

Bruce Cooil

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Fields of Interest

Statistical inference and decision models for business and healthcare. Specific interests in the adaptation of latent class and grade-of-membership models for marketing and medical research, qualitative data reliability, large sample estimation theory and extreme value theory.

Education

Ph.D., Statistics, 1982, The Wharton School, University of Pennsylvania

M.S., Statistics, 1976, Stanford University

B.S., Mathematics (Honors), 1975, Stanford University

Professional Experience

2007 – Now	The Dean Samuel B. and Evelyn R. Richmond Professor of Management Owen Graduate School of Management, Vanderbilt University
2006 – 2007	Professor, Owen Graduate School, Vanderbilt University
1988 – 2006	Associate Professor, Owen Graduate School, Vanderbilt University
1988 - 1992	Director of the Ph.D. Program, Owen Graduate School, Vanderbilt University
1982 - 1988	Assistant Professor, Owen Graduate School, Vanderbilt University
1978 - 1982	Instructor, Research Fellow, Teaching Fellow, and Dean's Fellow The Wharton School, University of Pennsylvania
1976 - 1978	Biostatistician Institute of Health Research, San Francisco, CA

Publications

Citation Data (January 3, 2012)

Total Citations: 1990 (ISI); 3262 (Google Scholar: h: 19)

Research Papers in Refereed Journals

1. Keiningham, T., Aksoy, L., Buoye, A. and Cooil, B. (2011), "Customer Loyalty Isn't Enough. Grow Your Share of Wallet," *Harvard Business Review*, 89 (October), 29-31.
2. Aksoy, L., Cooil, B., and Lurie, N. (2011), "Decision Quality Measures in Recommendation Agents Research," *Journal of Interactive Marketing*, 25(2), 110-122 ([SSRN PDF](#)).
3. Aksoy, L., Buoye, A., Cooil, B., Keiningham, T., Paul, D., and Volinsky, C. (2011), "Can We Talk? The Impact of Willingness to Recommend on a New to Market Service Brand Extension within a Social Network," *Journal of Service Research*. 14(3), 355-371 ([SSRN PDF](#)).

4. Larivière, B., Aksoy, L., Cooil, B. and Keiningham, T. (2011), "Does Satisfaction Matter More if a Multichannel Customer Is Also a Multicompany Customer?" *Journal of Service Management*, 22(1), 39-66 ([SSRN PDF](#)).
5. Aksoy, L., Cooil, B., Groening, C., Keiningham, T., and Yalçın, A. (2009), "Does Customer Satisfaction Lead to an Increased Firm Value?" *GfK Marketing Intelligence Review*, 1 (2), 8-15 ([PDF](#)).
 - Lead Article
6. Cooil, B., Aksoy, L., Keiningham, T., and Maryott, K. (2009), "The Relationship of Employee Perceptions of Organizational Climate to Business-Unit Outcomes: An MPLS Approach," *Journal of Service Research*, 11 (3), 277-294 ([SSRN PDF](#)).
7. Aksoy, L., Cooil, B., Groening, C., Keiningham, T., and Yalçın, A. (2008), "The Long Term Stock Market Valuation of Customer Satisfaction," *Journal of Marketing*, 72 (July), 105-122 ([PDF](#)).
8. Keiningham, T.L., Aksoy, L., Cooil, B., and Andreassen, T. (2008), "Linking Customer Loyalty to Growth," *MIT Sloan Management Review*, 49(4), 51-57.
 - Featured by the journal and made available to the public ([PDF](#))
9. Keiningham, T.L., Aksoy, L., Cooil, B., Andreassen, T.W., and Williams, Luke (2008), "A Holistic Examination of Net Promoter," *Journal of Database Marketing and Customer Strategy Management*, 15(2), 79-90 ([PDF](#)).
10. Earl, T.M., Cooil, B., Rubin J.E., and Chari R.S. (2008), "Cost Prediction in Liver Transplantation Using Pre-transplant Donor and Recipient Characteristics," *Transplantation*, 86(2), 238-244 ([PDF](#)).
11. Keiningham, T.L., Aksoy, L., Cooil, B., and Andreassen, T.W. (2008) "Commentary on 'The Value of Different Customer Satisfaction and Loyalty Metrics in Predicting Business Performance'," *Marketing Science*, 27 (May/June), 531-532 ([PDF](#)).
12. Cooil, B., Aksoy, L., and Keiningham, T.L. (2007), "Approaches to Customer Segmentation," *Journal of Relationship Marketing*, 6 (3/4), 9-39. ([PDF](#))
 Also in *Profit Maximization Through Customer Relationship Marketing: Measurement, Prediction, and Implementation* (2007), Aksoy, L., Keiningham, T.L., and Bejou, D. (Editors), Binghamton, NY: Haworth Press, 2007.
13. Keiningham, T.L., Cooil, B., Andreassen, T.W., and Aksoy, L. (2007), "A Longitudinal Examination of Net Promoter and Firm Revenue Growth," *Journal of Marketing*, 71 (July), 39-51.
 - Marketing Science Institute/H. Paul Root Award, 2007
 - Made publicly available ([PDF](#))
14. Keiningham, T.L., Cooil, B., Aksoy, L., Andreassen, T.W., and Weiner, J. (2007), "The Value of Different Customer Satisfaction and Loyalty Metrics in Predicting Customer Retention, Recommendation, and Share-of-Wallet," *Managing Service Quality*, 17(4), 361-384.
 - Outstanding Paper (Best Paper) Award, 2007
 - Lead Article and made publicly available ([PDF](#))
15. Cooil, B., Keiningham, T.L., Aksoy, L., and Hsu, M. (2007), "A Longitudinal Analysis of Customer Satisfaction and Share of Wallet: Investigating the Moderating Effect of Customer Characteristics," *Journal of Marketing*, 71 (January), 67-83 ([PDF](#)).
16. Houston, M., Cooil, B., Olafsson B.J., and Raggi, P. (2007) "Effects of a Juice Powder Concentrate on Systemic Blood Pressure, Progression of Coronary Artery Calcium, and Antioxidant Status in Low-Risk Cardiovascular Subjects: A Pilot Study," *Evidence-Based Complementary and Alternative Medicine*, 4(4), 455-462 ([PDF](#)).

17. Christman, S.D., Jasper, J.D., Sontam, V., and Cooil, B. (2007), "Individual Differences in Risk Perception versus Risk Taking: Handedness and Interhemispheric Interaction," *Brain and Cognition*, 63, 51-58.
18. Keiningham, T.L., Aksoy, L., Andreassen, T.W., Cooil, B., and Wahren, B.J. (2006), "Call Center Satisfaction and Customer Retention in a Co-Branded Service Context," *Managing Service Quality*, 16, 269-289.
 - Finalist for Highly Commended Paper, 2006
19. Keiningham, T.L., Aksoy, L., Cooil, B., Peterson, K., and Vavra, T. G. (2006), "A Longitudinal Examination of the Asymmetric Impact of Employee and Customer Satisfaction on Retail Sales," *Managing Service Quality*, 16, 442-459.
 - Lead Article
 - Outstanding Paper (Best Paper) Award, 2006
20. Aksoy, L., Bloom, P.N., Lurie, N.H., and Cooil, B. (2006), "Should Recommendation Agents Think Like People?" *Journal of Service Research*, 8, 297-315.
 - Lead Article
 - Finalist for Best Article Award, 2006
21. Raggi, P., Cooil, B., Ratti, C., and Callister, T.Q. (2005), "Progression of Coronary Calcification and Occurrence of Myocardial Infarction in Patients with Diabetes Mellitus," *Hypertension*. 46, 238-243.
22. Cooil, B., and Raggi, P. (2005), "On the Prediction and Prevention of Myocardial Infarctions: Models Based on Retrospective and Doubly Censored Prospective Data," *Statistics in Medicine*, 24, 1897-1918.
23. Raggi, P., Cooil, B., Shaw, L., Aboulhson, J., Takasu, J., Budoff, M., and Callister, T. (2003), "Progression of Coronary Calcification on Serial Electron Beam Tomography Scanning is Greater in Patients with Future Myocardial Infarction," *American Journal of Cardiology*, 92, 827-829.
24. Raggi, P., Cooil, B., Hadi, A., and Friede, G. (2003), "Predictors of Aortic and Coronary Artery Calcification on a Screening Electron Beam Tomography Scan," *American Journal of Cardiology*, 91, 744-746.
25. Cooil, B., and Varki, S. (2003), "Using the Conditional Grade-of-Membership Model to Assess Judgment Accuracy," *Psychometrika*, 68, 453-471 ([PDF](#)).
26. Raggi, P., Callister, T.Q., and Cooil, B. (2002), "Coronary Artery Calcium Scoring by Electron Beam Tomography: Is there a Need for an Adaptive Attenuation Threshold?" *American Journal of Roentgenology*, 178, 497-502.
27. Raggi, P., Cooil, B., and Callister, T.Q. (2001), "Use of Electron Beam Tomography to Develop Models for Prediction of Hard Coronary Events," *American Heart Journal*, 141, 375-382.
 - First models based on the conditional age-sex percentile score for coronary calcium.
28. Varki, S., Cooil, B., and Rust R.T. (2000), "Modeling Fuzzy Data in Qualitative Marketing Research," *Journal of Marketing Research*, 37, 480-489.
 - Winner of the 2001 Don Lehmann Award, American Marketing Association.
 - Finalist for the 2001 Paul Green Award, *Journal of Marketing Research*.
29. Raggi, P., Callister, T.Q., Cooil, B., He, Z., Lippolis, N.J., Russo, D.J., Zelinger, A., and Mahmarian, J.J. (2000), "Identification of Patients at Increased Risk of First Unheralded Acute Myocardial Infarction by Electron Beam Computed Tomography," *Circulation*, 101, 850-855.
 - Importance of the conditional age-sex calcium percentile score.

30. Raggi, P., Callister, T.Q., Cooil, B., Russo, D.J., Lippolis, N.J., and Patterson, R. (2000), "Evaluation of Chest Pain in Patients with Low to Intermediate Pre-Test Probability of Coronary Artery Disease by Electron Beam Computed Tomography," *American Journal of Cardiology*, 85, 283-288.
31. Cooil, B., and Froeb, L. (1998), "A Difference Estimator for Testing the Equality of Variances for Paired Time Series," *Journal of Time Series Analysis*, 19, 285-290.
32. Callister, T.Q., Raggi, P., Cooil, B., Lippolis, N.J., and Russo, D.J. (1998), "Short Term Effects of HMG-CoA Reductase Inhibitors on Atherosclerotic Plaque Burden Assessed by Electron Beam Computed Tomography," *New England Journal of Medicine*, 339, 1972-1978.
 - First to use volume score to measure progression of atherosclerosis.
33. Callister, T., Cooil, B., Raya, S., Lippolis, N.J., Russo, D.J., and Raggi, P. (1998), "Coronary Artery Disease: Improved Reproducibility of Calcium Scoring with an Electron-Beam CT Volumetric Method," *Radiology*, 208, 807-814.
 - Introduces the volume score for arterial calcification.
34. Raggi, P., Dickson, N., Boyne, M., Pereira, R., Cooil, B., Wattanasuwan, N., and Russell, D.C. (1998), "Influence of Prior ACE Inhibitor Therapy on Morbidity and Mortality Following Acute Myocardial Infarction," *Annals of Pharmacotherapy*, 32, 1141-1146.
35. Cooil, B., and Rust, R. T. (1995), "General Estimators for the Reliability of Qualitative Data," *Psychometrika*, 60, 199-220 ([PDF](#)).
36. Cooil, B., and Rust, R. T. (1994), "Reliability and Expected Loss: A Unifying Principle," *Psychometrika*, 59, 203-216 ([PDF](#)).
37. Rust, R. T., and Cooil, B. (1994), "Reliability Measures for Qualitative Data: Theory and Implications," *Journal of Marketing Research*, 31, 1-14 ([PDF](#)).
 - Lead Article for Volume 31.
38. Cooil, B. and Devinney, T. (1992), "The Return to Advertising Expenditure," *Marketing Letters*, 3, 137-145.
39. Cooil, B. (1991), "Using Medical Malpractice Data to Predict the Frequency of Claims: A Study of Poisson Process Models with Random Effects," *Journal of the American Statistical Association*, 86, 285-295.
40. Cooil, B. (1988), "When Are Intermediate Processes of the Same Stochastic Order?" *Statistics & Probability Letters*, 6, 159-162; Corrigendum (1989), 7, 349.
41. Cooil, B., Winer, R., and Rados, D. (1987), "Cross-Validation for Prediction," *Journal of Marketing Research*, 24, 271-279 ([PDF](#)).
42. Cooil, B. (1986), "A General Form of Ordinal Association," *Journal of Mathematical Sociology*, 12, 327-346.
43. Cooil, B. (1985), "Limiting Multivariate Distributions of Intermediate Order Statistics," *Annals of Probability*, 13, 469-477.
44. Harris, E. K., Cooil, B., Shakarji, G., and Williams, G. Z. (1980), "On the Use of Statistical Models of Within-Person Variation in Long-Term Studies of Healthy Individuals," *Clinical Chemistry*, 26, 383-391.

Research Published in Practitioner-Oriented Journals & Proceedings

45. Keiningham, T.L., Aksoy, L., Cooil, B., and Andreassen, T.W. (2008), "The Galileo Effect," *Marketing Management*, 17 (January/February), 48-51.
46. Knight, M., and Cooil, B. (2005), "Infrastructure Investigation Using Latent Class Cluster Analysis," *Proceedings of the American Society of Civil Engineers' (ASCE) International Conference on Computing in Civil Engineering*, 1125-1134.
47. Cooil, B., and Varki, S. (1997), "Using the Conditional Grade-of-Membership Model (GoM) in the Nominal Classification Problem," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 48-50.
48. Cooil, B. (1996), "Shape Parameters for General Hazard Functions," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 257-259.
49. Cooil, B. (1995), "Alternative Generalized Linear Models for Nonhomogeneous Poisson Regression," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 99-101.
50. Cooil, B., Devinney, T., and McCormick, D. (1994), "Models for Automobile Insurance Accidents and Losses," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 217-222.
51. Devinney, T., and Cooil, B. (1993), "Determining Automobile Insurance Claims and Premium Pricing: A Preliminary Analysis," *Geld, Finanzwirtschaft, Banken, und Versicherungen* (Proceedings of the 1993 Conference on Money, Financial Administration, Banking and Insurance at the University of Karlsruhe, Germany), 619-633.
52. Cooil, B., and Rust, R. T. (1993), "Measuring the Reliability of Qualitative Data: A Review of Recent Work," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 394-397.
53. Cooil, B. (1992), "A Comparison of Extreme Quantile Estimators," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 94-99.
54. Cooil, B. (1991), "Conservative Estimation of Extreme Quantiles," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 260-264.
55. Cooil, B. (1990), Comment on "Statistical Issues for Business Schools," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 304-305.
56. Cooil, B. (1990), "An Analysis of Business School Rankings," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 277-282.
57. Cooil, B. (1989), "Predicting the Frequency of a Physician's Future Malpractice Claims," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 331-334.
58. Cooil, B., and Day, T. (1988), "Beating the Wagering Line for National Football League Games," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 314-317.
59. Cooil, B. (1987), "On Empirical Procedures for Estimating the Tail of a Quantile Function," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 763-768.

60. Cooil, B. (1985), "Estimation of Extreme Quantiles," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 207-211.
61. Cooil, B. (1984), "A Model for Tail Functions," *Proceedings of the Business and Economic Statistics Section of the American Statistical Association*, 350-352.

Published Course Materials

62. **Textbook:** Larsen, R. J., Marx, M. L., and Cooil, B. (1997), *Statistics for Applied Problem Solving and Decision Making*, Belmont, CA: Duxbury, [URL](#) .
63. Larsen, R. J., Marx, M. L., and Cooil, B. (1997), *Solutions Manual for Statistics for Applied Problem Solving and Decision Making*, Belmont, CA: Duxbury.
64. Larsen, R. J., Marx, M. L., and Cooil, B. (1997), *Student Solutions Manual for Statistics for Applied Problem Solving and Decision Making*, Belmont, CA: Duxbury.
65. Cooil, B. (1983), Review of *Statistics: Discovering Its Power*, by Wonnacott, R. J. and Wonnacott, *Journal of the American Statistical Association*, 78, 1001-1002.

Unpublished Invited Presentations

"Models for Predicting Myocardial Infarctions and Assessing the Risk of Coronary Heart Disease," Biostatistics Seminar Series, Department of Biostatistics, Vanderbilt University, November, 2005.

Lead-off speaker at the "Microeconometrics" session sponsored by the Business and Economics Section of the American Statistical Association, Joint Statistical Meetings, Orlando, FL, August, 1995.

"Inferences Based on Empirically Selected Intermediate Order Statistics," Oberwolfach Meeting on Extreme Value Theory, Oberwolfach, Germany, Invited Paper, December, 1987.

"Inference Based on Quantile Processes of the Empirical Tail-Function," Institute of Mathematical Statistics, Invited Paper, Atlanta, March, 1986.

"Estimation of Extreme Quantiles: Theory and Applications," Center for Stochastic Processes, University of North Carolina, Invited Seminar, October, 1985.

Software

Website: <http://mba.vanderbilt.edu/bruce.cooil/Documents/Software.htm>

Guide to Software for Generalized Regression: [Reexpression](#) for Regression (2010)

Minitab Macros

PRL Reliability Estimators for Classification Problems (2010)

Maximum Likelihood Estimation of the Generalized Pareto Parameters (2010)

Business Forecasting: [Forecast.zip](#) (2008)

Huber & Biweight Regression: [Robust Regression.zip](#) (2007)

Gauss Procedures and Programs

Reliability Estimation for Latent Class Models (2009)

Latent Class Estimation of Nominal Classification Accuracy (2000)

Comparing Dependent ROC Curve Areas: [ROCC.txt](#), (2003)

Isotonic Regression: [isotonic.zip](#) (2003)

Sliced Inverse Regression: [sir_archive.zip](#) (2002)

Research Awards and Honors

2011	Disruptive Innovation Award, Next Generation Marketing Research (with Keiningham, Aksoy, Buoye)
2010	Owen School's Research Impact Award
2009	Best Practitioner Presentation Award, 18 th Frontiers in Services Conference (with Larivière, Keiningham, Aksoy)
2007	Marketing Science Institute/H. Paul Root Award (with Keiningham, Aksoy, Andreassen)
2007	Outstanding Paper (Best Paper) Award, <i>MSQ</i> (with Keiningham, Aksoy, Andreassen & Weiner)
2006	Outstanding Paper (Best Paper) Award, <i>MSQ</i> (with Keiningham, Aksoy, et al.)
2006	Finalist for Best Paper, <i>JSR</i> (with Aksoy, Bloom, & Lurie)
2006	Highly Commended Paper (Best Paper Finalist), <i>MSQ</i> (Keiningham, Aksoy, Andreassen, et al.)
2004	Owen Dean's Award for Research Productivity
2003	Owen Dean's Award for Excellence in Research
2001	Lehmann Award, American Marketing Association (with Varki & Rust)
2001	Finalist for Green Award, <i>JMR</i> (with Varki & Rust)

Teaching Awards and Distinctions

2004	Elected Outstanding Professor, Owen Executive MBA Class
2002, 2000, 1994-1995, 1991	The Dean's Award for Teaching Excellence
2000 (Fall), 1999 (Fall), 1996-1997	Highest Executive MBA Ratings
2000 (Mod 1), 1996 (Mod 1), 1995 (Fall), 1993(Fall)	Highest Core Course Ratings

Academic Honors and Fellowships

1989	Beta Gamma Sigma
1986-1987	Thomas B. Walker, Jr./Goldman Sachs Award
1979-1982	University of Pennsylvania Fellowship Awards
1980	J. Parker Bursk Prize (Statistics), Pennsylvania
1978-1979	Wharton Dean's Doctoral Fellowship in Statistics
1975	Phi Beta Kappa, Stanford University
1975	Stanford University Honors in Mathematics

Professional Activities

Professional Organizations

American Statistical Association
American Marketing Association
Institute for Operations Research and Management Science
Institute of Mathematical Statistics
American Association for the Advancement of Science
Society of Cardiovascular Computed Tomography, Founding Scientist
American Association of University Professors

Positions in Professional Societies

ASA Council of Sections Fiscal Oversight Committee, 2000-2003
Elected Council of Sections Representative for the American Statistical Association's Section on Statistics and Marketing, 1999-2001

Manuscript and Proposal Reviews

Journals

Journal of Marketing Research, Journal of Marketing, Marketing Science, Journal of Service Research, Journal of Service Management, Psychometrika, Statistics in Medicine, American Statistician, Journal of the American Statistical Association, Statistics & Probability Letters, Annals of Probability.

Publishers

Duxbury (Thomson Learning), McGraw-Hill/Irwin, Chapman & Hall.

National Science Foundation

External Reviewer, Panelist (Human and Social Dynamics: Decision Making, Risk, & Uncertainty, 2006).

University Service

Major Administrative and Committee Assignments

Faculty Director of the Owen Executive Program (2011-Now); Management of Accreditation Committee (2011-Now);Owen ByLaws Committee Co-Chair (2010-2011), Health Care Search Committee (2010- Now); Executive MBA Program Guidance Committee (2009-Now); Executive MBA Admissions Committee (2004- Now); Owen Curriculum Transformation Committee (2006-2007); Owen Distance Learning Committee (2006-2007); Health Care MBA Curriculum Committee (2004-2005); Chair of the *Ad Hoc* Committee on Statistics at Vanderbilt (1995-1996); Vanderbilt University Library Directorship Search Committee (1994-1996); Owen Curriculum Review Committee (1994-1996); Marketing Search Committee (1995-1999); Owen Working Paper Coordinator (1988-1994); Executive Committee of the Graduate Faculty Council (1988-1992); Student Affairs Committee of the Graduate Faculty Council (1988-1992); Owen School Dean Search Committee (1986-1987); Committee on Instruction (1983-1986); Statistics Search (1982-1986, 1989-1990).

Programs

Executive MBA Programs (1996- Now, 1983-1987); Statistics Summer Review (2009-Now); Administration of Statistics Exemption Procedures and Examinations (2006-Now, 2004, 2002, 2000, 1998, 1995-1996, 1982-1993); MBA Math Review (1987, 1986); Director of Owen Doctoral Programs (1988-1992).

Faculty Senate (2006-2007, 1988-1990)

Chairman of the Academic Policies and Services Committee (1989-1990).

Grants

Co-Principal Investigator, NSF IGERT Grant to Fund Interdisciplinary Ph.D. Programs (2001-2005): 2.7 Million; Other Sponsors of External Funding Include: Robert Wood Johnson Foundation, AARP.

Course Development

Advanced MBA and Doctoral Courses

Data Analysis and Linear Models
Decision Analysis
Business Forecasting
Mathematical Statistics

MBA Core

Managerial Statistics

Executive Program

Statistics for Managerial Decisions

Independent Study Courses (IGERT & MBA)

Lifetime Distributions and Survival Analysis
Advanced Forecasting Models
Data Mining

Wharton School MBA and Evening BBA

Introductory Statistics
Quantitative Methods I & II
Calculus

Recent Teaching Evaluations: Overall Effectiveness (5 Point Scale)

Managerial Statistics (MBA Core, 2004, 2006, 2009, 2010): 4.1, 4.2, 4.2, 4.0.

Statistics for Managerial Decisions (EMBA Core, 2007, 2008, 2009, 2010): 4.4, 4.5, 4.2, 4.5.

Business Forecasting (MBA & PHD, 2007, 2008, 2009, 2010): 4.5, 4.8, 4.3, 4.3.