribute and offer meaningful ideas and comments the higher your class participation grade will be. You may ask me anytime throughout the semester how you are doing to ensure no surprises at the end of the term. You will also receive a grade for your “Class Personal Reading Assignment.” Each student will prepare a two to three paragraph summary/posting for one of the syllabus articles. The Syllabus contains the required readings for the week. Each week one student will be assigned one article to summarize and post on the course discussion page. Each assigned reading has a number assigned. Each number will be assigned to one student. Other students are expected to comment/reply with comments/observations on the course discussion page.

Students can review their grades on the course website in the **“Evaluation Tools- My Record”** linkage. Individual participation each week is essential. The consistency, quality and quantity of each students participation during the weekly discussions on cases, texts and articles utilizing our “Discussion” website is closely monitored to ensure each student is keeping up with the assignments and is helping to ensure learning in this virtual classroom.

Suggested Referencces: **Good reference books for technology management**

- Kahaneer, I., “Competitive Intelligence” Touchstone, Simon & Schuster, 1997
- Porter, M., Competitive Strategy, The Free Press, NY, NY, 1988
- Foster, F, et al, Patents, Copyrights and Trademarks, Wiley, 1993
- Rivette, Kline, Rembrandts in the Attic, HBSP, 2000

VIII. HOMEWORK CASE STUDIES/CLASS DISCUSSION

The Case Study Method

The case method forces students to grapple with exactly the kinds of decisions and dilemmas managers confront every day. In doing so, it redefines the traditional educational dynamic in which the professor dispenses knowledge and students passively receive it. You cannot learn by just listening to lectures or other students! The case method creates a classroom in which students succeed not by simply absorbing facts and theories, but also by *exercising* the skills of leadership and teamwork in the face of real problems. Under the guidance of the professor, they work together to analyze and synthesize conflicting data and points of view, to define and prioritize goals, to persuade and inspire others who think differently, to make tough decisions with uncertain information, and to seize opportunity in the face of doubt.

What is a Business Case?

Typically, a business case is a detailed account of a real-life business situation, describing the dilemma of the "protagonist"—a real person with a real job who is confronted with a real problem. Faculty and their research assistants spend weeks at the company that is the subject of the case, detailing the background of the situation, the immediate problem or decision, and the perspectives of the managers involved. The resulting case presents the story exactly as the protagonist saw it, including ambiguous evidence, shifting variables, imperfect knowledge, no obvious right answers, and a ticking clock that impatiently demands action.

How does the case study method work?

From years of previous educational experience, most people are accustomed to large, passive lectures, and problem sets with an unclear relationship to actual business situations. Questions are assigned in advance and students are expected to analyze the case and propose solutions that are practical, based on the case information written and utilize the content of the course learned to date. Questions are asked for each case in the weekly assignment folder and all are required to post their replies/analysis and send these case studies to the professor for review/comment/grading. The goal of case studies are to come up with a high level of insight, sound recommendations and creative solutions. Cases rarely ends with a tidy solution to the protagonist's dilemma, but more often with a deep appreciation of the complex factors at play, a clear idea of how to apply appropriate techniques to analyze and assess the problem, and new insights into how to deal with the untidy uncertainties of real business.

The Role of the Faculty

I will read all your cases, comment individually or as a group and then offer some insight into the case and post this for your review and comment .

Desired General Structure for Case Studies (Specific instructions and format will be discussed for each case)

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- 1. Summary of Recommendations and Conclusions.** Start off with a short paragraph summarizing your recommendations and conclusions. Do not copy or repeat the facts in the case as written. Your objective is to deliver insight and analysis that is the result of your creative management thinking.
- 2. Problem Statement.** What problem are you solving? A few sentences should be adequate.
- 3. Summary of Facts.** A few sentences summarizing the key facts.
- 4. Analysis of Facts.** Discussion of the facts relevant to the case and how they relate to the solution.
- 5. Recommendations and Conclusions.** Discussion of recommendations, conclusions and rationale for them as well as answers to the specific case questions. There are no right or wrong answers to case studies. This is your chance to add insight, creativity and substance to your case discussion.

Case Report Format & Timeliness

Individual case analyses will be sent to the professor only. 3-4 pages (12 fonts, single spaces not including charts, etc.) No more than two charts, maps, etc., should be placed on each page in the report and for your presentation. Case studies are to be formatted in Microsoft WORD (for written report case questions) and PowerPoint (for case presentations). This will be explained in each weekly folder depending on the case requirements.

References and all sources used (articles, texts, Web sites, etc.) must be cited as a footnote in standard format. Spelling and grammar count. I will lower any grade if this is not followed. I will not accept any assignment if it is late or sent to me via e-mail, unless I agree in advance of the due date. Your will not be given a grade if you do not hand in your assignment on time. Late submissions if accepted will receive a reduced grade.

IX. Final Case- Team Project – FINAL OUTLINE

Problem Statement

The time frame is summer 2007. Based on having successfully completed Mgmt. 671 Technology & Innovation Management, and mastered the course material, the Chief Technology officer of your chosen Company (or SBU) has selected your team to develop a **5 Year Technology & Innovation Management Strategy** for the company/SBU. Your team's assignment is to recommend a technology strategy to gain a sustainable competitive advantage in your industry.

This final case project is a chance for you to pull together the different elements of the course into one document. This assignment will integrate much of what you have already completed in previous weeks. The strategy should be clear, concise, flow logically and hopefully introduces some new ideas and thinking that will improve the competitiveness of your company or SBU.

• **Business Strategy**

For your company or SBU, determine the corporate strategy that will achieve competitive advantage or sustain competitive advantage. Define the critical customer needs now vs. 5 years from now. Analyze the competitive forces in your industry by using the Porter Model. Show the Porter Model diagram.

• **R, D & E Framework/ Core Competence**

Create a **Product Evolution/Generation Map** (Map 1). Include at least one radical or breakthrough product. Choose a new product that is not on the company's development agenda now. Also think about what new enabling or core technologies you will need to develop this radical new product or service. This is your chance to be creative and think outside the box. You do not have to show your competitors products 5 years out. You must start with, and show the current product array. Limit the number of products to no more than 5. Describe in paragraph form the key take aways of your map and what it means

Construct a **Customer Product Profile Map** (Map 2) Make sure you show current vs. future customer needs for the 5 year period of 2007 to 2012.

Determine the present core competencies. For each core competency describe what products (choose no more than 5) the competency is used in, what customer need it helps satisfy/meet and what technological competitive advantage it delivers. This can be presented in a **Core Competency - Product Matrix**. Describe in paragraph form the key take aways of your map and what it means

• **R, D & E Portfolio**

Recommend a portfolio of products. A limit of 5 products is recommended with a mixture of at least one radical, platform and incremental. Note: this should come directly from your product generation map. Construct an **R&D Projects Map** (Map 3) to describe the product portfolio in terms of product and process changes as well as the mix of incremental to radical projects. Check to see that this makes sense for your company given the competitiveness of your industry and the company's current market position. Describe in paragraph form the key take aways of your map and what it means

• **Technology Analysis**

Determine the technologies needed to support the R, D & E portfolio. Create a **Core/Enabling Technology Map** (Map 4). Describe how these technologies add value and gain competitive advantage. Describe in paragraph form the key take aways of your map and what it means

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Value

Relate the core technology to the customer's and companies value system. This can be constructed in a matrix similar to the one we covered in class.

Competitive Analysis

Describe your **Intellectual Property Strategy** for creating dominant products. Propose a strategy, and the organization you think you will need to ensure it happens. Utilize the previously recommended I P-3 approach. Make sure to describe the objective and key elements of your strategy. Make sure you present this as a formal company process that will be monitored.

Differentiation

Describe how the company will obtain a technology based sustainable competitive advantage by differentiation and implementing the products and gaining the capabilities you have described above.

Goals

Determine the short, mid and long-term goals for the technology. This is a simple schedule describing the dates and major milestones including such events as the launch of new products described in your Product Generation Map and the internal or external completion of a key technology development projects.

Capabilities

Determine the internal and external capabilities needed to succeed. This should be described in a **Competitive Sourcing Map** (Map 5) as previously completed. Make sure you show your closest competitor on the map as well. Make assumptions as necessary. Describe in paragraph form the key take aways of your map and what it means

Alliances/Acquisitions – Technology Transfer

Describe how you will obtain some of your external technological capabilities. Propose a formal process for your company to follow when forming an alliance. Use the "Alliance Development Pyramid" as a model and edit as is appropriate for you firm.

• Development Strategy - Briefly comment on:

Your Portfolio Management Strategy. Utilize the Portfolio Management course material, course readings and my lecture notes on Portfolio Assessment. Use a Risk Reward Bubble diagram or a similar format, to show your portfolio of products and services. Describe in words the key take aways from your Risk Reward Diagram.

1. **Risk Reduction Plan.** Define the key risks in your strategy and discuss their impact on your strategy. For each Risk define how you will reduce this risk, define what you will do to minimize it or reduce it.

	RISK	IMPACT on PLAN	REDUCTION PLAN
1.			
2.			

- Summary Statement: Why you will win!

Report Format

Maximum of 10-15 pages! Should include a maximum of 10 pages written with 4-5 pages of maps (you may place a maximum of two maps on one page). You can use an appendix if needed. You should assume that this Strategy document would be going to the CEO after review by the CTO so make sure it is professionally constructed. Neatness counts! Your presentation will be summarized in PowerPoint format for a presentation to your CTO. You should use colored maps and figures, matrices, etc. to enhance clarity as you will be presenting the maps and figures to the CTO (and in class). Maps may be included in the Appendix and summarized in the written report to ensure that you explain the key implications and take aways from your maps. **This is an exercise in clear strategic thinking and articulating a clear story that holds together. You are required to, and will be graded on how well you integrate the materials learned in this course to develop your 5-year strategy.** Clarity and brevity will be essential for you to keep within the 10-15 page limit. You are to follow the report format described below for consistency. You are responsible for maintaining the appropriate level of confidentiality in your report if your team has chosen a company that one or more team members work for.

Cover Page: Team Name, members, Company, Class #, Professor's name, date

1. Summary of Recommendations and Conclusions
2. Problem Statement
3. Business Strategy
4. R, D & E Framework/ Core Competence
5. R, D & E Portfolio
6. Technology Analysis
 - i. Value
 - ii. Competitive Analysis
 - iii. Differentiation
 - iv. Goals
 - v. Capabilities
 - vi. Alliances/Acquisitions – Technology Transfer

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7. Development Strategy –Portfolio Management Strategy
8. Risk Reduction Plan
9. Recommendations and Conclusions
10. Summary Statement: Why you will win! (No more than two sentences)
11. References (may be included at bottom or each page)
12. Appendix – Include back-up a needed

CLASS “PRESENTATION” & REQUIREMENTS – You will send to the Professor the written report and the PowerPoint slides in color. Each report must have the Stevens Honor Code signed by all members of the team. Professionalism and clarity will count towards your final case grade. Each case will be graded according to the grading templates below. Read these prior to submitting your case to the Professor

HBS Press Articles/Cases to Order on-Line -

The code for this course is c04163

You can order, pay w/ Credit Card and download the pdf file of the article directly after paying. Item 5 are case studies and will be mailed to you as HBS Press does not allow downloading of cases. This is cut and pasted from the HBS website. You will see this when you log on.

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- If you would like to place a link to this course in Blackboard, WebCT or another course platform, here's the url to use. This is also the URL to give your students.

<http://www.hbsp.com/relay.jhtml?name=cp&c=c04163>

PRODUCTS WITHIN THIS COURSE

HBSP will not refund items removed from an activated course during the semester.

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Bank of America (B)

by Stefan Thomke , Ashok Nimgade

Product Type: Supplement (Field)

Product#: 9-603-023

Pub. Date: 09/17/2002

Length: 1p

Revision Date: Oct 28, 2002

Availability: In Stock

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**Mgmt 671 Student Survey – Due Week 1 of Class
Post on Discussion Page in Week 1 folder for all to get to know you.**

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Last Name: _____ First Name: _____

E-mail Primary _____

E-Mail Secondary _____

Phone _____ (not required)

Company _____ State: _____ City _____

Country _____

Job Function/Description _____

Manufacturing or Service Industry? _____

- Have you taken other WebCampus Courses before? _____

If Yes, which one(s)?

- If we were to arrange one time each week for a Web Conference with the class, is there any time of day or day of the week that would work best for you? (As this is a 24/7 asynchronous class environment, no one will be penalized for not being able to make a class web conference.)

Knowledge of Technology Strategy How would you rate yourself on the following topics?

Knowledge Level

	Low	High
--	-----	------

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1. Business Strategy					
2. Technology Strategy in general	1	2	3	4	5
3. Determining Core Competencies	1	2	3	4	5
4. Technology Transfer (Patents/Licensing)	1	2	3	4	5
5. Portfolio Planning	1	2	3	4	5
6. The Innovation Process	1	2	3	4	5
7. Development Strategies	1	2	3	4	5

- Please list in rank order your expectations of Mgt. 671, Technology Management. One (1.) is most important.

1. _____

2. _____

3. _____

- Anything else you would like me or the class to know?

- What concerns do you have about taking an online graduate class?

1. _____

2. _____

3. _____

Ethical Conduct

The following statement is printed in the Stevens Graduate Catalog and applies to all students taking Stevens courses, on and off campus.

“Cheating during in-class tests or take-home examinations or homework is, of course, illegal and immoral. A Graduate Academic Evaluation Board exists to investigate academic improprieties, conduct hearings, and determine any necessary actions. The term ‘academic impropriety’ is

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meant to include, but is not limited to, cheating on homework, during in-class or take home examinations and plagiarism.”

Consequences of academic impropriety are severe, ranging from receiving an “F” in a course, to a warning from the Dean of the Graduate School, which becomes a part of the permanent student record, to expulsion.

Reference: The Graduate Student Handbook, Academic Year 2003-2004 Stevens Institute of Technology, page 10.

Consistent with the above statements, all homework exercises, tests and exams that are designated as individual assignments must contain the following signed statement before they can be accepted for grading. _____

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

Signature _____

Date: _____

Ethical Conduct – Statements to be Included in Homework Assignments

The following signed statement should be included as the first “question” on an individual homework assignment and signed by the student before the homework can be accepted for grading.

I pledge on my honor that I have not given or received any unauthorized assistance on this assignment/examination. I further pledge that I have not copied any material from a book, article, the Internet or any other source except where I have expressly cited the source.

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Type your name and date. _____

Signature not necessary for online classes.

The following signed statement should be included as the first “question” on a team homework assignment and signed by all members of the team before the team homework can be accepted for grading. _____

We pledge on our honor that we have not given or received any unauthorized assistance on this assignment/examination. We further pledge that we have not copied any material from a book, article, the Internet or any other source except where we have expressly cited the source.

Type your name and date. _____

Signature not necessary for online classes.

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TEAM MEMBER CONTRIBUTION RATING FORM (to be completed at end of semester)

Raters Name _____ Team Name: _____

Please use the form below to evaluate the contribution of each of your fellow team members for the semester. This is an opportunity to provide your instructor with an assessment of the contributions of all team members. This information will be used to determine if each team member is deserving of the same overall team grade for all the Team projects/case studies. It is assumed that travel, work schedules, etc may have contributed to less than full participation for one or part of a case but overall the team member has made every effort to be a contributing equal member of the team. You should rate each team member's contribution only after the final case is completed. Any issues will be discussed privately between each team member and the instructor before any changes are made to a grade. Individual ratings will not be identified. The form will be collected at the last class.

First, write in your own name and then write the name of each of your team members in the space provided.

Rate each team member by circling the number corresponding to the following rating scale:

3 = Meets or exceeds the expectations of the team: is fully deserving of the team grade

2 = Marginal: Questionable as to whether performance warrants an equal grade

1 = Below expectations: should be graded lower than the rest of the team

Team Member	Contribution of Time and Effort			Attendance at meetings			Cooperation with other team members			Timely completion of individual assignments			Overall Contribution		
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3

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Fall 2006

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