

**NEW JERSEY INSTITUTE OF TECHNOLOGY  
SCHOOL OF INDUSTRIAL MANAGEMENT**

**Course:** Managing Technical and Organizational Change

**Semester:** Spring 2004

**Course No:** **HRM 630**

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**Office Hours:** Monday 11:00 a.m. to 12:30 p.m.  
Wednesday 11:00 a.m. to 12:30 p.m.

**TEXTS: The Human Side of Managing Technological Innovation: A Collection of Readings.  
Ralph Katz. Second Edition. Oxford Press.**

We will also use a collection of articles and Harvard Business Review Cases.

### **Course Summary**

Today's world is characterized by rapid social, political and technological change. Organizations large and small must innovate and change in order to survive and prosper. The most successful organizations are those which exploit and create change.

This course will focus on technological and organizational change and is divided into three broad parts. The first part will examine companies in high tech industries that are confronted with dynamic, hypercompetitive environments and attempt to understand how they structure their strategies, organization structures and organization cultures to deal with the technological change. Here, the focus is on technology changes and how to deal with external threats and opportunities presented by changes in technology changes. Theoretical models that deal with managing technological change will be presented.

The second and third part will examine change at the organizational level. The second part covers product development processes and creating an innovative climate that prepares its workforce to embrace change and have an "entrepreneurial mindset". Here the focus will be on how the organization can internally prepare itself to be "ready for change".

The third part covers the topic of knowledge and technology management within organizations. This part will cover metrics to evaluation RD&E and methods that firms can use to leverage knowledge within the organizational context.

Some of the central concepts that we will be covering at the organizational level will include leadership, building hot teams, creating an innovative and entrepreneurial culture within the organization.

## Grading:

<b>Class Participation</b>	<b>150</b>
<b>Case Briefs</b>	<b>150</b>
<b>Case Presentation</b>	<b>200</b>
<b>Case Critique</b>	<b>100</b>
<b>Term paper</b>	<b>150</b>
<b>Exam</b>	<b>150</b>
<b>In Class Exercise</b>	<b>100</b>
<b>Total</b>	<b>1000</b>

### (1) Class Participation

You are required to read all the cases and articles assigned material prior to class. Participation in class requires that you are able to answer questions about the case asked in class. I will start each class by asking someone to summarize one of the readings or cases. In the case of the reading, you should be able to outline the core issues in the reading, and offer your analysis of the strengths and weaknesses of the article. In other words you should be able to critique the article. I value *quality* more than quantity in terms of comments. I am looking for evidence of good critical thinking on your part.

### (2) Case Briefs

Concerning cases, you should be able to identify the key issues, problems and opportunities facing the central protagonists, to articulate and evaluate alternate proposals to solve the problems and to describe the course of action that you would recommend and the reasons for your recommendations. The recommendations should be feasible, and related to the firm's resources, including their current cash position and their ability to raise finances. Case data-including financial and other quantitative- should be used wherever possible to support the way you state an issue and to show why your recommendation is the best one.

All students are required to do at least **four** case summaries. The questions to guide the case analysis are given in your syllabus. Your answers should use some of the theory discussed and assigned as readings. The case briefs should be typed and not more than 3-4 pages long (double spaced). In general you can omit the summary of the case. Assume that I have the case, figures and tables and you can refer to them in your case analysis. Be prepared to discuss and defend your class. You may take a "pass" for one class and not do a case summary without your grade being affected. However, you should still be prepared to discuss the case in class.

### (3) Case Presentation and Case Critique

The class will be divided into 5 groups of 3 students. Other than the four case summaries that you do individually, one case should be analyzed, written up and presented. This has to be done by your assigned group. Each group will present their preferred solutions to one of the cases. The presentation should be not more than 20 minutes long.

One other group will be assigned the responsibility to critique the case. This group has to ask questions of the presenting group. The case will then be discussed by the entire class.

### (4) Term Paper

You will be required to do a Term paper for this course. The term paper will be a group assignment. Some illustrative topics for the term paper are provided below. You may also research other topics related

to the area of technological or organizational change. The term paper should be considered as a research note where theoretical concepts are applied to some real-life company. You need to provide a working draft to the instructor on the third class for feedback and further ideas. Ideally I would like you to either interview personnel in the company that you have selected to research. These could be companies that you work in currently or have worked in before. You could research one of these topics or a combination of two or more of these topics. All Term papers should be at least 10-15 pages typed. Groups will be required to make a presentation of their term papers

- (1) An analysis of leadership and culture and how these facilitate the change process
- (2) An in-depth study of a restructuring processes within a company
- (3) How to recruit and retain workers in a knowledge economy
- (4) Comparative analysis of HR practices in traditional companies and HR practices in a high technology companies
- (5) New Ideas for managing Hot teams within organizations.

### Course Schedule

**January 31<sup>st</sup> Change**    **High Tech Environments How and Why Organizations need to Innovate and**

<b>Morning Session</b>
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**Reading 1:** Bower, J.L.& Christensen - Disruptive Technologies: Catching the Wave. HBR Article: Product # 3510.

**Reading 2:** Eisenhardt –Speed and Strategic Choice: How managers accelerate decision making. # 42 (Katz, pg 508-518)

**Reading 3:** Nemeth, C.J. Managing Innovation in Organizations: When More is Less. # 7 (Katz, pg. 74-85).

In Class Exercise – 1

Film: High Tech: Promise and Perils

<b>Afternoon Session</b>
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**Reengineering the Corporation – How and why organizations need to change**

**Reading 4: Greiner, L.E.** Evolution and Revolution as Organizations Grow. HBR Article Reprint # 98308

**Reading 5:** David A. Garvin. Building the learning Organization. HBR Reprint # 93402.

**Film: Radically Reengineering Business - Tom Peters**

**Reading 6: Hall, G., Rosenthal, J., & Wade, J.** How to make Reengineering really work - HBR Reprint 93604

## **CASE 1: Radio Shack Corporation (All Class Case)**

### **Questions**

- 1) Assess Radio Shack's five year strategy of "Connecting Places."
- 2) What are the key success factors in making the strategy work?
- 3) Assess Len Roberts style in managing the changes in Radio Shack.

February 6<sup>th</sup>

### **Product development: Tools and Techniques**

#### **Morning Session**

**Reading 7:** Smith, P.G., Reinertsen. Shortening the product development cycle. \$ 48. (Katz, Pg. 573-582)

**Reading 8 :** Thomke, S. Enlightened Experimentation: the New Imperative for Innovation . # 19 (Katz, pg. 215-226).

**Reading 9 :** Kessler, E.H. Bierly, P.E. & Gopalakrishnan, S. Vasa Syndrome: Insights from a 17<sup>th</sup> Century New Product Disaster. # 43 (Katz, pg. 519-532)

Film: 3 Com: The development of the Palm

#### **In Class Exercise 2**

#### **Afternoon Session**

#### **Managing the User for Product Development**

**Reading 10:** von Hippel & Katz: Product development through the Lead User Method. # 53, (Katz Pg 628 – 641)

**Reading 11:** von Hippel & Katz: Shifting Innovation to Users through tool kits (Katz, ps. 642-654)

#### **Case 2 : Innovation at 3M Corporation. Group 1**

- (1) How has 3M's innovation process evolved since the company was founded?
- (2) What are some organizational factors that have contributed to 3M being a hothouse of innovation?
- (3) How does the Lead User research process differ from and complement other traditional market research methods?
- (4) What should the Medical- surgical Lead user team recommend to Dunlop -The three new product concepts or a new business strategy? Assess the advantages and disadvantages of both recommendations.

February 7<sup>th</sup>

**Acquiring knowledge and technology from external sources: Means and Processes**

**Morning Session**

**Reading 10: Julian Birkenshaw:** Acquiring Intellect: Managing the Integration of Knowledge Intensive acquisitions. **Business Horizons 1999.**

**Reading 11: Allen, T.J.** Communication Networks in R&D laboratories . # 26 (Katz, 298 – 307).

**Reading 12: Roberts, E.B. & Liu:** Ally or Acquire: How technology leaders decide. # 58. (Katz 701-710).

**CASE 3: Cisco Systems: The Acquisition of Technology is the Acquisition of people.** Stanford University Case HR 10 – **Group 2**

**Questions**

- (1) What are some of the keys to the success of Cisco's acquisition strategy?
- (2) Evaluate the personnel policies of Cisco's Systems - Recruitment and Training policies.
- (3) What role do leadership and Culture play in Cisco's success?
- (4) Likely problems in the future and suggested courses of action.

**Film: Cisco's John Chambers: the best boss in America**

**Afternoon Session**

**Managing Climate, Structure and Organizational Control**

**Reading 13:** Maister, D.H. The One-firm firm: What makes it successful. # 34 (Katz, pg 414-424)

**Reading 14:** Katz, R., & Allen, T.J. Organizational Issues in the introduction of new technologies.

**CASE 4: Cypress Semiconductors - Vision, Values and Killer Software.** Stanford University Case HR 8AT (**Group 3**)

**Questions**

- (1) Evaluate the internal alignment between the culture, leadership, systems, staff and practices? What are the congruencies and the in-congruencies?
- (2) What type of leadership style will work?
- (3) How should the Culture be developed and managed?
- (4) What needs to change in Cypress Semiconductors?

February 20<sup>th</sup>

## Leadership Workshop

### Morning Session

Guest Speaker. Dr. Steve Meisel – LaSalle University: Workshop on Transformational Leadership.

The reading material will be provided as soon as it available.

### Afternoon Session

The Management of Innovative groups and teams

**Reading 15:** Leavitt, H.J., & Lipman- Blumen: Hot groups. # 13 (Katz pgs. 143-150)

**Reading 16:** Bank, D. The Java Saga (# 12, Katz, 134-142)

**Reading 17:** Wheelwright, S.C., & Clark, K.B. Creating Project Plans to Focus Product Development. Harvard Business Review, Mar-April 1992, 70-82.

**Case 5:** We've got Rhythm! Medtronic Corporation's Cardiac Pacemaker Business (Group 4)

- (1) Review the history of how Medtronic nearly lost its position as market leader in the 1970s and 1980s.
- (2) Which improvements in the new product development process that the Medtronic management team implemented strike you as having been crucial in turning the company around?
- (3) What do the concepts of Product line architecture and train schedule mean in the pacemaker business? What are the costs and benefits of having implemented these concepts as the Medtronic management team has done?
- (4) Evaluate the nature of the senior management involvement in Medtronic's implementation of its product development system.
- (5) How is Medtronic doing today? What do you attribute to its success?

March 5<sup>th</sup>

**Morning Session**

**Exam – 1.0 hours**

**Case 6:** Display technologies Inc (Abridged) (Group 5)

- (1) What are DTI's strengths and weaknesses? What does it deliver to its customers that Sharp and other customers do not?
- (2) What must DTI do to be successful? Would it be different if DTI were not a Joint venture of the two giants IBM and Toshiba?
- (3) What principles and concepts does one apply to improving a complex production system such as Flat panel display process?
- (4) What should Shima-San do? How might his previous experience shape his decision?
- (5) Where is the technology today and what is DTI's place in the industry?

**Afternoon Session**

**Presentation of the term papers. Each term paper presentation should last about 30 minutes with about 15 minutes for questions and answers.**

Course evaluation

Debriefing the class.