

MGT 519
Projects in Technology Management
Spring 2016 (Proposed)

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Project Management: A day at the Beach or



"Due to the negative publicity about our latest product, we would like you to assume the role of company scapegoat."

I. Required Text and Software

- 1) Reinventing Project Management; Shenhar and Dvir, Harvard Business School Press; 2007
 - 2) We provide you the students with a link to Oracles Primavera
- All information will be segmented and posted to UNM Learn. Primavera P 6 ref. Manuel

II. Students with Disabilities

"If you are a qualified person with disabilities who might need appropriate academic adjustments, please communicate with me as soon as possible so that we may make appropriate arrangements to meet your needs in a timely manner. Frequently, we will need to coordinate accommodating activities with other offices on campus."

III. Course Description:

This is an experiential learning class. You will be challenged by “real” business problems. This course has four learning objectives. The first is to understand the project management process both through a deep understanding of project management derived through Shenhar and Dvir and book “Reinventing Project management as well as the practical

application on that through the use of Oracle’s Primavera



The second is to deeply understand a number of differing activities that many firms including those in New Mexico require from a project management perspective. Students will do this by working with firms to develop a specific project task. They will choose to embrace a firm needs utilizing one of a limited number or specific work options. Once the task is agreed upon with the client they then will provide a project baseline of timing including start and finishing dates, task effort requirements, and cost and revenue budgeting as needed.

The third activity is to learn to use project controls to “keep the herd headed west.” The course is designed to provide the student a broader understanding of the data and information that is available on industries and firms and how its analysis can lead to better business decisions. They will have to continually adjust their efforts to deliver a timely and complete project. They will learn to obtain data and condition that data to information. They then move that information into Knowledge and present that knowledge to managers where they will progress this to wisdom for their company. They will have to provide a project that is of high quality, delivers what is expected and is delivered on time. The students will be expected to

understand and utilize basic concepts of Earned Value Management. A concept initiated in the 1960's by the United States Air Force.

The fourth goal is to familiarize and mentor the students in understanding and utilizing activities in project management like “Scrum” and project risk management. The students will act as the central point of contact between funders, clients and mentor. They will effectively be to deeply understand a number of differing activities that many firms including those in New Mexico require from a project management perspective. Students will do this by working with firms to develop a specific project task, provide a project baseline of timing including start and finishing dates, task effort requirements, cost and revenue budgeting as needed.


The result is a course designed to create in each student an understanding of strategic thinking and decision-making as it affects innovation in established large firms and SME's.

It is also to provide an understanding to the students that the trend is that companies are generating more value from projects than general operations. Class time will consist of lecture and case discussion and incorporates team written work and oral presentations.

Student groups **Student groups Project controls** are the data gathering, management and analytical processes used to predict, understand and constructively influence the time and cost outcomes of a **project** or program; through the communication of information in formats that assist effective management and decision making.

Grading will be based on the quality of team outputs including written reports, tests and one oral report.

IV. Course Requirements:

Each student is expected to understand how to use Excel. We will provide tutorial on how to use . Each student will be required to develop a deep understanding of project management. Each student will be required to generate knowledge in at least 12 separate content areas and upon successful completion will become certified in those areas. There will be a brief review of all these areas presented in class and this effort will provide the students the ability to be a content leader for these activities. Each student will work on a project they select from a short list that the faculty will provide. The students will have on line review each of the at least 12 project themes 12 project requirements for the course will be

these short quizzes that the students will be able to redo for their highest grade and a project that requires written and oral presentations. We initiate with our Technology Project management focus in section V below and types of specific projects we will perform in sections VI and VII.

V. Technology Project Management focus

We will follow the project management practice set out in our text: “Reinventing Project Management.” This plays to the work experience and leading edge research in project management that your professors have and do. We provide segment of project management theory and practice through the first 13 weeks of the course. The quizzes will be based on the concepts presented in this book and their experience. Further we will review your use of the



project management software  in these quizzes and assignments as the come due. We teach you how to perform specific technology projects and how to manage them.

VI. Types of Technology Projects that we will embrace

We will be discussing the new manner of managing projects through the use of the book Reinventing project management. The project topics are tied to other class offerings in MOT but will be specifically reviewed in detail here. We focus on real corporate projects developing five types of firm assistances developed through in unison with the national laboratories and provide to technology based firms in Mew Mexico. They are (1) Commercial development Studies, (2) Technology Assesment and Forecasting Studies, (3) Technology Commencilization studies, (4) Managing Emerging disruptive technologies and (5) the Product development process. Many of the projects types below fit into those 5 catagories.

Table 1: Course Project Content Topics

The Analytical Topics
1) Technological Forecasting
2) Technological Description
3) Technological Road mapping
4) Technological product paradigm development
5) Predictive analytics
6) Expeditionary marketing / commercial development
7) Technology Assessment
8) Primavera utilization
9) Experience and learning curves
10) Business analytics for Emerging technologies
11) 10 advantages of Primavera

Specifically, many of our projects include a segment on technology description.

Technology assessment and Forecasting another MOT offering that emphasizes project management techniques. We perform in this class usually includes learning curves and the true forecasting projects are developed in class Mgt. 513. Technology commercialization is covered by our segment 4 above as well as developing a value statement. Managing emerging disruptive technologies often includes an effort on disruptive technology value statements and discontinuous innovation management. Finally our product development focuses on technology roadmapping, milestones, certifications and TRL level development. We cover technological forecasting, defining a strategic funding strategy and defining and managing value propositions for sustaining technologies in other MOT classes.

VII. Project Topic Summaries

1) Technological Forecasting

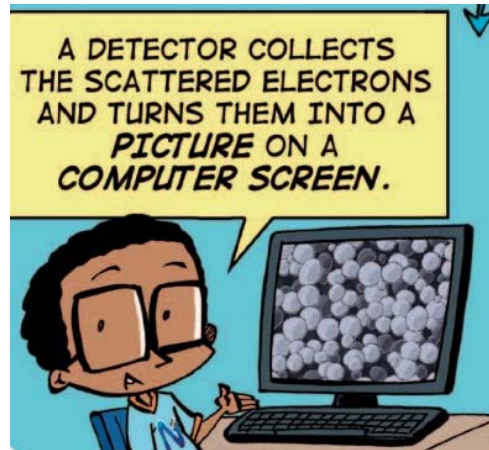


"Isn't that your investment manager, in there?"

Technological forecasting provides a prediction to a corporation of the technical trajectory of their own or competing technological pathways. This is especially important when technological substitutes exist or might impinge on the products of the company. This process usually requires the development of a technological trajectory of the firm's current technology versus a proposed technological substitute. We will only briefly discuss it here.

2) Technology Description

Technology description is a process that enables a small firm to briefly and articulately describe the value inherent in their technology to potential users. Executives in many small businesses find it difficult to express the value inherent in their technology to potential clients, investors or other stakeholders. The process of technological description involves making this complicated process commonplace. Utilizing a series of questions and sentence structures we provide the client with exception explanatory power.



3) Technological Road mapping

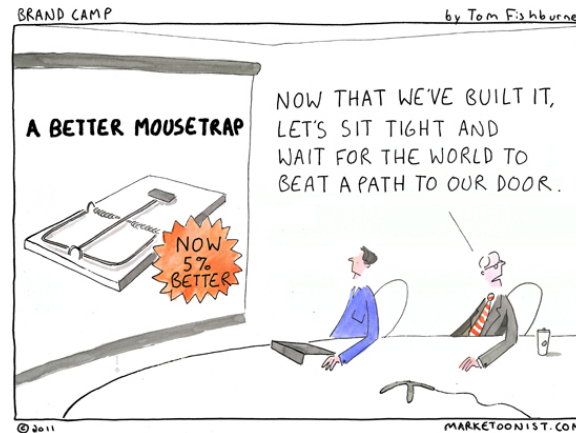
Technological Road mapping provides a customer with milestones and direction in their internal technology development process. Small businesses cannot afford to waste resources and therefore must focus technology development to meet new product needs. This process provides investment schedules and knowledge milestones for future product and corporate success.



4) Technological Product Paradigm Development

Technological product development for high tech companies is a process that enables

them to profit from their intellectual and managerial infrastructures. This is concerned often with the development of competency and capabilities bundles. It is often focused on the development of a core rather than an end product.



5) Predictive analytics

This task uses model based diagnostics to predict future business models by collecting data and analyzing performance on prior trends and critical factors. Financial, market and technology trends and projections will be used to determine areas that require reexamination and rethinking in terms of future activities and plans.



6) Commercial Development

Expeditionary Marketing Studies provide the customer the ability to market based on competency rather than on market focused or customer compelled activities. Small firms must often prove that they have a competency to offer a potential client. Many times this takes the form of demonstrating the ability to provide a value that a customer finds appealing and then

using customer input to redefine their competencies in a more valuable to their customer form. It is the process of teaching the small business owner to find problems in a customer cohort that her small business can uniquely satisfy based on its technological competencies.



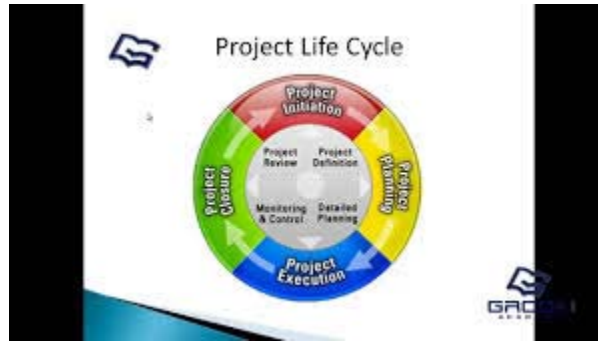
7) Technological Assessment

The process of Technological Assessment provides an internal audit and benchmarking of a client's companies technological competencies and managerial capabilities. It provides a snapshot in time of a customer's ability to provide value to a user community. The process takes one step further assessing a firm's competency to provide valuable solutions in an industrial setting. Finally it provides a pathway for a firm to meet the technological standards to provide value in an industrial setting.



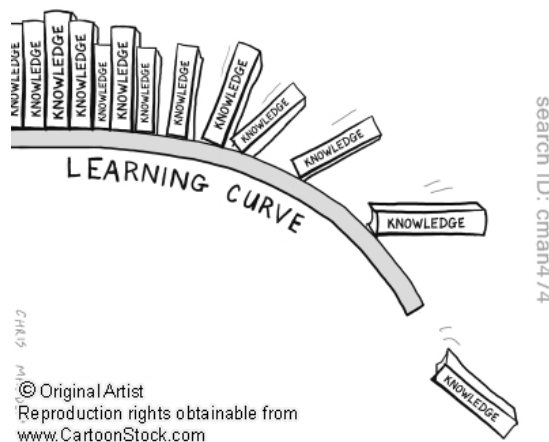
8) Primavera Utilization

Project management is becoming a huge problem and opportunity for today's businesses. Primavera is a preferred choice for an overwhelming number of engineering companies and all federal and military agencies in the US.



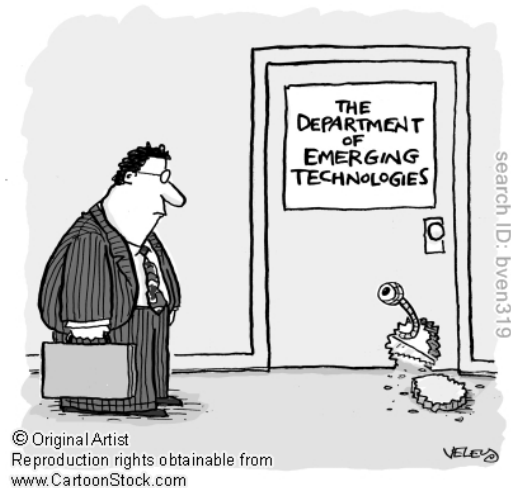
9) Using experience and Learning Curves

The subject of Learning curves has been popular in managerial literature. There have been well over 200 empirical studies using terms like learning curves, experience curves, progress curves and many others. The basic idea is that with no new inputs in technology any company will learn and reduce cost over time. Further that the more you have strategic push to induce corporate stretch the more you are to realize these benefits. Learning curves popularity has generated problems with its use and a misunderstanding of their use.



10) Business analytics for Managing Emerging technologies

Emerging technologies require a firm to make choices that they do not normally have to. Emerging technology form a base technology that can provide value in many differing industries. A firm must first choose which industry to compete in, next choose either to focus on current customers or new one and finally choose what part of the industry value chain the should compete in. This product offering provides them with strategic milestones for success.



11) 10 top advantages of Primavera

1. Reduces Risk
2. East to use software
3. Optimized resources
4. Enhanced Visibility
5. Forecasting of Project Activities
6. Tracking Features
7. Enhanced Communication
8. Improved Collaboration
9. Gives Employees Responsibility in Schedule Creation
10. Breakdown Complex Projects

VIII Grading

All assignments will be scored on the basis of 100 possible points. The actual points for the four assignments will be multiplied by their weight and added together. You are required to pass a quiz on each of the topics; however only you're highest 10 will count. These quizzes are open book open note. This total will be expressed as a percentage score. A letter grade will be assigned on the bases of:

Assignment Weights

<u>Assignment</u>	<u>Weight</u>
1. 5 analysis quizzes (4 count but you must turn in all)	20%
2. Written and Presented initial plan	20%
3. First oral presentation	5%
4. Student Article presentation	5%

5. Written final document	30%
6. Oral presentation of plan	15%
7. <u>Contract letter and acceptance letter</u>	<u>5 %</u>
Total Weight	100%

VIII. Selecting Your Team

A team consists of either 2 or 3 professionals. My suggestion is that you choose a partner who has similar grade objectives. Further try for a partnership that has synergistic rather than similar skill sets. For example, try for a mixture of skill specialists, finance, marketing, management, economics, and statistics. Also, be sure that there is some geographical grouping of your team since the team will have to meet often to discuss, compare and combine work.

This course requires team interaction to complete the work. Teams made up of individuals with different grade ambitions have the most difficulty with a course designed like this one. If your ambition is to "just get through" this course with a minimum of work and your partner wants a solid "A," both of you are going to be very unhappy. If you feel strongly about working alone and you are willing to work extra hard, you may choose to work alone. Teams will be formed during the second class. I suggest that you prioritize your team composition on: (1) grade ambition, (2) a balance of skills, and (3) geographical location in that order to assemble your team.

IX. Selection of Cases







All teams will analyze a different case. Teams will receive a list of cases in the third week and will select one "client firm" from among those available.

Late Work

All work is due on the class specifies (see the attached class schedule) and must be received at the beginning of the class period. Work that is turned in after class or the next day will be penalized ten points. An additional ten points will be taken off the work for each additional day late. Reasonable excuses will be approved if submitted in writing at least seven days prior to the assigned date and if it receives written approval from the professor.

IX. Class Schedule

Date	Course Topic	Assignment Due date
Class 0	No class MLK Day	
Class 1	<p>Introduction. Discuss class syllabus. Initial discussion of the text and introduction to</p> <p>ORACLE PRIMAVERA 1.1 Intro to Project Management (https://www.youtube.com/watch?v=liRtNvvYvW4)</p> <p>Introduce and discuss Earned Value Management (https://www.humphreys-assoc.com/evms/basic-concepts-earned-value-management-evm-ta-a-74.html)</p>	
Class 2	<p>The process of Technological Forecasting / Ch. 1 -2 (Shenhar), Tutorial on overall project plan including, scheduling, resources allocation and critical path identification.</p> <p>Introduce and discuss Earned Value Management (https://www.humphreys-assoc.com/evms/basic-concepts-earned-value-management-evm-ta-a-74.html)</p> <p>ORACLE PRIMAVERA Primavera P6 project management ref. Manual Part 1 Understanding project management (3-10) Quick tour (pp. 13-27)</p>	Quiz 1
Class 3	<p>The Process of Technological Description Ch. 3-4 Shenhar, Tutorial on accounting and project</p> <p>ORACLE PRIMAVERA Defining administrative preferences & categories (29-46) Setting user preferences (49-63)</p>	
Class 4	<p>The Process of Technological Road Mapping Ch. 5-6 Shenhar</p> <p>ORACLE PRIMAVERA Setting up the Enterprise project structure 67-91 Setting up the organizational structure (97-109)</p>	Quiz 2
Class 5 Guest lecturers Feb 22	<p>The Process of Technological product paradigm development</p> <p>Ch. 7 Shenhar,</p> <p>ORACLE PRIMAVERA</p>	Quiz 3

	Defining resources and roles (109-133) Reviewing work breakdown structure (133-151)	
Class 6	Predictive analytics Ch. 8 Shenhar  PRIMAVERA Defining budgets through creating calendars (151-186)	Quiz 4
Class 7	Expeditionary Marketing,  PRIMAVERA Implementing through working with activities (193-247)	
	Spring break	
Class 8 March 21	Technology Assessment Ch. 9 Shenhar  PRIMAVERA Working with cost accounts and baselines (247 -283)	
Class 9	Experience and Learning Curves Ch. 10 Shenhar  PRIMAVERA Updating scheduling and summarizing projects (283-335)	Quiz 5
Class 10	Business analytics for Emerging Technologies, Ch. 11 Shenhar Managing risks through tracking projects (343-375)	
Class 11	<u>Presenting initial presentation and Plan</u>	
Class 12	Group projects presentations -groups interactions with teachers and mentors  PRIMAVERA Comparing to checking projects in and out (375-407)	
Class 13	Group projects presentations -groups interactions with teachers and mentors – catch up  PRIMAVERA Customizing projects	
Class 14	Written Projects and Presentation due Client presentations at school	
Class 15 Finals week	If any further need to do projects sign-offs and presentations	

Dates of interest

Dates are Subject to change, contact the Registrar's Office for additional dates and deadlines.