

**University of Pennsylvania
The Wharton School
MGMT 970
Applied Research Methods for Management
Fall 2015
Fridays 9am-12pm SH-DH 2034**

Course Description:

Students taking the course will be introduced to the seminal readings on a given method, have a hands-on discussion regarding their application often using a paper and dataset of the faculty member leading the discussion. The goal of the course is to make participants more informed users and reviewers of a wide variety of methodological approaches to Management research.

Course Requirements

The course grade will be based on class participation (33%) and the submission of an empirical paper or draft that uses a method covered in class for “review” by the faculty member teaching that method (67%). The paper need not be written for this class and should ideally be a paper that you are working on for your second year paper requirement, dissertation proposal or another external research project.

Participation

Regular attendance and participation are critical to your successful completion of this course. You should complete the assigned readings and assignments prior to each class. You are encouraged to prepare for class with your colleagues; however, each member of the class should be fully conversant in the material—expect to participate in every class.

Policy on Auditors

Advanced students who do not wish to enrol as full participants are welcome to audit the course, under the following conditions: (1) you commit to attend at least 75% of the class sessions, and inform me in advance which sessions you will attend; (2) you complete the assigned readings and assignments for the classes that you attend; and (3) you participate fully in the sessions that you attend, including doing a “fair share” of class discussion. Auditing students are excused from submitting a class paper and should not expect a “review” from the instructors of the class.

Reading Materials:

There is no bulkpack for this class. PDF versions of the readings will be put on webCafé or distributed in hard copy in the week prior to class. Data for assignments will also be distributed via WebCafe.

Prerequisites:

MGMT 953, Research Methods or a similar course covering the Philosophy and Design of Social Science Research.

WEEK 1: Course Intro (for all students). STATA Intro (optional).

Readings

Oxley, Joanne, Jan Rivkin, Michael Ryall and the Strategy Research Initiative (2010) "Recognizing and Encouraging High-Quality Research in Strategy" <http://soq.sagepub.com/content/8/4/377.full.pdf+html>

Gentzkow, Matthew and Jesse Shapiro (2014) "Code and Data for the Social Sciences: A Practitioner's Guide" <http://faculty.chicagobooth.edu/jesse.shapiro/research/CodeAndData.pdf>

If you are new to STATA, review one or more online tutorials available at <http://www.stata.com/links/resources-for-learning-stata/>

Henisz, Witold (2014) "MGMT 970 Class 1"

NB: Explore STATA help for various functions using embedded URLs in presentation (e.g., click on highlighted terms on pp. 4-5)

Assignment

- Import *.csv file "MGMT970_compustat.csv" into STATA. You can find this field in H:\MGMT970\Week1\ or in the dropbox folder to which you will all receive an invitation presently
- Explore the data and see if there are any potential coding errors
- Generate summary statistics
 - for the data overall
 - for each decade
 - for companies originating in the 5 countries that have the most firms in the sample
- Generate a table that shows how many observations there are in each
 - Year
 - Country of origin
- Generate a scatterplot of
 - Assets and employees
 - Assets and income taxes for companies in 1995
 - Assets and employees for companies in Brazil, India and Russia
 - Can you color code the dots by country?
- Merge the data in *.csv file "MGMT970_compustat_ppe" into your original file
 - Generate a scatterplot of Assets and Total Gross Property plant and equipment
 - Generate a scatterplot of Employees and Total Gross Property plant and equipment
- Bring to class a copy of
 - A printout of a file or directory structure
 - A printout of the description of the variables in your datafile(s). Did these conform to the data structure advocated by Gentzkow & Shapiro when you received them? Do they now?
 - *.do file that does all of the above and the output of the *.do file
 - If possible, a laptop that you can use in class to show your work
- Be prepared to discuss whether hiring workers causes increased purchases of capital

WEEK 2: Introduction and a Refresher on OLS Regressions (Iwan Barankay)

Please complete this exercise and submit the answers via email to Barankay@wharton.upenn.edu

Deadline is Friday, September 5 at 8am.

Review your material on OLS Regressions from Statistics

There is a STATA data file, Teachingratings.dta and a pdf file, Teachingbeauty.pdf, describing the contents of the data.

If you are new to STATA, review one or more online tutorials available at <http://www.stata.com/links/resources-for-learning-stata/>

Otherwise you can always type

help keyword

to get help on a keyword, e.g. “help summarize” or “help browse”

ASSIGNMENT

1. What is the mean and standard deviation of each variable in the data
2. Create a new variable where all the observations have value one.
3. Run a regression of *female* on the variable you created under 2). Interpret the regression result.
4. Run a regression of *course_eval* on *beauty*. Test for the significance of *beauty*. Interpret the magnitude of the coefficient.
5. Run a regression of *cours_eval* on *beauty* and *female*. Did the coefficient on *beauty* change? Explain clearly why.
6. Using the regression output in 5) interpret in two different ways the magnitude of the estimated coefficient.
7. How is the variable *onecredit* coded. Run a regression of *course_eval* on *beauty*, *female* and *onecredit*. Interpret the estimated coefficient on *onecredit*.
8. Which of the other regressors do you think should also be included in the model. Do they affect the estimated coefficient on *beauty*?
9. Are there any variables you wish you could have in the model that are not in the data set? Explain clearly why.

WEEK 3: Panel data (in linear, discrete choice or count, fixed vs. random effects, clustering, autocorrelation including spatial, pcse, GMM, ...) (Iwan Barankay)

Readings

There are slides on the faculty-hub site to refresh your knowledge on Regression analysis. You need to review this before class.

We will cover chapter 5 from Angrist and Pischke “Mostly Harmless Econometrics” You can access a *.pdf of the book at http://www.development.wne.uw.edu.pl/uploads/Main/recrut_econometrics.pdf

Assignment

WEEK 4: Dealing w/ endogeneity: Selection, instruments, propensity score matching (Ann Harrison)

Readings

You need to read the following papers to get a sense of the varied approaches to dealing with potential endogeneity bias:

- William Easterly and Ross Levine, “Tropics, Germs and Crops: How Endowments Influence Economic Development”, *Journal of Monetary Economics*, 2003 50(1), 3-40.
- Ann Harrison and Jason Scorse, “The Nike Effect: Anti-Sweatshop Activists and Labor Market Outcomes in Indonesia”, *American Economic Review* (on my website).
- Esther Duflo and Rohini Pande, “Dams”, *The Quarterly Journal of Economics* (2007), 122(2): 601-646.
- Corinne A. Moss-Racusina,b, John F. Dovidio,b, Victoria L. Brescoll,c, Mark J. Grahama,d, and Jo Handelsmana, "Science faculty's subtle gender biases favor male students", *Proceedings of the National Academy of Sciences*, September 2012.

Homework Assignment

1. You have been given the dataset used by Easterly and Levine (EL). Reproduce the Tables used by Easterly and Levine in their article. In class, I will be using STATA to show my work.
2. What happens to the coefficient of interest when EL switch from OLS to IV. Why?
3. How good of an instrument do EL have? How do you know?
4. Think of your favorite research question or theory. In the specification that you have in mind to test that question (or theory) what are the likely sources of endogeneity bias? Think of an approach (instrument, randomized trials, other approaches) that could address this problem.

WEEK 5a: Discrete Choice (Matthew Bidwell)

Readings

- 1) Pampel, Fred C. 2000. "Logistic Regression – A Primer". Sage: Quantitative Applications in the Social Sciences 07-132. Pages 1-54
- 2) Hoetker, G. 2007. The use of logit and probit models in strategic management research: critical issues. *Strategic Management Journal* **28** 331-343.
- 3) Bidwell, M. 2010. Why Has Job Mobility Increased? Unions, Organizational Size and the Growth of External Hiring

Assignment

- 1) Replicate Tables 2 and 3 (don't worry if you can't get them exactly)
- 2) Provide three different ways to evaluate the magnitude of important effects from Table 2. What are the strengths and weaknesses of the different approaches?
- 3) We will discuss in detail some of the decisions that I made in setting up the analyses. What do you think about the specific approach I have taken to addressing the issues I am interested in? What other approaches to analyzing the data might I have taken, given the constraints of the data available to me?

WEEK 5b: Count (David Hsu)

Reading (Focal)

- 1) F. Murray and S. Stern. 2007. "Do formal intellectual property rights hinder the free flow of scientific knowledge? An empirical test of the anti-commons hypothesis," *Journal of Economic Behavior and Organization*, 63: 648-687.

Readings (Additional for those without a strong background in count models)

- 2) Cameron, A. Colin & Pravin Trivedi. 1986. Econometric Models Based on Count Data: Comparisons and Applications of Some Estimators and Tests. *Journal of Applied Econometrics*, 1: 29-53.
- 3) Woolridge, Jeffrey M., 2002. *Econometric Analysis of Cross Section and Panel Data*. MIT Press, pp. 645-683.

Readings (Supplementary)

- 4) Hausman, Jerry, Bronwyn Hall, & Zvi Griliches. 1984. Econometric Models for Count Data with an Application to Patents-R&D Relationship. *Econometrica*, 52(909-938).
- 5) Cameron, A. Colin & Pravin Trivedi. 1998. *Regression Analysis of Count Data*. New York, NY: Cambridge University Press.

Assignment

To prepare for our session, I would like you to read the Murray and Stern (JEBO, 2007) paper. It is oriented toward science policy, but gives a nice illustration of applied count data analysis. Also, if you do not have prior exposure to econometric count data models, please read the Woolridge (2002) chapter and/or the Cameron and Trivedi (1986) article (both are available in electronic form in the class webcafe). For further background, I have also uploaded the Hausman, Hall & Griliches (1984) paper, which derives panel data estimators for count data models. The Cameron and Trivedi (1998) book is a standard reference in this domain (consult the library or buy the book if you are interested). Finally, the reference to Stata code implements robust standard errors for fixed effects Poisson models, a feature which does not come standard in Stata (Stata has standard commands for fixed and random effects Negative Binomial panel models).

My plan for the session is to mainly cover the *application* of count data models within the context of research study design. To that end, we will discuss and debate the Murray and Stern paper from the standpoint of choices they made in their study design. In the second part of class, I will motivate a separate research question that is centered more on business policy. We will then form several teams and work in parallel in brainstorming research study designs. We will then reconvene and discuss and debate the merits of each of the study designs. Please come prepared to actively participate.

WEEK 6a: Networks

Since we only have a half session to cover network methods, we will barely scratch the surface of the topic. My purpose is simply to give you a flavor of what it's like to work with network data by having you compute and understand a few of the most common network variables.

In preparation for class, please:

1. Read "It's the Connections: The Network Perspective in Interorganizational Research" by Zaheer, Gozubuyuk, and Milanov.
2. Complete the exercise described in the rest of this document. All relevant files can be found in the course website.

You will work with the "Fuel Cell 1992.xls" and "Fuel Cell 1992 for UCINET.xls" files. [NOTE: If you happen to have your own data and would like to use it, be my guest!]. These files represent a single year of the dataset used for Vasudeva, Gurneeta, Akbar Zaheer, and Exequiel Hernandez. "The embeddedness of networks: institutions, structural holes, and innovativeness in the fuel cell industry." *Organization Science* 24.3 (2013): 645-663. You don't need to read the paper, but I'm referencing it in case you're curious about one application of the data.

These files contain data on fuel cell R&D alliances between organizations for the year 1992. Each row represents a unique alliance dyad (e.g. row 3 is an alliance between Alcatel and General Electric). Columns D and E simply list the numerical ID for each firm in the dyad (e.g. Alcatel's ID is 2, GE's is 12). In network language, each row represents a tie or an "edge" between firms. Each firm is a "node" in the network. If you want to read a good, short tutorial on network nomenclature you can read "Fundamentals of Social Network Analysis" by David Knoke. This is not required since many of the basics are fairly intuitive.

You will work with these data in UCINET, which is the most commonly used software for network analysis by management scholars. You can a free trial copy from <https://sites.google.com/site/ucinetsoftware/downloads>. It only works on Windows.

Please complete the following tasks:

1. Input the data into UCINET (Data > Import Excel > DL-type formats). Use the "Fuel Cell 1992 for UCINET.xls" for this (the other file is just for you to know the names of the firms involved).

From the options on the right menu, select "Edgelist1" from the drop down menu as the data format. Leave the other options as default, except that you will save your file once by clicking on "force symmetry" and once by leaving "force symmetry" unchecked. I'll call the former the symmetric matrix and the latter the asymmetric matrix.

Now display both network matrices (Data > Display). What's the difference between the two? Given what you know about alliances, which of the two makes the most sense to use for analysis?

(Optional: It really helps to visualize network data. I'd encourage you to play around with one of the files in NetDraw by going to Visualize > NetDraw)

2. Calculate the following network variables:

- Degree centrality (Network > Centrality and Power > Degree). Do it for both the symmetric and asymmetric files. What does the output mean? What kinds of research questions could a researcher answer by using degree centrality as a variable? Can you calculate degree centrality—unstandardized and standardized—manually for node #8 (Deutsche Aerospace)?

[To help with this, read through the “Centrality and Prestige” file created by David Knoke. It's very short.]

- Constraint (Network > Ego Networks > Structural Holes). Do this only for the symmetric matrix. What does the output mean? What kinds of research questions could a researcher answer by using constraint as a variable? Can you calculate constraint manually for node #8 (Deutsche Aerospace)?

[To help with this, read through the “Calculating Access to SH – Burt (2008).” This is the appendix to one of Ron Burt's books on structural holes. You only need to read the first 3.5 pages. Read the rest if you're interested in interpreting all the output you get from UCINET, but it's not required.]

- BONUS: Calculate Bonacich's Power Centrality measure using the symmetric matrix (Network > Centrality and Power > Bonacich Power), which is typically used to capture status (e.g. Podolny, 2001 in AJS). What does the output mean? This measure is complex so don't try and calculate it manually.
- If you're finding this so fascinating that you want more, play around with other network measures. UCINET's help menu provides a description of each variable along with a reference to the original journal article from which it was taken. I'd strongly recommend the following resources for those interested in learning more:
 - David Knoke's website for “Social Network Analysis Theories & Methods” (<http://www.soc.umn.edu/~knoke/pages/SOC8412.htm>). David has made his materials available for free.
 - Hahneman & Riddle's “Introduction to Social Network Methods”, a free online book (<http://faculty.ucr.edu/~hanneman/nettext/>) with UCINET instructions.
 - Borgatti, Everett, & Johnson's “Analyzing Social Networks” book (not free), which also has UCINET instructions.

WEEK 6b: Geography (Minyuan Zhao)

Readings

- 1) Alcacer J & M. Zhao (2012) Local R&D Strategies & Multilocation Firms *Management Science* **58**(4):734-753
- 2) Alcacer J & M Zhao (2014) Zooming In: A Practical Manual for Identifying Geographic Clusters *Strategic Management Journal* Forthcoming
- 3) Kerr, W & SD Kominers (2010) Agglomerative Forces and Cluster Shapes

Assignment

TBD

Week 7: Survival/Failure/Event History (Witold Henisz)

Readings

- 1) Kiefer, Nicholas M. (1988) "Duration Data and Hazard Functions" *Journal of Economic Literature* 26(2): 646-679.
- 2) Box-Steffensmeier, Janet M. (1997) "Event History Models in Political Science" *American Journal of Political Science* 41(4): 1414-1461
- 3) Allison, Paul D. (2010) "Survival Analysis" Pp. 413-425 in *The Reviewer's Guide to Quantitative Methods in the Social Sciences*, edited by Gregory R. Hancock and Ralph O. Mueller. New York: Routledge.
- 4) Henisz, W. J. & Delios, A. (2001). "Uncertainty, Imitation, and Plant Location: Japanese Multinational Corporations, 1990-1996." *Administrative Science Quarterly*, 46(3): 443-75.
- 5) Jensen, M. (2006) "Should We Stay or Should We Go? Accountability, Status Anxiety, and Client Defections." *Administrative Science Quarterly*, 51(1):97-128.

Data Assignment

Using the dataset examining leadership mortality (of a sample of national political leaders) available in the eRoom answer the following questions. Use STATA help and manuals to help you as needed.

- 1) What is the origin time for each leader (i.e., the time at which a leader begins to be at risk for being deposed)? Explain.
- 2) How many leaders
 - a. survived one year?
 - b. are right censored?
- 3) Construct a life table for the data.
- 4) Plot the survivor function assuming a Weibull and exponential distribution.
- 5) Plot a hazard function
- 6) Do your plots lead you to favor a parametric or partial likelihood approach to modeling this data? Why?
- 7) What do you think the appropriate functional form to measure the likelihood of losing power over time is? Explain.
- 8) What determines the likelihood of losing power? Does it depend on the type of loss (i.e., natural death, constitutional or non-constitutional transfer)?

Discussion Questions

- 1) Conceptually discuss the variables that the authors used to stset the data in the Henisz & Delios and Jensen papers. To answer this questions you need to have a clear sense of the data structure and the types of data needed to determine the origin, length and termination of a spell for data with time varying independent variables.
- 2) Conceptually discuss the variables that you would use to stset the data in a paper of interest to you that is amenable to event history/survival analysis.
- 3) What functional form and other modeling choices would you make for this dataset? Why?

WEEK 8: Factor Analysis & Structural Equation Modeling (Nancy Rothbard)

Readings

- 1) Edwards, J. R. & Bagozzi, R. P. 2000. On the Nature and Direction of Relationships Between Constructs and Measures. *Psychological Methods*, 5(2): 155-174.
 - o The Edwards and Bagozzi (2000) article addresses underlying factor analysis issues from a theoretical perspective.
 - o As you read it, think about your own data sets and whether you have reflective or formative indicators of a latent construct and what the theoretical and methodological implications of that are.
- 2) Chapter 8 “Hypothesis Testing” in Kline, R. (2010). *Principles and Practice of Structural Equation Modeling*, Third Edition.
 - o Read this chapter to become familiar with the various model statistics used to interpret structural equation models. We will go over these in the session and talk about questions you might have. And what caveats there might be to the advice he gives regarding model evaluation.
- 3) Rothbard, N. (2001). Enriching or Depleting? The dynamics of engaging in work and family roles. *Administrative Science Quarterly*, 46: 655-684.
 - o This is one of my empirical papers that uses structural equation modeling. Take a look at the front end to see what the hypotheses are, but you only need to carefully read the methods and results sections.
 - o Look at the model statistics that are reported.
 - o Look at Table 2 which gives you the information you would need to reconstruct the confirmatory factor model.
 - o The methods and results section talk about using instrumental variables to identify a non-recursive (i.e. reciprocal) model. Bring questions you have about model identification.

Assignment

As you prepare for the session, if you have a data set that you are working on, please bring some data for us to work with (have it in electronic form so we can cut and paste it into some Lisrel syntax during the session. Please limit the number of constructs to 5 and bring a correlation matrix at the item level and means and standard deviations of each item.

- For example, if you have a 3 item scale of job satisfaction, a 3 item scale of organizational commitment, a 4 item scale of intrinsic motivation, and a single item measure of performance, you would need a correlation matrix of the 11 items that represent these 4 constructs.
- If you have a 3 item job satisfaction scale a 3 item organizational commitment scale, a single item performance evaluation measure, a single item indicator of gender and a single item indicator of age, then your correlation matrix would have 9 items that would represent 5 constructs.

Think about a hypothesis you have about how these constructs will relate to one another. For example, Intrinsic motivation will lead to greater (a) job satisfaction, (b) organizational commitment and (c) performance. Or Intrinsic motivation will lead to greater job satisfaction, which will in turn lead to greater organizational commitment.

WEEK 9: Simulations (Nicolaj Siggelkow)

Readings

Nicolaj Siggelkow and Jan W. Rivkin. 2005. "Speed and Search: Designing Organizations for Turbulence and Complexity." *Organization Science*, 16, pp. 101-122.

Nicolaj Siggelkow and Jan W. Rivkin. 2009. "Hiding the Evidence of Valid Theories: How Coupled Search Processes Obscure Performance Differences among Organizations." *Administrative Science Quarterly* 54, pp. 602-634.

Dirk Martignoni and Nicolaj Siggelkow. 2010. "When it Pays to be Neurotic or to Have Blind Spots: The Value of Understanding External and Internal Contingencies."

Corp-Dev-Spec : These are the specs that Vikas, Harbir and I sent to a programmer. The "Daedalus" program refers to the program that this programmer wrote for Jan and me.

(optional): If you are interested what became of the specs, here's the paper that resulted: Vikas Aggarwal, Nicolaj Siggelkow, and Harbir Singh. forthcoming. "Corporate Development Choices and Interdependence: Strategic Tradeoffs and Performance Implications." *Strategic Management Journal*.

Discussion questions

1. What roles can simulation models play? To which purposes are simulation models being used in the first three papers?
2. When are simulation models convincing, when are they not?
3. Dirk and I just received an R&R for our paper from SMJ. What do you think did the reviewers complain about? What would you have complained about?
4. Pick a question that you are interested in. Start sketching out a simulation model. Be as concrete as possible. Ideally, you could hand over your outline to a programmer. What tradeoffs are you facing? What aspect of this exercise did you find most difficult?

WEEK 10a: Archival Data for Organization Research (Carton)

Please read the methods sections of the following two articles:

1. Chatterjee, A., & Hambrick, D. C. (2007). It's all about me: Narcissistic chief executive officers and their effects on company strategy and performance. *Administrative Science Quarterly*, 52(3), 351-386.
2. Carton, A. M., & Rosette, A. S. (2011). Explaining bias against Black leaders: Integrating theory on information processing and goal-based stereotyping. *Academy of Management Journal*, 54(6), 1141-1158.
3. Also, perhaps read a couple of snippets of the following book, of which a couple of passages are available online: Gosling, S. (2009). *Snoop: What your stuff says about you*. Basic Books.

Assignment #1: Please consider a hypothesis that you are currently testing. For one of the constructs within the hypothesis, identify two observable, unobtrusive indicators that could be found in any existing, easily accessible data source (e.g., big data, government-created, sports and entertainment databases). See Chatterjee and Hambrick for a great example of how to find multiple indicators to measure CEO narcissism. Collect data for these two indicators on 10 different individuals (or groups or organizations, depending on your level of analysis). The data can be collected from the same source (e.g., same online database). Code them using clear guidelines on coding categories, scales, and the process of text analysis. You can use any guidelines you want—they just have to be well justified. The articles above can give you some ideas on how to justify indicators. This is the fun thing about archival data—you can be creative and out-of-the-box with how you measure constructs, as long as you are defending each step you take and as long as your measures clearly map onto your concepts (conceptual-operational connection). Finally, describe how you would validate these measures. As an example of validation, take a look at Chatterjee and Hambrick's between-firm versus within-firm approach or their comparison of industry analysts' observations with Chatterjee and Hambrick's archival indicators. Be creative but attentive to the construct you are studying!

Assignment #2: Consider the OCEAN traits that dominate research on personality (openness, conscientiousness, extraversion, agreeableness, and neuroticism). Let's say you were interested in studying the personality characteristics of CEOs at Fortune 500 companies. Come up with two out-of-the-box ways to capture each of these personality traits by using observable, unobtrusive indicators. If you are unsure on the nature of these personality traits, there is a lot of information online that you can consult for an overview.

WEEK 10b: Computational Text Processing (Menon)

Think of a research question that you are interested in which requires, or can benefit significantly from, large-scale textual analysis. Keep this question in mind as you approach the following: 1. Read: Grimmer, J. and Stewart, B. 2013. Text as data: The promise and pitfalls of automatic content analysis methods for political texts. Political Analysis, pp 1-31. <http://stanford.edu/~jgrimmer/tad2.pdf>

This is a nice overview piece and useful for getting a sense of the lay of the land.

- a. Which method(s) appears most relevant for your question?
- b. What concrete next steps would you need to take on the text processing front?
2. For your question, think of some sample text documents.
 - a. Acquire 3 such documents.
 - b. Paste them (separately) into Stanford Core NLP, at <http://nlp.stanford.edu:8080/corenlp/process>
 - c. Does the output seem sensible? What seems to work, and what does not?
 - d. Explore.
3. Imagine reviewing a paper in your domain of interest that uses computational text processing techniques.
 - a. What would be some of the context specific concerns you might have regarding the application of computational text processing techniques to that domain?
 - b. What robustness checks or validations would you ask for?

WEEK 11: Comparative Qualitative Methods (Mauro Guillen)

Readings

Mark Blaug, "Kuhn versus Lakatos, or paradigms versus research programmes in the history of economics." *History of Political Economy* 7(4) (Winter 1975):399-433.

Colin McGinn, "Looking for the Black Swan." *The New York Review of Books* 49(18) (21 November 2002). [Review of books on Karl Popper]

Anuja Gupta and Mauro F. Guillén, "Developing, Testing, and Validating Management Theory with Comparative Case Studies." Working Paper (2010).

John Gerring, *Case Study Research* (New York: Cambridge University Press, 2007), pp. 65-150.

Ragin, Charles C. 2000. *Fuzzy-Set Social Science*. Chicago: University of Chicago Press, excerpts.

Assignment

TBD

WEEK 12: Experiments (Lab & Field) (Adam Grant)

Readings

- 1) Aronson, E., Wilson, T. D., & Brewer, M. (1998). Experimentation in social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology*, Volume 2 (4th Ed.) (pp. 99-142). New York: McGraw-Hill.
- 2) Cooper, W. H., & Richardson, A. J. 1986. Unfair comparisons. *Journal of Applied Psychology*, 71: 179-184.
- 3) Latham, G. P., Erez, M., & Locke, E. A. 1988. Resolving scientific disputes by the joint design of crucial experiments by the antagonists: Application to the Erez-Latham dispute regarding participation in goal setting. *Journal of Applied Psychology*, 73: 753-772.
- 4) Prentice, D. A., & Miller, D. T. (1992). When small effects are impressive. *Psychological Bulletin*, 112, 160-164.

Assignment

- 1) List at least two causal hypotheses that you are interested in testing your own research.
- 2) For one hypothesis, write out the design of a laboratory experiment to test it, including the task, how you would manipulate the independent variable, and how you would measure the dependent variables.
- 3) For the other hypothesis, write out the design of a field experiment or quasi-experiment to test it, including the organizational setting, how you would create or track changes in the independent variables, and how you would measure the dependent variables.

WEEK 13: Hierarchical Linear Modeling (Katherine Klein)

For our class session regarding HLM/RCM, the required readings are:

1. Hofmann. (1997). An overview of the logical and rationale of hierarchical linear models. *JOM*
2. Bliese & Ployhart. (2002). Growth modeling using random coefficient models: Model building, testing, and illustrations. *ORM*
3. Pil & Leana. (2009). Applying organizational research to public school reform: The effects on teacher human and social capital on student performance.
4. Short, Ketchen, Bennett, & du Toit. (2006). An examination of firm, industry, and time effects on performance using random coefficient modeling.

Assignment:

1. Read the four articles listed above. The first two explain how and why to use HLM/RCM. The next two offer examples of recent research in which the authors used this technique.
2. By TBD, please email me:
 1. Questions that arise for you as you are reading the articles above;
 2. At least two cross-level hypotheses that you think would be interesting for you to test using HLM
 1. Be sure to include enough information so that others who are not familiar with your topic can grasp the essence of your hypotheses.
 2. Indicate whether each hypothesis is a test of slopes as outcomes or intercepts as outcomes.
 3. A description of the data you would need (or you already have) to test your hypotheses and the level of each variable (Level 1, Level 2, etc.)