15.838 Research Seminar in Marketing

Professors: Duncan Simester, John Hauser, and Glen Urban

Thursday 2:30-5:30
Room E56-249

This seminar will examine three critical aspects of research:

1. How to define a publishable topic,
2. How to design a rigorous study, and
3. How to translate research into action.

These three issues will be discussed in general and then applied to two topics that will function in parallel with the lecture materials as an area for applying the research concepts. The topics are “trust on the Internet” and Securities Trading of Concepts and Attributes (STOC).

<table>
<thead>
<tr>
<th>Class</th>
<th>Date</th>
<th>Class Content</th>
<th>Professor</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feb 7</td>
<td>Introduction</td>
<td>Hauser, Simester, Urban</td>
</tr>
<tr>
<td>2</td>
<td>Feb 14</td>
<td>Session A</td>
<td>Simester</td>
</tr>
<tr>
<td>3</td>
<td>Feb 21</td>
<td>Issues of Reliability and Validity</td>
<td>Hauser</td>
</tr>
<tr>
<td>4</td>
<td>Feb 28</td>
<td>Experiments, Quasi-Experiments</td>
<td>Hauser</td>
</tr>
<tr>
<td>5</td>
<td>Mar 7</td>
<td>Session B</td>
<td>Simester</td>
</tr>
<tr>
<td>6</td>
<td>Mar 14</td>
<td>Session C</td>
<td>Simester</td>
</tr>
<tr>
<td></td>
<td>Mar 21</td>
<td>Spring Break</td>
<td>No class</td>
</tr>
<tr>
<td></td>
<td>Mar 28</td>
<td>Spring Break</td>
<td>No class</td>
</tr>
<tr>
<td>7</td>
<td>Apr 4</td>
<td>Further Research Design Issues</td>
<td>Hauser</td>
</tr>
<tr>
<td>8</td>
<td>Apr 11</td>
<td>Applied Methodology and Site Design Problem</td>
<td>Urban</td>
</tr>
<tr>
<td>9</td>
<td>Apr 18</td>
<td>Building Trusted Advisors</td>
<td>Urban</td>
</tr>
<tr>
<td>10</td>
<td>Apr 25</td>
<td>Designing Really New Products</td>
<td>Urban</td>
</tr>
<tr>
<td>11</td>
<td>May 2</td>
<td>Philosophy of Science</td>
<td>Hauser</td>
</tr>
<tr>
<td>12</td>
<td>May 9</td>
<td>Wrap-up</td>
<td>Hauser, Simester, Urban</td>
</tr>
</tbody>
</table>
INTRODUCTION: Professors Simester, Hauser, and Urban

- Duncan Simester, John Hauser and Glen Urban will review Layout of the course and objectives.
- Glen Urban will provide us with background information about the Trust on the Internet.
- Ely Dahan will provide us with background information about STOC.
- Students will be assigned to one of the two topics for the course assignments

SECTION ONE: DEFINING A PUBLISHABLE TOPIC – Professor Duncan Simester

This section of the seminar is going to focus on the following questions:

- What is a publishable idea?
- What is a publishable model?
- What is a publishable empirical paper?

Students are asked to review 2-3 papers in advance of each session. We will begin each session by discussing these assigned papers. In the second half of each session the discussion will turn to developing publishable hypotheses that focus on Trust or STOC.

Session A


Session B


Session C

SECTION TWO: DESIGNING RIGOROUS MEASUREMENT TO ENHANCE PUBLISHABILITY WITHIN ONE OF THE MANY PHILOSOPHIES OF SCIENCE THAT CO-EXIST IN MARKETING – Professor John Hauser

Three topics in research methodology will be addressed over approximately four sessions. The amount we will cover will depend upon interest. I have listed three topics – I hope we have time for all three. Each session will include two sub-sessions.

1. For the first sub-session, students should review the indicated chapters and/or articles and be prepared to discuss the implications for the various research paradigms they have been learning in the program. These paradigms include, but not limited to, prescriptive model building, explanatory formal models, and experiments to explore behavioral phenomena.

2. For the second sub-session, students should prepare a presentation applying the concepts of the session to one of the two ongoing topics of Trust and STOC. It is extremely important that you read (or skim as indicated) the articles to understand the basic issues.

Required readings.
- Readings packet.

Recommended, but not required (and not in the readings packet)
- If you are going to have one book on your shelf for practical empirical research, this is it.

Issues of Reliability and Validity

- multi-method, multi-trait matrix
    - We are reading this for the basic concepts. In 2002, we can use advanced structural equation modeling to implement these ideas. I will leave that to another course. For this article you should understand the basic concepts of validity. You may skim the details of MTMM matrices in the literature.
    - This classic article illustrates the application of the MTMM concepts to marketing. Understand the basic ideas. You do not need to worry about the detailed analysis techniques in this article. We will discuss what is possible with today’s computers.
- developing construct measures
  - When Gil was editor of *Journal of Marketing Research* he emphasized measurement. In 2000 he received the Converse Award for his work. This is the key article that was cited. It includes the MTMM ideas, but more importantly, it summarizes the concern expressed for measurement at many of the schools at which you will be seeking jobs.
  - Here, again, I want you to understand the basic concepts of validity. You can skim the review of the literature beginning on page 138. It is valuable and interesting, but not key for what we will discuss.

- Background reading. Skim the following.
    - This gives you an idea of how modern structural equation modeling is used for validity issues.
    - If you are going to do empirical work for your thesis, and I strongly recommend that you do so, then this is a book you should have in your library. We are not reproducing it for the course, but you really should buy it as a basic reference.

- reliability
    - In lay terms, reliable means reproducible. However, the technical issues are more complex. Cronbach’s alpha is the measure reported and you should know it. It is extremely useful – seemingly simple, but surprisingly complex. Remember the generals!
    - Great summary.

- Background reading. Skim the following.
    - Sometimes the scales you are using are not interval (or ratio) scaled. This paper is a standard for ordinal or nominal scales. Understand the basic idea but not all of the math. You can do that later when you need it.

- If you are actually going to develop reliable scales, buy this book. It is not in the readings packet, but I cannot image doing empirical research without this book.

**Assignment**

- **STOC team**
  - First decide what STOC claims to be its key advantages. For example, is it for forecasting attribute importance or product-concept acceptance. Is it easier? faster? more incentive compatible? more accurate? able to handle more features? able to handle inter-subject externalities better? etc.

- **Trust on the Internet team**
  - What is trust? What establishes trust? Why is it important? A working hypothesis is that trust is the long-run issue – what does this mean?

- **For the issue assigned to your group.**
  - Develop a research program by which you will operationalize the constructs necessary to test your theory. Develop a few example scales. Develop a plan of attack for ensuring that your measures are reliable and valid. Be sure to worry about methods variance and other concepts in the readings.
  - You should prepare a short PowerPoint presentation summarizing your work. Be specific. Address the research problem. You will learn the most if you actually try to develop real constructs and real scales.

**Experiments, Quasi-experiments, and Threats to Validity**

- Every time that someone develops a theory, does an experiment, collects data with a survey, analyzes a natural experiment, reports a stylized fact, analyzes data, etc., the readers and the audience are always searching for alternative explanations. You’ve seen it in the Monday seminar and you will see it in reviewer reports. Your defense is to do the experiment, theory, data collection, data analysis, etc. to standards that can be defended. This means that you need to worry about issues of validity from the beginning – before you do your experiment, collect your data, write down your model, or analyze your data. In this section we will explore what is accepted as evidence and we will worry about threats to that evidence. Once again, you do not need to memorize all the terms and definitions, but you should be familiar with them. The real learning comes when you try to defend your own research.

  - Chapter 1. Experiments and Generalized Causal Inference
  - Chapter 2. Statistical Conclusion Validity and Internal Validity
  - Chapter 3. Construct Validity and External Validity
Chapter 4. Quasi-Experimental Designs That Either Lack a Control Group or Lack Pretest Observations on the Outcome

Chapter 5. Quasi-Experimental Designs That Use Both Control Groups and Pretests

Read the first three chapters in depth to understand the issues. This is about 100 pages and should take you a few hours, but it is worth it. The ideas are basic and important. They represent a common set of beliefs about what is accepted as evidence.

For the second two chapters enjoy the pretty pictures. You should become familiar with the X-O notation and the various forms of controls. I want you to be able to translate the evidence in a paper or a seminar to X-O notation and to be able to puzzle through what the analyses do or do not establish.

• Skim the following.
    • Very simply, a demand artifact in an experiment or data collection is an alternative explanation that “the experimenter made me do it.” Demand artifacts are always threats to validity and are very hard to rule out, but you should try to do so.
    • This article argues that while demand artifacts are threats to validity, they are just that – threats. There are instances where the experiment or data collection is robust with respect to demand artifacts.
    • This article is a review of how manipulation and confound checks are done in practice. It offers suggestions on how to assure that your experiment or quasi-experiment is manipulating the appropriate theoretical constructs.
    • So you’ve designed an experiment with confounds and the reviewers are complaining. This paper suggests that all is not lost with Bayes Theorem to the rescue.
  o Order effects matter. If you ask questions or do a manipulation early in a questionnaire, it could affect responses to later questions. This paper is just the tip of the iceberg in this rich literature.
• Assignment
  o Using the constructs, measures, and nomological theory from your first assignment, design experiments to present publishable evidence with respect to the theories that relate to your constructs. Give careful thought to null models, controls, and the isolation of constructs.
  o Using the same constructs, measures, and nomological theory design a research program that relies on quasi-experiments.
  o Again, develop a PowerPoint presentation to present your experiments. Use X-O notation and be prepared to defend the validity of your experiments.

Various Thoughts on Research Philosophy

• There are many philosophies of science. Many people claim that their philosophy is the true philosophy and that any other philosophy is wrong. Very often a reviewer will reject your paper because his/her philosophy is different that your philosophy. It will not be stated explicitly, and the reviewer may not even recognize what is driving his/her judgment, but your paper is still rejected. Okay, what do you do – no one likes to have their papers rejected. First, you need to understand the philosophy underlying your paper and to understand the potential viewpoints of your reviewers. Second, you have to make it clear in your paper what you are trying to accomplish. Third, if you are to appeal the decision, you need to be able to articulate your philosophy. My personal belief is that most of the research philosophies (if done carefully) are appropriate to at least some problems. The key is matching the philosophy to the problem. Besides, it’s fun to work in different paradigms.

• Review Chapter 1 of Shadish, Cook, and Campbell.

• Strong Inference and a problem-oriented view
    • This is a must-read. It establishes a pragmatic paradigm for a stream of research.
    • This paper presents compelling arguments that “the social systems of many scientific disciplines encourage researchers to be ego-involved theory advocates, the conditions under which theory is likely to obstruct scientific progress (p. 227).” Indeed they argue that confirmation research and falsification research is biased. They argue that the adverse social effects in research are overcome with result-centered research – either research to find the limits of a theory or research to use a theory to effect some result (such as an improved product forecasting system or greater trust on the Internet). When you read this paper, skim the “sleeper-effect” material and concentrate on the philosophy of science.
    • A key to a successful thesis (and an academic career) is to pick the right problems. These two influential authors suggest what they perceive as the important marketing problems.
• You might as well read my viewpoint.
  • I was asked by Ted Levitt to write an article to commemorate the 75th anniversary of the Harvard Business School. You will note that my forecast is that theory is coming, that it cannot be stopped, and that it will affect marketing thought. At the time this was quite controversial.
  • The beauty of receiving an award is that you get to write an article that the reviewers cannot reject. Don’t be afraid to debate me on my perspectives.
  • Includes comments by Abbie Griffin, editor of Journal of Product Innovation Management and Steve Shugan, editor of Marketing Science. Interesting if you plan to publish in either of those journals.
  • Compare and contrast the philosophy of science between the “Metrics Thermostat” paper and the “Customer Satisfaction Incentives” paper that you read in an earlier session of the course. You do not need to read the metrics paper in depth. Read just read enough so that you can make statements on the philosophy of science issues.

• The Journal of Consumer Research debates on external validity
  o Skim the following. I want you to see how passionate some people are about these issues. Try not to take sides, but try instead to understand the various perspectives. It will be great preparation for your road trips.


• Background reading for those who wish to understand the formal “rules” of weird science. It is unlikely that we will have time to cover this material in class, but ethnography is a major force in *Journal of Consumer Research*! You are likely to encounter this viewpoint in your interviews. This material is not in the readings packet.

• Background reading. Before you go on the job market I highly recommend that you read widely to understand the breadth of viewpoints in marketing. These two papers are an excellent start. They are not in the readings packet.

• Assignment
  - By the time we get to this session in the course, each of the two groups, STOC and Trust-on-the-Internet, should have designed a research program. For this session, articulate the philosophy of science that you have been following (implicitly). Either defend your research program in light of this philosophy or identify how to improve your research program to be in line with this research philosophy.
  - Let’s get personal. Each group will be assigned five professors in the marketing group. To the best of your knowledge, articulate the philosophy of science that each of these researchers appears to be follow in his research. Recognize, of course, that some professors may follow multiple philosophies and adapt their methods and philosophies to the problems on which they are focusing. Each group will be asked to defend these philosophies from critique by the other group.
SECTION THREE: CONVERTING RESEARCH INTO ACTION – Professor Glen Urban

In this section we look at three managerial problems and apply the lessons of the first two sections to conduct publishable research. In the last session of section two (above) we will present an empirical data base evaluating Internet sites (6,800 respondents and over 100 measures) and the collection instruments. This will be used in session one (below).

Applied Methodology and Site Design Problem
In the first part of this session we will review applied modeling approaches and compare and contrast them to other models presented in this course. Then we define the impact problem in relation to the two ongoing foci of the course – trust and STOC.

In the second section we concentrate on trust based site design. Students present 1. critiques of the Internet evaluation study design, questionnaire, and data collection and 2. Present hypothesis you will test on data and what statistics you will use to test them.

- Readings
- Assignment – Do critiques and hypotheses on site trust.

Building Trusted Advisors
In the first part of this session students will report on their empirical analysis of the trust data. In the second part we will close up the site design problem by analyzing market experiments done at Intel on their “download site” and then examine alternate advisor approaches and tradeoffs. These will include: 1. personas, 2. adaptive conjoint, 3. importance models, and 4. intelligent agents.

- Assignment – Do empirical analysis of trust data

Designing Really New Products
In the first part of this session students will present their designs for a trusted advisor including measurement and estimation procedures.

In the second section we review research methods to support the design of really new products. We close with a review of research lesson in applied model building.

- Read:
- Glen L. Urban and John R. Hauser “Listening In to Customer Needs”, working paper (forth coming)
- Assignment – Design Trusted Advisor and specify measurement and estimation procedures.

**SUMMARY:** Professors Simester, Hauser, and Urban

- Review of course and summary of research lessons
- Assigned for last session of course (tentative)