

Technology Innovation Management 2nd Module, 2018-2019

Course Information

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Office Hour: Mondays & Thursdays 9:00am-10:30am or by appointment

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Classes: Mondays & Thursdays 10:30am-12:20pm

Venue: PHBS Building, Room TBD

1. Course Description

1.1 Course overview

There are two fundamentally different types of entrepreneurial ventures: those that exploit non-technology business opportunities; and those that exploit business opportunities derived from technology and innovation. This course addresses the needs of future entrepreneurs in the second category, focusing on the exploitation of technology and innovation opportunities in entrepreneurial venture design and implementation processes. Specifically, this course covers topics in two main areas: (1) Key concepts and principles in technology and innovation management, including the typology of technological innovation, competitive strategies based on technology and innovation, organizational structures facilitating innovation, etc. (2) Key concepts and principles in technology entrepreneurship, including the identification of emerging technology trends and opportunities, the value creation and value appropriation through technology ventures.

1.2 Textbooks and Reading Materials

1.2.1 Textbook

- 1. Innovation Management, Jin Chen, Gang Zheng, Peking University Press, Third Edition (in Chinese)
- 2. Technology Ventures: From Idea to Enterprise, Thomas H. Byers, Richard C. Dorf, Andrew Nelson, McGraw Hill, 2011, Third Edition (either print or ebook from Amazon.com or coursesmart.com).

1.2.2 Reading

- 1. George Day. Is it real? Can we win? Is it worth doing? Managing risk and reward in an innovation portfolio. Harvard Business Review. December 2007.
- 2. William Sahlman. How to write a great business plan? Harvard Business Review. July-August 1997.

2. Learning Outcomes

2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective	1.1. Our students will produce quality business and research-oriented documents.	Yes
communicators.	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	Yes
Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	Yes
	2.2. Students will be able to apply leadership theories and related skills.	
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	Yes
	3.2. Our students will practice ethics in the duration of the program.	
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	Yes
5. Our graduates will be skilled in problem-solving and critical	5.1. Our students will have a good understanding of fundamental theories in their fields.	Yes
thinking.	5.2. Our students will be prepared to face problems in various business settings and find solutions.	Yes
	5.3. Our students will demonstrate competency in critical thinking.	Yes

2.2 Course specific objectives

This course offers students a unique opportunity to learn about:

- (1) The identification and evaluation of technology and innovation-based business opportunities,
- (2) The exploitation of valuable technology and innovation-based business opportunities, through the design of best-fit entrepreneurial ventures,
- (3) The various aspects of technology venture management decision-making, including competition, market and customers, financing, business model, team and organization, intellectual property, etc.

2.3 Assessment/Grading Details

1. Individual

- Class participation (including attendance) 20%

2. Group

- Paper presentation 20%

- New Technology Venture Project

Technology Opportunity Analysis & Idea Pitch 30%
Business Plan Presentation 30%

Table 100

Total: 100%

2.4 Academic Honesty and Plagiarism

It is important for a student's effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to PHBS Student Handbook.

3. Topics, Teaching and Assessment Schedule

Week 1 - Introduction

Session #1 Course Overview

Session #2 Technology Entrepreneur

<u>Paper</u>

Sarasvathy SD. 2001. Causation and effectuation: Toward a theoretical shift from economic inevitability to entrepreneurial contingency. Academy of Management Review 26(2): 243-263.

Week 2 - Technology Innovation Basics

Session #3 Concept of Technological Innovation

Session #4 Technological Innovation Management

Paper

Teece, D.J. 2018. Profiting from innovation in the digital economy: Enabling technologies, standards, and licensing models in the wireless world. Research Policy.

Week 3 - Finding Technology Opportunity

Session #5 Opportunity Identification

Paper

Short, J.C., D.J. Ketchen Jr, C.L. Shook, R.D. Ireland. 2010. The concept of "opportunity" in entrepreneurship research: Past accomplishments and future challenges. Journal of Management 36(1) 40-65.

Session #6

Technology Industry Analysis

<u>Paper</u>

Agarwal, R., Sarkar, M. B., & Echambadi, R. 2002. The Conditioning Effect of Time on Firm Survival: An Industry Life Cycle Approach. Academy of Management Journal, 45(5): 971-994.

Week 4 - Technology-based Strategy

Session #7 Technology-based Marketing Strategy

Session #8 Technology-based Competitive Strategy

<u>Paper</u>

Anderson, P., M.L. Tushman. 1990. Technological discontinuities and dominant designs: a cyclical model of technological change. Administrative Science Quarterly 35(4) 604-633.

Week 5 - Technology Opportunity Analysis

Session #9 ***Tech Opportunity Analysis & Idea Pitch***

Session #10 ***Tech Opportunity Analysis & Idea Pitch***

Week 6 - Technology Venture Formation

Session #11 Resource Orchestration

<u>Paper</u>

Baker T, Nelson RE. 2005. Creating something from nothing: Resource construction through entrepreneurial bricolage. Administrative science quarterly 50(3): 329-366.

Session #12 Team Building

Paper

Gupta, V., I.C. MacMillan, G. Surie. 2004. Entrepreneurial leadership: developing and measuring a cross-cultural construct. Journal of business venturing 19(2) 241-260.

Week 7 - Technology Venture Growth

Session #13 Technology Venture Financing

Session #14 Growth and Exit

<u>Paper</u>

Eisenmann, T.R. 2006. Internet companies' growth strategies: determinants of investment intensity and long - term performance. Strategic Management Journal 27(12) 1183-1204.

Week 8 - Technology Venture Operations

Session #15 Business Plan for Technology Ventures

Session #16 Technology Ventures Risk Management

<u>Paper</u>

Li, Y., T. Chi. 2013. Venture capitalists' decision to withdraw: The role of portfolio configuration from a real options lens. Strategic Management Journal 34(11) 1351–1366.

Week 9 - Final Presentation

Session #17 *** Business Plan Presentation ***

Session #18 *** Business Plan Presentation ***