Background

Technology has always been considered one of the key elements that define society or civilization. In modern societies, the ability to innovate, including the ability to create, deploy, and implement new technologies (including social and organizational technologies) and to anticipate and/or control their effects has taken on much greater importance. Technology is a critical contributor to the health and vitality of a society and its major institutions; technology can have a significant effect on our ability to meet many of the challenges confronting modern society (e.g., global competition; flat or shrinking resource bases; a variety of social and environmental problems; demands for increased productivity and effectiveness). Technology has a direct and significant impact on our standard of living and the quality of our lives (both positive and negative). As a consequence, interest in understanding and ultimately predicting and managing the outcomes of the innovation process has been growing within corporate, governmental, educational and other sectors.

Coverage:

This seminar will provide a broad review of social and behavioral science theory and research on innovation processes and the outcomes and consequences of implementing technologies. Technology will be viewed as both a "dependent variable" and an "independent variable". Emphasis will be placed on the interaction of sociotechnical systems.

While viewing technology as a dependent variable, our readings will focus on individual, group, organizational (e.g., management practices, communication systems) and social factors and forces which can and do affect the creation, deployment and implementation of new and effective technologies (including social technologies). One goal of these readings and discussions will be to provide some insight into the extent to which one can predict and/or optimize the innovation process. While viewing technology as an independent variable, our readings will focus on the intended and unintended consequences (e.g., psychological, social and economic) for individuals, organizations and societies implementing and using various technologies. The first several weeks of readings will be devoted to providing a conceptual overview of these two themes. The remainder of the semester will be devoted to specific topics which fall within these themes. Depending on class interest, we may change the order of covering these topics.
Class Format:

Class will be run in seminar format. Students will be asked to summarize and discuss the reading assignments; lecturing will be kept to a minimum. Students will provide brief written comments via a listserv established for the class (Please address two questions: *What was new or a surprise in the readings? What didn’t you understand or think needs more discussion in class?*). General discussions will focus on the implications of the readings for theory, research and practice. Where appropriate guest speakers will be invited to meet with the class. Since it's difficult to study technology in the abstract, students will be encouraged to use this course and assignments to help them understand the processes which contribute to the creation of a given technology or type of technology (e.g., information, manufacturing, social) and/or the impact of a specific technology in a given setting (e.g., industry, education, government, etc.). The annotated bibliography due at the end of the semester will be the major vehicle for accomplishing this goal.

Readings:

The course readings will come from a required book and a set of journal articles and book chapters. Each week you will be assigned a set of required readings. Individual articles and chapters will be available in digital form.


In addition, the syllabus will list a set of supplemental readings (labeled with an asterisk) that students who want a more in depth background on that topic may want to review. These readings will not be part of the course pack (they tend to come from articles “retired” from earlier syllabi). If you have trouble finding these readings see the instructor, I should have a copy.

Assignments:

- **Thought Paper:** take home; 7 pages or less: 30% (due Oct. 26); see Appendix A. Students who are not satisfied with their performance on this assignment, can request permission to do a second thought paper at the end of the semester.
- **Annotated Bibliography:** literature review and presentation: 60% (15% presentation; 45% paper, due last class Dec. 7); see Appendix B.
- **Class participation:** will include participation in class and via web-based comments: 10%

Grading:

Letter grade: A,B,C,D,U with +/-
Class Schedule and Assignments:

Week 1: August 24
   Distribute and Discuss Syllabus

Week 2: August 31
   Innovation Process: Definitions, Theories, Conceptions, and Perspectives

Week 3: September 7
   Innovation Process Perspectives

Week 4: September 14
   Research Enterprise

Week 5: September 21
   Innovation -- A Focus on Networks and Organizations; (AB Concept Due)

Week 6: September 28
   Levels of Analysis and Methodological Issues

Week 7: October 5
   Technology Outcomes: Theories and Models

Week 8: October 12
   Adoption & Implementation

Week 9: October 19
   No class; Work on AB Research

Weeks 10: October 26 (Thought paper due)
   Public Policy and Related Issues in the Innovation Process

Week 11: November 2
   Industry-University Relations; (AB Outline; Readings Well Underway)

Week 12: November 9
   Emerging Innovation Issues

Week 13: November 16
   Innovation and Technology Speaker Panel

Week 14: November 23
   Student Presentations (Tuesday of Thanksgiving Week)
   - Student attendance for all student presentation sessions is required and is critical to your participation grade

Week 15: November 30
   Student Presentations

Week 16: December (Exam Week)
   Student Presentations; Annotated Bibliography due
Class Schedule and Reading Assignments: (* = optional, check with instructor or find in lib.)

Week 1
Discuss goals of course; distribute and review syllabus

Week 2
Innovation Processes: Definitions, Theories, Conceptions, and Perspectives


Supplemental readings:


Week 3
Innovation Process Perspectives


Supplemental Readings

Week 4
Research Enterprise

Supplemental Readings

Week 5
Innovation -- A Focus on Organizations and Networks; AB Concept Due

Supplemental Readings:
*Jones, Gareth R., & George, Jennifer M. (1998). The experience and


Week 6
Levels of Analysis and Methodological Issues


Supplemental Readings:


Week 7
Technology Outcomes: Theories and Models


**Week 8**

**Adoption & Implementation**


**Supplemental readings**


**Week 10**

**Public Policy and Related Issues in the Innovation Process**


Supplemental Activity


Week 11

Industry-University Relations


Supplemental Readings


Week 12

**Emerging Issues**


Other readings to be added based on class recommendation.

Weeks 13

*Innovation and Technology Speaker Panel*

Week 14

**Class Presentations**

Week 15

**Class Presentations**

Week 16

**Class Presentations**
Appendix A

PSY757: Thought paper assignment

Instructions: 5 pages double-spaced (not counting references and figures); Times New Roman font; one-inch margins

1. Address the following question: Which five readings have had the greatest impact on your thinking about innovation and technology? How have they affected your thinking? How might this affect your research and/or practices interests in the future? It is perfectly acceptable to build upon (not self-plagiarize) comments provided to the weekly blog.
Appendix B

PSY 757: INNOVATION AND TECHNOLOGY
Instructions for the Annotated Bibliography (AB)¹

Purpose: The purpose of this assignment is to provide each student with an opportunity to explore a specific innovation and technology-related topic of interest to them in more depth while showing how well the topic links to the framework and theories we have covered during the semester. Many past students have used this assignment as a vehicle for getting started on or amplifying their thesis or dissertation literature review. I would consider this a very constructive way to approach this assignment.

A. Written Assignment: Prepare an annotated bibliography (AB) which also includes an introduction and conclusions section. AB should be based on at least 8 journal articles or equivalent (e.g., chapters). Paper will constitute 75% of AB grade.

1. An annotated bibliography provides a review of the literature by "summarizing" or abstracting individual readings on a given topic. In this case, you should provide an update on theory, research and/or practice on some innovation/technology topic.
2. Your "abstracts" should be both descriptive (e.g., summary of findings, conclusions and/or recommendations) and evaluative (e.g., your commentary on the quality, completeness, etc. of the item). Abstracts should average about two double-spaced pages. Heads up: Please note that the single biggest shortcoming I have found in past abstracts has been a failure to provide evaluative analysis!
3. Your AB should be accompanied by two sections: a) a 3-4 page introduction (double-spaced); this section should describe the topic/issue/problem you are concerned with, how it is related to the broad innovation/technology literature we have been covering and the purpose of your review (e.g., to understand what is known about a topic based on research, to understand recommended or "best practices", etc.); b) a 4-6 page conclusions section in which you provide a summary and commentary on the articles/chapters you have abstracted. The conclusions section should demonstrate the student's ability to synthesize and integrate "what is known and what is not known" (e.g., "gaps" or neglected issues) on the topic.
4. Readings summarized in your review should be drawn from scholarly literature (e.g., journal articles, book chapters or books, journal length proceedings, etc.) not popular periodicals. In some cases a student may negotiate reading a book in lieu of several articles/chapters.
5. The AB should primarily include recent literature (past 4 years). If after scanning the literature you believe you may have problems meeting this criterion, please come see me.
6. I prefer "APA" citation format but will accept other recognized style conventions.

B. Class presentation of Annotated Bibliography:
Purpose: to share with class important sources you identified and insights you gained in the course of doing your literature review.
Format: Oral description of your AB; twenty minutes; 5 minutes for questions; handouts recommended;
Suggested Outline: Topic and purpose of review; Overview of kind of sources you found (e.g., quality, relevance to topic); More detailed description of best source(s); Conclusions

Note: Students must get my approval for the topic they choose and the type of readings they will be including. See target dates in syllabus for guidance on making progress on this assignment.

¹ An annotated bibliography is a list of citations to books, articles, and documents. Each citation is followed by a brief descriptive and evaluative summary, the annotation. The purpose of the annotation is to inform the reader of the relevance, accuracy, and quality of the sources cited.