UNIVERSITY OF TEXAS AT EL PASO
DEPARTMENT OF MARKETING AND MANAGEMENT
IBUS 6309: STRUCTURAL EQUATION MODELING

Structural Equation Modeling

Instructor:	Dr. Edward "Ed" Ramirez
Class Time:	8 to 10:50 am; Thursday
Classroom:	Blackboard Collaborate Ultra
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Office hours:	11:00 am to 12:00 pm; Thursday or by appointment

Course Description

The purpose of this course is to deepen your understanding of research methods, while introducing you to more advanced GLM/covariance-based analytic techniques. Broadly speaking, it focuses on the general linear model, structural equations modeling (SEM), and includes an introduction to Partial Least Squares SEM. We will be using SPSS, SAS, AMOS, and SmartPLS software packages. Since the ultimate goal of a PhD program is to equip you to become productive scholars and autonomous researchers, priority will be given to tools and techniques that will help you to publish scholarly research articles.

Course Objectives

While this course focuses on the analysis of data derived from surveys, you will be able to apply some of the techniques presented on secondary data sets, as well. As such, we will explore how researchers deal with dichotomous outcome variables, latent constructs, and nonparametric bootstrapping procedures to test path coefficients for their significance, for example. Upon completion of the course, you should have a firm foundation on the following areas:

1. Ordinary Least Squares and Logistic Regression Modeling
2. Factor Analysis
3. Cluster Analysis for segmentation using latent variables
4. Structural Equations Modeling (SEM)
5. SmartPLS

Texts

(1) *Structural Equation Modeling with AMOS 3rd edition* by Barbara M. Byrne (Erlbaum and Associates).
(2) *Applied Multivariate Techniques* by Subhash Sharma, University of South Carolina ISBN: 0-471-31064-6.
(3) *Discovering Statistics Using SPSS* (Introducing Statistical Methods) by Andy Field
(4) *Multivariate Data Analysis* (8th Edition) by Joseph F. Hair Jr., William C. Black, Barry J. Babin.
(5) Selected readings.

Seminar Structure

This seminar is fast paced and its work load is heavy. That said, although the course is challenging, it is manageable. The seminar format is highly informal and primarily discussion based, where students will be prepared to discuss class readings and/or slides and play the lead role in the learning process, which may include conducting in-class software demonstrations. To facilitate discussion, students are expected to have carefully read the assigned reading and completed each assignment prior to class. I expect your best work—and, believe it or not, I don't like to hear myself talk. Thus, be encouraged to read each reading carefully, so that you will be able explain it if called upon.

Course Requirements

Grading

These components will determine your grade.

Class Participation	33.3%
Class Assignments	33.3%
Final Examination	33.3%

Academic Honesty

Academic dishonesty is not condoned nor tolerated at UTEP nor in this class. Such dishonesty, when evidenced, will be reported to the Student Judicial Affairs Office at UTEP. Read UTEP's website for more information about sanctions. Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. It includes, but is not necessarily limited to, the following types of cases: **Plagiarism** - The representation of someone else's ideas as if they are one's own. **Unauthorized Collaboration on Out-of-Class Projects** - The representation of work as solely one's own when in fact it is the result of a joint effort; **Cheating on Exams** - The covert gathering of information from other students, the use of unauthorized notes, unauthorized aids, etc.; and **Knowing Cooperation with Another Person in an Academically Dishonest Undertaking** - Failure by a student to prevent misuse of his/her work by others.

Accommodations for Students with Disabilities (from the Office of the Ombudsman)

If any member of the class believes that s/he has a physical, emotional, or psychological disability and needs accommodation of any nature, contact the Disabled Student Services Office at 747-5148, go to the Union Bldg. east, Rm. 106 or email dss@utep.edu. Then notify the instructor immediately and he will work with the student to assure s/he has a fair opportunity to perform at his/her normal capabilities in the class.

Tentative Schedule

Date **Topics/Readings**

1/21 ANOVA/ANCOVA and MANOVA/MANCOVA

Field Ch. 9, 10, 11, and 12
Hair et al. Ch. 6

1/28 ANOVA/ANCOVA and MANOVA/MANCOVA con't.

Oliver, Jason D. and Rosen, Deborah E. (2010), "Applying the Environmental Propensity Framework: A Segmented Approach to Hybrid Electric Vehicle Marketing Strategies," *Journal of Marketing Theory & Practice*, Vol. 18, No. 4, pp. 377-393.

Nan, Xiaoli and Heo, Kwangjun (2007), "CONSUMER RESPONSES TO CORPORATE SOCIAL RESPONSIBILITY (CSR) INITIATIVES Examining the Role of Brand-Cause Fit in Cause-Related Marketing," *Journal of Advertising*, Vol. 36, No. 2, pp. 63-74.

Biehal, Gabriel J. and Sheinin, Daniel A. (2007), "The Influence of Corporate Messages on the Product Portfolio," *Journal of Marketing*, Vol. 71, No. 2, pp.12-25.

Scholder Ellen, Pam, Webb, Deborah J., and Mohr, Lois (2006), "A Building Corporate Associations: Consumer Attributions for Corporate Socially Responsible Programs," *Journal of the Academy of Marketing Science*, Vol. 34, No. 2, pp.147-157.

Bergh, Donald D. (1995), "Problems with Repeated Measures Analysis: Demonstration with a Study of the Diversification and Performance Relationship," *Academy of Management Journal*, Vol. 38, No. 6, pp. 1692-1708.

Assignment 1 due

2/4 Regression Models

Field Ch. 7 and 8
Hair et al. Ch. 4 and 5—do not read Discriminant Analysis

2/11 Regression Models

Koschate-Fischer, Nicole, Stefan, Isabel V., and Hoyer, Wayne D. (2012), "Willingness to Pay for Cause-Related Marketing: The Impact of Donation Amount and Moderating Effects," *Journal of Marketing Research*, Vol. 49, No. 6, pp. 910-927.

Winterich, Karen Page and Barone, Michael J. (2011), "Warm Glow or Cold, Hard Cash? Social Identify Effects on Consumer Choice for Donation Versus Discount Promotions," *Journal of Marketing Research*, Vol. 48, No. 5, pp. 855-868.

Schmitz, Christian and Ganesan, Shankar (2014), "Managing customer and organizational complexity in sales organizations," *Journal of Marketing*, Vol. 78, No. 6, pp. 59-77.

Robinson, Stefanie Rosen, Irmak, Caglar, and Jayachandran, Satish (2012), "Choice of Cause in Cause-Related Marketing," *Journal of Marketing*, Vol. 76, No. 4, pp. 126-139.

Delgado-Ceballos, Javier, Aragón-Correa, Juan, Ortiz-de-Mandojana, Natalia, and Rueda-Manzanares, Antonio (2012), "The Effect of Internal Barriers on the Connection Between Stakeholder Integration and Proactive Environmental Strategies," *Journal of Business Ethics*, Vol. 107, No. 3, pp. 281-293.

Assignment 2 due

2/18 Factor Analysis

Field Ch. 17
Hair et al. Ch. 3

2/25 Factor Analysis con't.

Fabrigar, Leandre, Duane T. Wegener, Robert C. MacCallum, and Erin J. Strahan (1999), "Evaluating the Use of Exploratory Factor Analysis in Psychological Research," *Psychological Methods*, Vol. 4, No. 3, pp. 272-299.

Gorsuch (1997), "Exploratory Factor Analysis: Its Role in Item Analysis," *Journal of Personality Assessment*, Vol. 68, No. 3, pp. 532-560.

Ford, J.K., MacCallum, R.C., Tait, M. (1986), "The application of exploratory factor analysis in applied psychology: A critical review and analysis," *Personnel Psychology*, Vol. 39, No. pp. 291-314.

3/4 Structural Equations Modeling (Intro.)

Hair et al. Ch. 10, 11, and 12
Byrne Ch. 1, 2, and 3.

3/11 Structural Equations Modeling (Intro. con't)

Hair et al. Ch. 10, 11, and 12
Byrne Ch. 1, 2, and 3.

3/25 SEM con't. (Mediation and Moderation)

Voorhees, Clay, Michael Brady, Roger Calantone, and Edward Ramirez (2016) "Discriminant Validity Testing in Marketing: An Analysis, Causes for Concern, and Proposed Remedies" *Journal of the Academy of Marketing Science*, Vol. 44, No. 1, pp. 119-134.

Fornell, Claes and D.F. Larcker (1981), "Evaluation of Structural Equations Models with Unobservable Variables and Measurement Error," *Journal of Marketing Research*, 18 (February), 39-50.

Steenkamp, Jan-Benedict EM and Hans Baumgartner (2000), "On the Use of Structural Equation Models for Marketing Modeling," *International Journal of Research in Marketing*, 17 (September), 195-202.

Williams, Larry J., Jeffrey R. Edwards, and Robert J. Vandenberg (2003), "Recent Advances in Causal Modeling Methods for Organizational and Management Research," *Journal of Management*, 29 (6), 903-936.

Edwards, J.R. and Lambert, L.S. (2007), "Methods for integrating moderation and mediation: a general analytical framework using moderated path analysis," *Psychological methods*, Vol. 12, No. 1, pp. 1-22.

Iacobucci, Dawn, Neela Saldanha, and Xiaoyan Deng (2007), "A Meditation on Mediation: Evidence That Structural Equations Models Perform Better Than Regressions," *Journal of Consumer Psychology*, Vol. 17, No. 2, pp. 140-154.

3/30 SEM con't. (Scale Development and Invariance Testing)

Byrne on Invariance testing.

Brady, Michael K. and J. Joseph Cronin, Jr. (2001), "Some New Thoughts on Conceptualizing Perceived Service Quality: A Hierarchical Approach," *Journal of Marketing*, Vol. 65, No. 3, pp. 34-49.

El Akremi, A., Gond, J.P., Swaen, V., De Roeck, K. and Igalens, J. (2018), "How do employees perceive corporate responsibility? Development and validation of a multidimensional corporate stakeholder responsibility scale," *Journal of Management*, Vol. 44, No. 2, pp. 619-657.

Hinkin, Timothy R. (1995), "A Review of Scale Development Practices in the Study of Organizations," *Journal of Management*, Vol. 21, No. 5, pp. 967-988.

Churchill, Gilbert A. (1979), "A Paradigm for Developing Better Measures of Marketing Constructs," *Journal of Marketing Research*, Vol. 16, No. 1, pp. 64-73.

Mullen, Michael R. (1995), "Diagnosing Measurement Equivalence in Cross-National Research," *Journal of International Business Studies*, Vol. 26, No. 3, pp. 573-596.

Steenkamp, J-B. and H. Baumgartner (1998), "Assessing measurement invariance in cross-national consumer research," *Journal of Consumer Research*, Vol. 25, pp. 78-90.

Assignment 3 due

4/8 Cluster Analysis

Hair et al. Ch. 8 and 9; Sharma Ch. 7

4/13 Cluster Analysis

Arnold, Mark J. and Kristy E. Reynolds (2003), "Hedonic shopping motivations," *Journal of Retailing*, Vol. 79, pp. 77-95.

Zhang, Chun, Hu, Zuohao, and Gu, Flora F. (2008), "Intra- and Interfirm Coordination of Export Manufacturers: A Cluster Analysis of Indigenous Chinese Exporters," *Journal of International Marketing*, Vol. 16, No. 3, pp.108-135.

Schmid, S., Grosche, P. and Mayrhofer, U. (2016), "Configuration and coordination of international marketing activities," *International Business Review*, Vol. 25, No. 2, pp. 535-547.

Assignment 4 due

4/20 Partial Least Squares SEM

Selected Readings (I will email these.)

4/27 Partial Least Squares SEM

Selected Readings (I will provide you with a flash drive)

Hair, J.F., Ringle, C.M. and Sarstedt, M. (2011), "PLS-SEM: Indeed a silver bullet," *Journal of Marketing Theory and Practice*, Vol. 19, No. 2, pp.139-152.

Hair, J.F., Sarstedt, M., Ringle, C.M. and Mena, J.A. (2012), "An assessment of the use of partial least squares structural equation modeling in marketing research," *Journal of the Academy of Marketing Science*, Vol. 40, No. 3, pp.414-433.

Assignment 5 due

5/4 FINAL EXAM (due by 11:59pm)