



Rotman Commerce UNIVERSITY OF TORONTO

Course Outline

RSM 494 H1S

Technology Strategy

Winter 2016

Course Meets: Tuesdays, 6:00 p.m. – 8:00 p.m. RT 142

Instructor: Terry L. Amburgey. RT 7024.
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Teaching Assistant: NA

Course Scope and Mission

“This course focuses on the strategic management of technology and innovation in established firms. The conceptual framework of the course is an *evolutionary process perspective on technology strategy and innovation*. The fundamental ideas underlying this evolutionary perspective are (1) that a firm's technology strategy emerges from its technological competencies and capabilities, (2) that technology strategy is shaped by external (environmental) and internal (organizational) forces, and (3) that the enactment of technology strategy, through the experience that it generates, serves to further develop the firm's technological competencies and capabilities. Within this evolutionary perspective, the course draws on strategic management, economics and organization theory for analytical tools to address important challenges faced by managers in technology-based firms.” (Burgelman, et. al., 2009: 21)

Course Prerequisites

Prerequisite: [RSM392H1](#)

Required Readings

All students are required to have access to the readings & case packet used in the class. The packet is in the form of an ebook titled Rotman Technology Strategy available online from McGraw-Hill at <https://create.mheducation.com/shop/>. The isbn-10 number is xxxxxxxxxx. I'm listed as the author. The default country for the page is the USA, be sure to change to Canada. There are also required readings listed in the weekly schedule available from the University of Toronto Libraries Ejournals. The cases for the class are contained in the reading packet.

Evaluation and Grades

Grades are a measure of the performance of a student in individual courses. Each student shall be judged on the basis of how well he or she has command of the course materials.

		<i>Due Date</i>
Reading Review Sheet	10%	The day the chapter with the reading is listed
Case Analysis 1	25%	February 9
Case Analysis 2	25%	April 5
Team Project	40%	April 5

Points	Grade
90-100	A+
85-89	A
80-84	A-
77-79	B+
73-76	B
70-72	B-
67-69	C+
63-66	C
60-62	C-
57-59	D+
53-56	D
50-52	D-
0-49	F

COURSE REQUIREMENTS AND EVALUATION

Team Term Project – 40%

Term projects will be completed in teams of 4-6 students formed by the second session. Teams play central roles in this course because teams play central roles in organizations. In organizations, most people spend most of their time working in, interacting with, and managing teams. Working in teams provides an opportunity to learn from your colleagues, and provides a setting in which to discuss your ideas that approximates the management teams typically charged with such tasks.

In addition to working with your team on the term project, I strongly encourage you to meet regularly with your team to discuss the weekly readings and cases before the class meets. This will help you to develop a more cohesive team, as well as ensuring that each member is fully conversant in the course material.

You will need to begin thinking about your term project early in the course. Please feel free to discuss your ideas with me whenever you are ready to do so.

You have wide latitude to choose the subject matter for your term project. The term project entails analyzing the technology strategy of a company (of your choice). It is common (but not required) for a team to choose a technology with which at least one member is reasonably well acquainted.

Report Format: The project report should be 15-20 pages double-spaced, plus up to five additional pages of exhibits, and should be completely self-contained (all the information I need to understand the analysis is included). You may append news clippings or other useful background materials that you don't want to summarize in a backup appendix (not included in the 10-15 pages). Please be sure to cite your sources.

The team project is due on the last day of class. Late submissions are penalized by -1 point per day up to one week. Team projects will not be accepted more than one week late.

Individual Case Analyses – 50%

Each student will also do two written case analyses, each of which is worth twenty-five percent of the final grade. We will discuss two cases in class. The specific cases and dates are listed in the schedule at the end of the course outline. I encourage you to work with the rest of your project team on the cases. However, the case analyses must be your own work. I expect similarities between the case analyses of team members but they cannot be duplicates.

Case Analysis Format: The case analysis should be 10-15 pages doubled spaced, plus up to 3 additional pages of supplemental material. The case analyses are due on the day the case is discussed in class. Late submissions are penalized by 1 point per day up to one week. Case analyses will not be accepted more than one week late.

Individual Reading Comment Sheet – 10%

There are a substantial number of readings contained in the course material (although many of them are short). Each student will choose one of the readings and construct a short commentary on the key points of the reading. These comment sheets serve as the basis for class discussion of the readings; i.e. you will discuss the reading in class. You need not go into great depth in your commentary; a short overview of the main points, weaknesses, and implications is sufficient. I encourage you to work with the rest of your project team on the comment sheet. However, the comment sheet must be your own work. I expect similarities between the comment sheets of team members but they cannot be duplicates. The comment sheets are due at the end of the day that the chapter containing the reading is scheduled. The mark for the comment sheet includes both the written document and class discussion.

Comment Sheet Format: The comment sheets should be 1 to 2 pages doubled spaced.

Evaluation Criteria and Grading. Grades for your team's project reports and individual case analyses will be determined using the four equally weighted criteria listed below:

1. Quality of analyses (rigor, originality, and brilliance of your ideas)
2. Integration with appropriate conceptual models (explicit links to course concepts and models)
3. Quality of presentation (organization of argument, presentation style, creativity in content/format)
4. Completeness of the proposed recommendations and/or steps for implementation

Please note that clear, concise, and correct writing will be considered in the evaluation of the case analyses and team projects. That is, you may lose points for writing that impedes communication: poor organization, weak paragraph development, excessive wordiness, hard-to-follow sentence structure, spelling mistakes and grammatical errors. Students who require additional support and/or tutoring with respect to their writing skills are encouraged to visit the Academic Success Centre (www.asc.utoronto.ca) or one of the College Writing Centers (www.writing.utoronto.ca/writing-centres). These centers are teaching facilities – not editing services, where trained staff can assist students in developing their academic writing skills. There is no charge for the instruction and support.

Learning to work together in teams is an important aspect of your education and preparation for your future careers. That said, project-based teamwork is often new to students and you are therefore reminded of the following expectations with respect to behaviour and contributions to your team project.

1. Read the document entitled, “*Working in Teams: Guidelines for Rotman Commerce Students*” which is available on the RC portal under the Academic Services tab.
2. When working in a team, Rotman Commerce students are expected to:
 - Treat other members with courtesy and respect;

- Honour the ground rules established by the team;
- Contribute substantially and proportionally to the final project;
- Ensure enough familiarity with the entire contents of the group project/assignment so as to be able to sign off on it as original work;
- Meet the project timeline as established by the team.

3. Resolving differences:

Conflicts can – and do – occur. Conflicts are part of the team’s process of learning how to work together effectively and can actually generate exciting debate and creative solutions – if managed appropriately. Student teams are collectively expected to resolve disputes or misunderstandings as soon as they arise (and prior to submission of the final project). In cases where teams are unable to reach a mutually agreeable solution, the entire team must meet with the Rotman Commerce Team Coach** as soon as possible. The Coach will listen to the team and help develop options for improving the team process. All members of the project team must commit to, and, utilize their action plans.

** For an appointment with a Rotman Commerce Team Coach, please contact Elaine Zapotoczny at elaine@nikoletaandassociates.com. Elaine is highly skilled at facilitating team dynamics and collaboration. Note that the Team Coach’s role is to provide guidance, support and advice on team matters – not to formally evaluate or assess teamwork for academic purposes.

POLICY AND PROCEDURE

Missed Tests and Assignments (including midterm examinations)

Students who miss a test or assignment for reasons entirely beyond their control (e.g. illness) may submit a request for special consideration. Provided that notification and documentation are provided in a timely manner, and that the request is subsequently approved, no academic penalty will be applied. Instead, an equivalent deliverable will be re-weighted.

In such cases, students must notify Rotman Commerce on the date of the missed test (or due date in the case of course work) and submit supporting documentation (e.g. [Verification of Student Illness or Injury form](#)) to the Rotman Commerce Program Office within **48 hours** of the originally scheduled test or due date. Students who do not provide Rotman Commerce or the instructor with appropriate or sufficient supporting documentation will be given a grade of 0 (zero) for the missed test or course deliverable.

Note that the physician’s report must establish that the patient was examined and diagnosed at the time of illness, not after the fact. Rotman Commerce will not accept a statement that merely confirms a report of illness made by the student and documented by the physician.

Late Assignments

The case analyses are due on the day the case is discussed in class. Late submissions are penalized by -1 point per day up to one week. Case analyses will not be accepted more than one week late.

The team project is due on the last day of class. Late submissions are penalized by -1 point per day up to one week. Team projects will not be accepted more than one week late.

Individual comment sheets must be submitted on the day that the chapter containing the reading is discussed. No late submissions will be accepted.

Students who, for reasons beyond their control, are unable to submit an assignment by its deadline must obtain approval from the instructor for an extension. Supporting documentation will be required as per the policy on missed tests and assignments.

Accessibility Needs

The University of Toronto is committed to accessibility. If you require accommodations for a disability, or have any accessibility concerns about the course, the classroom or course materials, please contact Accessibility Services as soon as possible: accessibility.services@utoronto.ca or <http://www.accessibility.utoronto.ca/>.

Academic Integrity

Academic Integrity is a fundamental value essential to the pursuit of learning and scholarships at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the UofT degree that you earn will continue to be valued and respected as a true signifier of a student's individual work and academic achievement. As a result, the University treats cases of academic misconduct very seriously.

The University of Toronto's Code of Behavior on Academic Matters

<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm> outlines the behaviors that constitute academic misconduct, the process for addressing academic offences, and the penalties that may be imposed. You are expected to be familiar with the contents of this document. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Obtaining or providing unauthorized assistance on any assignment (this includes collaborating with others on assignments that are supposed to be completed individually).

On test and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else's answers
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying institutional documents or grades.
- Falsifying or altering any documentation required by the University, including (but not limited to), medical notes.

All suspected cases of academic dishonesty will be investigated by the following procedures outlined in the *Code of Behavior on Academic Matters*. If you have any question about what is or not is permitted in the course, please do not hesitate to contact the course instructor. If you have any questions about appropriate research and citation methods, you are expected to seek out additional information from the instructor or other UofT resources such as College Writing Centres or the Academic Success Centre.

Email

At times, the course instructor may decide to communicate important course information by email. As such, all UofT students are required to have a valid UofT email address. You are responsible for ensuring that your UofT email address is set up AND properly entered on the ROSI system.

Forwarding your utoronto.ca email to a Hotmail, Gmail, Yahoo or other type of email account is not advisable. In some cases, messages from utoronto.ca addresses sent to Hotmail, Gmail or Yahoo accounts

are filtered as junk mail, which means that important messages from your course instructor may end up in your spam or junk mail folder.

Blackboard and the Course Page

The online course page for this course is accessed through Blackboard. To access the course page, go to the UofT Portal login at <https://portal.utoronto.ca/> and log in using your UTORid and password. Once you have logged in, look for the My Courses module where you'll find the link to all your course websites. If you don't see the course listed here but you are properly registered for the course in ROSI, wait 48 hours. If the course does not appear, go to the Information Commons Help Desk in Robarts Library, 1st floor, for help, or explore the Portal Information and Help at <http://www.portalinfo.utoronto.ca/content/information-students> and review the Frequently Asked Questions.

Recording Lectures

Lectures and course materials prepared by the instructor are considered by the University to be an instructor's intellectual property covered by the Canadian Copyright Act. Students wishing to record a lecture or other course material in any way are required to ask the instructor's explicit permission, and may not do so unless permission is granted (note: students who have been previously granted permission to record lectures as an accommodation for a disability are, of course, excepted). This includes tape recording, filming, photographing PowerPoint slides, Blackboard materials, etc.

If permission is granted by the instructor (or via Accessibility Services), it is intended for the individual student's own study purposes and does not include permission to "publish" them in anyway. It is absolutely forbidden for a student to publish an instructor's notes to a website or sell them in any other form without formal permission.

WEEKLY SCHEDULE

Session	Topics	Case	Readings
#1: Jan 12	Introduction	None	Preface. Reading Packet. Introduction. Reading Packet.
Part 1: Integrating Technology and Strategy: A General Management Perspective			
#2: Jan 19	Technological Innovation	None	Teece, David. 1986. "Profiting from Technological Innovation: Implications for Integration, Collaboration, Licensing, and Public Policy." <i>Research Policy</i> . Pp. 285-305. Library. Prahalad, C.K., and Gary Hamel. "The Core Competence of the Corporation". Reading Packet.
#3: Jan 26	Technological Innovation & Strategy	None	Burgelman, Robert A., and Robert E. Siegel. "Defining the Minimum Winning Game in High Technology Ventures". Reading Packet. Christensen, Clayton M. and Michael Overdorf "Meeting the Challenge of Disruptive Change". Reading Packet.
Part 2: Design and Implementation of Technology Strategy: An Evolutionary Perspective			
#4: Feb 2	Technological Evolution	None	Abernathy, William J., and James M.

			Utterback. "Patterns of Industrial Innovation". Blackboard. Christensen, Clayton M. 1992. "Exploring the Limits of the Technology S-Curve: Component Technologies". <i>Production and Operations Management</i> . Pp. 334-357. Library. Christensen, Clayton M., Matt Verlinden, and George Westerman. 2002. "Disruption, Disintegration, and the Dissipation of Differentialability". <i>Industrial and Corporate Change</i> . Pp. 955-993. Library.
#5: Feb 9	Industry Context	Case 2-8. Eli Lilly & Company: Drug Development Strategy	Case 2-8. Eli Lilly & Company: Drug Development Strategy. Reading Packet.
#6: Feb 23	Organizational Context	None	Henderson, Rebecca M. and Kim B. Clark. 1990. "Architectural Innovation: The Reconfiguraton of Existing Product Technologies and the Failure of Established Firms". <i>Administrative Science Quarterly</i> . Pp. 9-30. Library Burgelman, Robert M. and Andrew S. Grove. 1996. "Strategic Dissonance". <i>California Management Review</i> . Pp. 8-28. Reading Packet.
#7: Mar 1	Strategic Action	None	Hamel, Gary, and C.K. Prahalad. "Strategic Intent". Reading Packet. Burgelman, Robert M. and Andrew S. Grove. 2007. "Let Chaos Reign, then Reign in Chaos – Repeatedly: Managing Strategic Dynamics for Corporate Longevity". <i>Strategic Management Journal</i> . Pp. 965-979. Library.
Part 3: Enactment of Technology Strategy – Developing a Firm’s Innovative Capabilities			
#8: Mar 8	Internal and External Sources of Technology	None	Cohen, Wesley M. and Daniel A. Levinthal. 1990. "Absorptive Capacity: A New Perspective on Learning and Innovation". <i>Administrative Science Quarterly</i> . P.p. 128-152.
#9: Mar 15	Linking New Technology and Novel Customer Needs		Gourville. John T. 2006. "Eager Sellers and Stony Buyers: Understanding the Psychology of New-Product Adoption". Reading Packet.

			Moore, Geoffrey A. 2004. "Darwin and the Demon: Innovating Within Established Enterprises". Reading Packet.
#10: Mar 22	Internal Corporate Venturing	None	Hindo, Brian. 2007. "3M: Struggle between Efficiency and Creativity". Reading Packet. Tushman, Michael and Charles O'Reilly. 1996. "Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change". <i>California Management Review</i> . Pp. 8-30. Library.
Part 4: Enactment of Technology Strategy – Creating and Implementing a Development Strategy			
#11: Mar 29	New Product Development	None	Wheelwright, S.C. And Kim B. Clark. 1992. "Organizing and Leading Heavyweight Development Teams". <i>California Management Review</i> . Pp. 9-28. Library. Christensen, Clayton M., Stephen P. Kaufman, and Willy Shih. "Innovation Killers: How Financial Tools Destroy Your Capacity to do New Things". Reading Packet.
#12: Apr 5	Building Competence/Capabilities Through New Product Development	Electronic Arts in 2005: The Next Generation of Convergence.	