

Vita – October 2018
Frederick J. Riggins

Mailing Address

College of Business
NDSU Dept. 2410, PO Box 6050
North Dakota State University
Fargo, ND 58108-6050

Direct Contact Information

Cell Phone: 651-335-8417
Office Phone: 701-231-5102
e-mail: fred.riggins@ndsu.edu

RESEARCH INTERESTS

Economics of information systems, management strategies for implementing interorganizational systems, radio frequency identification, the Internet of Things (IoTs), blockchain, pricing models for Internet commerce, diffusion of IT, information technology, digital divide, IT in emerging economies, and ICT and microfinance.

- Ranked #9 on the list of top IS researchers for the five year period 2003-2007 based on number of publications and outlets (see Lin and Gregor, *Pacific Asia Journal of the AIS*, Vol. 1, No. 1, 2009, pp. 1-16).
- Over 4,000 total citations according to Google Scholar, with nine articles having over 100 citations.
- Twenty A or A* journal publications based on the Australian Business Deans Council journal quality list.

TEACHING INTERESTS

Management of information technology, electronic commerce, Internet technologies, telecommunications management, business intelligence, markets for digital information goods, economics of IS, enterprise systems, and database management.

EDUCATION

Carnegie Mellon University, Graduate School of Industrial Administration (now Tepper School of Business)

Ph.D. in Information Systems, 1994. Dissertation – “The Growth of Interorganizational Systems in the Presence of Demand Externalities and Unequal Interdependent Benefits.”

Carnegie Mellon University, GSIA (now Tepper School of Business)
M.S. in Information Systems, 1990.

The University of Iowa, College of Business (now Tippie College of Business)
M.B.A. (concentration in Management Science), 1984.

The University of Iowa
B.S. in Physics, 1980.

EMPLOYMENT

Professor of Management Information Systems
College of Business, North Dakota State University, 8/18 to present.

Director of the Center for Enterprise Business Analytics (CEBA)
College of Business, North Dakota State University, 3/18 to present.

Associate Professor of Management Information Systems
College of Business, North Dakota State University, 8/12 to 8/18.

Clinical Full Professor of Information Systems
W.P. Carey School of Business, Arizona State University, 5/11 to 5/12.

Clinical Associate Professor of Information Systems
W.P. Carey School of Business, Arizona State University, 8/08 to 5/11.

Assistant Professor of Information and Decision Sciences
Carlson School of Management, Minnesota, 9/01 to 5/08.

Assistant Professor of IT Management
College of Management, Georgia Tech, 9/95 to 5/01.

Assistant Professor of MIS
Faculty of Business, University of Alberta, 7/93 to 6/95.

Teaching Assistant (with full course responsibility)
GSIA, Carnegie Mellon University, 7/90 to 10/92.

Cost Analyst
The Boeing Company, 3/86 to 8/88.

Software Test Engineer
The Boeing Company, 11/84 to 2/86.

TEACHING EXPERIENCE

Undergraduate Courses Taught:

Blockchain Commerce
Applied Business Intelligence
Data and Telecom Administration
Enterprise Systems
Introduction to MIS
Database Management
Systems Analysis and Design
Electronic Commerce Strategy
xBox/iPods - Markets for Digital Goods
Financial Information Systems & Tech

Graduate Courses Taught:

Information Resources Mgmt (MBA Core)
Business Analytics Strategy
IT Management
Competing as an E-Bus
Electronic Commerce Strategy
Database Management
Systems Analysis and Design
Financial Information Systems & Tech
Doctoral Seminar on Economics of IS
[extensive Ex Education experience]

REFEREED JOURNAL PUBLICATIONS

1. Riggins, F.J. and D.W. Weber, "Information Asymmetries and Identification Bias in P2P Social Microlending," *Information Technology for Development*, vol. 23, issue 1, 2017, pp. 107-126.
2. Riggins, F.J. and B.K. Klamm, "Data Governance Case at KrauseMcMahon LLP in an Era of Self-Service BI and Big Data," *Journal of Accounting Education*, vol. 38, March 2017, pp. 23-36.
3. Wamba, S.F., Ngai, E.W.T., Riggins, F.J., and S. Akter, "Editorial: Transforming Operations and Production Management Using Big Data and Business Analytics: Future Research Directions," *International Journal of Operations and Production Management*, vol. 37, no. 1, 2017, pp. 2-9.
4. Riggins, F.J., Schultz, T., and R. Harris, "Cloud-Based Lightweight Hosting for Academic Use of Microsoft Dynamics AX," *Journal of Integrated Enterprise Systems*, vol. 4, no. 1, 2016, pp. 44-52.
5. Riggins, F.J. and D.W. Weber, "Exploring the Impact of Information and Communication Technology (ICT) on Intermediation Market Structure in the Microfinance Industry," *The African Journal of Information Systems*, vol. 8, issue 2, article 1, June 2016, pp. 1-19.
6. Curtin, J., Gaffney, R., and F.J. Riggins, "Identifying Business Value Using the RFID e-Valuation Framework," *International Journal of RF Technologies: Research and Applications*, vol. 4, no. 2, 2012-2013, pp. 71-91.
7. Baird, A. and F.J. Riggins, "Planning and Sprinting: Use of a Hybrid Project Management Methodology within a CIS Capstone Course," *Journal of Information Systems Education*, vol. 23, no. 3, 2012, pp. 243-258.
8. Kauffman, R.J. and F.J. Riggins, "Information and Communication Technology and the Sustainability of Microfinance," *Electronic Commerce Research and Applications*, vol. 11, no. 4, 2012.
9. Rhee, H.S., Riggins, F.J., and C. Kim, "The Impact of Product Type and Perceived Characteristics of the Web on Multifaceted Online Shopping Behavior," *Journal of Organizational Computing and Electronic Commerce*, vol. 19, no. 1, 2009, pp. 1-29.
10. Ngai, E.W.T., Moon, K.K.L., Riggins, F.J., and C.Y. Yi, "RFID Research: An Academic Literature Review (1995 – 2005) and Future Research Directions," *International Journal of Production Economics*, vol. 112, no. 2, 2008, pp. 510-520.
* Over 700 citations (scholar.google.com). Recognized as one of the "Top 10 Most-Cited Articles" published in *IJPE*.

11. Son, J.Y., Narasimhan, S., Riggins, F.J., and N. Kim, "Understanding the Development of IOS-Based Trading Partner Relationships: A Structural Model and its Empirical Validation," *Journal of Organizational Computing and Electronic Commerce*, vol. 18, no. 1, 2008, pp. 34-60.
12. Curtin, J., Kauffman, R.J., and F.J. Riggins, "Making the 'MOST' Out of RFID Technology: A Research Agenda for the Study of the Adoption, Usage and Impact of RFID," *Information Technology and Management*, vol. 8, no. 2, April 2007, pp. 87-110.
* Over 400 citations (scholar.google.com). Top ten most cited article in *ITM*.
13. Riggins, F.J. and S. Mitra, "An E-Valuation Framework for Developing Net-Enabled Business Metrics Through Functionality Interaction," *Journal of Organizational Computing and Electronic Commerce*, vol. 17, no. 2, 2007, pp. 175-203.
14. Son, J.Y., Kim, S., and F.J. Riggins, "Consumer Adoption of Net-Enabled Infomediaries: Theoretical Explanations and an Empirical Test," *Journal of the Association for Information Systems*, vol. 7, issue 7, article 18, July 2006, pp. 473-508.
15. Bockstedt, J.C., Kauffman, R.J., and F.J. Riggins, "The Move to Artist-Led Online Music Distribution: Explaining Structural Changes in the Digital Music Market," *International Journal of Electronic Commerce*, vol. 10, no. 3, Spring 2006, pp. 7-38.
* Over 135 citations (scholar.google.com).
16. Dewan, S. and F.J. Riggins, "The Digital Divide: Current and Future Research Directions," *Journal of the Association for Information Systems*, vol. 6, issue 9, article 11, December 2005, pp. 298-336.
* Over 455 citations (scholar.google.com). Top ten most cited article in *J AIS*.
17. Son, J.Y., Narasimhan, S., and F.J. Riggins, "Effects of Relational Factors and Channel Climate on EDI Usage in the Customer-Supplier Relationship," *Journal of Management Information Systems*, vol. 22, no. 1, Summer 2005, pp. 321-353.
* Over 200 citations (scholar.google.com).
18. Riggins, F.J., "A Multi-Channel Model of Separating Equilibrium in the Face of the Digital Divide," *Journal of Management Information Systems*, vol. 21, no. 2, Fall 2004, pp. 161-179.
19. Riggins, F.J., "Market Segmentation and Information Development Costs in a Two-Tiered Fee-Based and Sponsored-Based Web Site," *Journal of Management Information Systems*, vol. 19, no. 3, Winter 2002-3, pp. 69-86.
20. Riggins, F.J. and H.S. Rhee, "Developing the Learning Network Using Extranets," *International Journal of Electronic Commerce*, vol. 4, no. 1, Fall 1999, pp. 65-84.
* Over 65 citations (scholar.google.com).

21. Riggins, F.J., “A Framework for Identifying Web-Based Electronic Commerce Opportunities,” *Journal of Organizational Computing and Electronic Commerce*, vol. 9, no. 4, 1999, pp. 297-310.
* Over 150 citations (scholar.google.com). Top 25 most cited article in *JOCEC*.
22. Riggins, F.J. and T. Mukhopadhyay, “Overcoming EDI Adoption and Implementation Risks,” *International Journal of Electronic Commerce*, vol. 3, no. 4, Summer 1999, pp. 103-123.
* Over 85 citations (scholar.google.com).
23. Riggins, F.J. and H.S. Rhee, “Toward a Unified View of Electronic Commerce,” *Communications of the ACM*, vol. 41, no. 10, October 1998, pp. 88-95.
* Over 265 citations (scholar.google.com).
24. Riggins, F.J., Mukhopadhyay, T., and C.H. Kriebel, “Optimal Policies for Subsidizing Supplier Interorganizational System Adoption,” *Journal of Organizational Computing*, vol. 5, no. 3, 1995, pp. 295-325.
25. Riggins, F.J. and T. Mukhopadhyay, “Interdependent Benefits from Interorganizational Systems: Opportunities for Business Partner Re-engineering,” *Journal of Management Information Systems*, vol. 11, no. 2, Fall 1994, pp. 37-57.
* Over 375 citations (scholar.google.com).
26. Riggins, F.J., Kriebel, C.H., and T. Mukhopadhyay, “The Growth of Interorganizational Systems in the Presence of Network Externalities,” *Management Science*, vol. 40, no. 8, August 1994, pp. 894-998.
* Over 280 citations (scholar.google.com).

REFEREED CONFERENCE PUBLICATIONS

1. Pengnate, F., Riggins, F.J., and L. Zhang, “The Effects of Social and Spatial Presence on Engagement in a 3D Virtual Reality Environment: An Empirical Investigation,” *Proceedings of the Fifty-Second Annual Hawaii International Conference on System Sciences*, January 2019.
2. Riggins, F.J. and K.T. Slaughter, “Data Analytics Using an Integrated Microsoft Platform,” *Proceedings of the Microsoft Academic Conference for Higher Education*, June 2017.
3. Schultz, T., Harris, R. and F.J. Riggins, “Project LWH4DYNA: Lightweight ‘Sandbox’ Hosting for Academic Use of Microsoft Dynamics,” *Proceedings of the Dynamics Academic Alliance Conference*, April 2016.

4. Baird, A. and F.J. Riggins, "A Resource Complementarity View (RCV) of Value Creation in the Context of Connected Smart Devices on the Internet of Things," *Proceedings of the Forty-Ninth Annual Hawaii International Conference on System Sciences*, January 2016.
5. Riggins, F.J. and S.F. Wamba, "Research Directions on the Adoption, Usage and Impact of the Internet of Things through the Use of Big Data Analytics," *Proceedings of the Forty-Eighth Annual Hawaii International Conference on System Sciences*, January 2015.
6. Riggins, F.J. and D.M. Weber, "Information Asymmetries and Identification Bias in P2P Social Microlending," *Proceedings of the Forty-Eighth Annual Hawaii International Conference on System Sciences*, January 2015.
7. Riggins, F.J. and D.M. Weber, "The Impact of ICT on Intermediation in the Microfinance Industry," *Proceedings of the Forty-Sixth Annual Hawaii International Conference on System Sciences*, January 2013.
8. Weber, D.M., Kulkarni, U., and F.J. Riggins, "Breadth and Depth: The Impact of ICT Adoption on Outreach Capabilities of Microfinance Institutions," *Proceedings of the Eighteenth Americas Conference on Information Systems*, August 2012.
9. Riggins, F.J. and D.M. Weber, "A Model of Peer-to-Peer (P2P) Social Lending in the Presence of Identification Bias," *Proceedings of the International Conference on Electronic Commerce*, August 2011.
10. Kauffman, R.J. and F.J. Riggins, "Research Directions on the Role and Impact of ICT in Microfinance," *Proceedings of the Forty-Third Annual Hawaii International Conference on System Sciences*, January 2010.
11. Curtin, J., Gaffney, R., and F.J. Riggins, "The RFID e-Valuation Framework: Determining the Business Value from Radio Frequency Identification," *Proceedings of the Forty-Second Annual Hawaii International Conference on System Sciences*, January 2009.
12. Dong, Y., Yao, Y., and F.J. Riggins, "Designing an RFID Program for Improved Supplier Management," *Proceedings of the International Conference on Wireless Communications, Networking and Mobile Computing, 2007*, September 2007.
13. Riggins, F.J. and K. Slaughter, "The Role of Collective Mental Models in IOS Adoption: Opening the Black Box of Rationality in RFID Deployment," *Proceedings of the Thirty-Ninth Annual Hawaii International Conference on System Sciences*, January 2006.

14. Bockstedt, J.C., Kauffman, R.J., and F.J. Riggins, "The Move to Artist-Led Online Music Distribution: Explaining Structural Changes in the Digital Music Market," *Proceedings of the Thirty-Eighth Annual Hawaii International Conference on System Sciences*, January 2005. Nominated for Conference Best-Paper Award.
15. Riggins, F.J., "A Multi-Channel Model of Separating Equilibrium in the Face of the Digital Divide: Policy and Strategy Implications," *Proceedings of the Thirty-Seventh Annual Hawaii International Conference on System Sciences*, January 2004.
16. Riggins, F.J., "Market Segmentation and Information Development Costs in a Two-Tiered Fee-Based and Sponsored-Based Web Site," *Proceedings of the Thirty-Fifth Annual Hawaii International Conference on System Sciences*, January 2002. Nominated for Conference Best-Paper Award.
17. Son, J.Y., Narasimhan, S., and F.J. Riggins, "Factors Affecting the Extent of Electronic Cooperation between Firms: Economic and Sociological Perspectives," *Proceedings of the Thirty-Second International Conference on Information Systems*, December 1999, pp. 556-560.
18. Riggins, F.J. and H.S. Rhee, "Developing the Learning Network Using Extranets," *Proceedings of the Thirty-First Annual Hawaii International Conference on System Sciences*, Volume VI, January 1998, pp. 339-349. Nominated for Conference Best-Paper Award.
19. Riggins, F.J. and T. Mukhopadhyay, "The Impact of Unequal Interdependent Benefits from Interorganizational Systems," *Proceedings of the Twenty-Seventh Annual Hawaii International Conference on System Sciences*, Volume IV, January 1994, pp. 875-884.

OTHER PUBLICATIONS

1. Kauffman, R.J. and F.J. Riggins, "Poverty, Technology, Microfinance and Development," introduction to special issue in *Electronic Commerce Research and Applications*, vol. 11, no. 4, 2012.
2. Ngai, E.W.T. and F. J. Riggins, "Editorial: RFID: Technology, applications, and impact on business operations, ," introduction to special issue in *International Journal of Production Economics*, vol. 112, no. 2, 2008, pp. 507-509.
3. Au, Y., Goh, K.H., Kauffman, R.J., F.J. Riggins, "Planning Technology Investments for High Payoffs: A Rational Expectations Approach to Gauging Potential and Realized Value for the Changing Marketplace," W.R. King (Ed.), *Planning for Information Systems*, Advances in Management Information Systems Series, M.E. Sharpe, Armonk, NY, 2008.

4. Riggins, F.J., "What is the Business Case for Adopting RFID?" in *The Handbook of 21st Century Management, Volume 2*, C. Wankel (Ed.), Sage Publications, 2008, pp. 411-421.
5. Kauffman, R.J. and F.J. Riggins, "Information Systems and Economics," introduction to special section in *Communications of the ACM*, vol. 41, no. 8, August 1998, pp. 32-34.
6. Riggins, F.J., "Boeing Company: The Materiel Division," Management case regarding corporate telecommunications policy developed for use in Carnegie Mellon University's Information Networking Institute, 1990.

WORK IN PROGRESS

1. Baird, A. and F.J. Riggins, "Complementary Affordances from Smart Devices in Proximity-Based Ad-Hoc Mesh Networks," in preparation for journal submission.
2. Weber, D.M., Kulkarni, U., and F.J. Riggins, "Application of Information and Communication Technology (ICT) for Service Innovation in the Developing World: Evidence from the Microfinance Industry in Cambodia," paper revision in preparation for journal submission.
3. Riggins, F.J. and K.T. Slaughter, "Data Analytics Using an Integrated Microsoft Platform," conference paper currently in preparation for journal submission.
4. Riggins, F.J. and K.T. Slaughter, "Knowledge-Induced Equilibrium and the Internet of Things Adoption," currently under journal review.
5. Riggins, F.J., "Using Personalization Technology to Reduce Product Cannibalization," paper revision in preparation for journal submission.
6. Riggins F.J., "The Impact of Improved Storefront Technology and E-Commerce Adoption on an Online Intermediary Strategy Versus a Direct Retailer Strategy," currently in revision for journal submission.

INVITED PRESENTATIONS AND KEYNOTE ADDRESSES

1. "Application of ICT for Service Innovation in the Developing World: Evidence from the Microfinance Industry in Cambodia," NDSU College of Business Research Colloquium, North Dakota State University, April 1, 2016.
2. "The Impact of ICT on Intermediation in the Microfinance Industry," NDSU College of Business Research Colloquium, North Dakota State University, March 1, 2013.

3. "Using Personalization Technology to Reduce Product Cannibalization," Accounting, Finance and Information Systems Research Colloquium, College of Business, North Dakota State University, March 5, 2012.
4. "The RFID e-Valuation Framework: Determining the Business Value from Radio Frequency Identification," Twin Cities RFID Industry Forum, University of Minnesota, Minneapolis, MN, June 5, 2008.
5. "RFID and Temperature Monitoring in the Cold Chain," Twin Cities RFID Industry Forum, University of Minnesota, Minneapolis, MN, March 1, 2007.
6. "Factors Influencing RFID Adoption by Small and Medium-Sized Enterprises (SMEs)," Minnesota Technology Business Innovation Series, St. Paul, MN, October 18, 2006.
7. "The Impact of Expanding E-Commerce Adoption on the Direct Intermediary Versus the Direct Retailer Strategy," Information Systems Research Colloquium, University of California at Irvine, May 2006.
8. "Overcoming Product Cannibalization in the Online Channel using Personalization Technology, Community Access, and Intertemporal Price Discrimination," Information Systems Research Colloquium, University of California at Irvine, January 2002.
9. "A Framework for Developing E-Business Metrics Through Functionality Interaction," MISRC Associated Seminar, December 2001.
10. "e-Business Education in the Digital Economy," invitation to present at the annual International Assembly for Collegiate Business Education conference on April 6, 2001, Kansas City, Mo.
11. "The Impact on Traditional Retailers of Market Entry of an Online Direct Intermediary," Accounting & MIS Research Workshop, Fisher College of Business, Ohio State University, March 31, 2000.
12. "Generating Value through Web-Based Applications," and "The Extranet Enabled Learning Business Network," keynote speaker at the Senior Executive Roundtable for Business and Information Systems (SERBIS) session entitled "Using the Internet Strategically," held at GCATT, Georgia Tech, November 13, 1997.
13. "Electronic Commerce on the Internet," keynote speaker and panel moderator for DuPree Center for Entrepreneurship series on "Internet Strategies for Growing Companies," held at GCATT, Georgia Tech, May 15, 1997.
14. "Two Types of Extranets," Information Revolution Consequences series, Georgia Tech, May 8, 1997.

15. "The Growth of Interorganizational Systems in the Presence of Demand Externalities and Asymmetric Interdependent Benefits," Information Systems Colloquium Series, University of California at Los Angeles, April 1992.

CONFERENCE PRESENTATIONS WITHOUT PROCEEDINGS

1. "A Framework to Evaluate the Business Case for RFID," 2nd RFID Technology Integration Symposium, Mesa, AZ, May 21, 2008.
2. "The RFID e-Valuation Framework: Determining the Business Value from Radio Frequency Identification," RFID Journal LIVE! 2008, Las Vegas, NV, April 18, 2008.
3. "RFID Along the Supply Chain: RFID's Role in Efficiency and Cost Savings," Minnesota High Technology Association Spring Conference 2007, Minneapolis, MN, April 10, 2007.
4. "RFID and Temperature Monitoring in the Cold Chain," RFID World, Establishing Traceability in the Perishable Cold Chain, Dallas, TX, March 26, 2007.
5. "Development of a Set of ICT Human Resource Capacity Indicators," UN-APCICT Regional Forum on ICT Capacity Building, Incheon, Republic of Korea, March 6, 2007.
6. "Research Directions for RFID," presented at the RFID Journal Live! 2006 Academic Convocation, Las Vegas, NV, May 1, 2006.
7. "A Model of Factors Leading to Supplier Adoption of RFID," INFORMS Conference, San Francisco, CA, November 2005.
8. "Bridging the Digital Divide: A Call for Public-Private Partnership," presented at the 2004 Health Care, Human Services, and Technology Conference, Minneapolis, MN, November 8, 2004.
9. "Research Directions for RFID," presented at the INFORMS Conference on Information Systems and Technology (CIST), Denver, CO., October 24, 2004.
10. "Overcoming Product Cannibalization in the Online Channel using Personalization Technology, Community Access, and Intertemporal Price Discrimination," presented at the Workshop on Information Systems and Economics (WISE) 2001, December 2001, New Orleans, LA.
11. "Increasing the Value Proposition of Your E-Business Strategy," International Electronic Commerce: Using the Web to Compete in a Global Marketplace, Atlanta, GA., January 19, 2000.

12. "The Impact on Traditional Retailers of Market Entry of an Online Direct Intermediary," presented at the Workshop on Information Systems and Economics (WISE) 1999, December 1999, Charlotte, NC.
13. "Developing the Learning Network using Extranets," IBM Global Supply Chain Management Conference, Orlando, FL, January 1999.
14. "Toward a Unified View of Electronic Commerce," IBM Global Supply Chain Management Conference, Orlando, FL, January 1999.
15. "A Framework for Identifying Web-Based Electronic Commerce Opportunities," IBM Global Supply Chain Management Conference, Orlando, FL, January 1999.
16. "Opportunities for Using the Internet in Today's Multinational Corporation," panel member for conference held at the world headquarters for The Coca Cola Company, June 1996.
17. "Optimal Ownership Structures and Subsidy Mechanisms for Interorganizational Systems Evolution," Sixth Workshop on Information Systems and Economics (WISE), Vancouver, BC, Canada, December 1994.
18. "The Growth of Interorganizational Systems in the Presence of Demand Externalities," TIMS/ORSA Conference, Nashville, Tennessee, May 1991.
19. "A Model of Network Externalities with Competing Participants," Second Workshop on Information Systems and Economics (WISE), Copenhagen, Denmark, December 1990.
20. "Management Policies to Maximize Buyer Benefits from Hierarchical Interorganizational Systems," International Conference on Information Systems Doctoral Consortium, Copenhagen, Denmark, December 1990.

GRANTS/AWARDS

1. Microsoft Azure Education Grant, 2016.
2. "RFID Research: An Academic Literature Review (1995 – 2005) and Future Research Directions," (co-authored with Eric Ngai, Karen Moon, and Candace Yi), recognized as one of the "Top 10 Most-Cited Articles" published in the *International Journal of Production Economics* between 2007 and 2010.
3. 3M Nontenured Faculty Grant Award, 3M Corporation, \$15,000, awarded December 2006.

4. 2006 3M Nontenured Faculty Grant Award, 3M Corporation, \$15,000, awarded December 2005.
5. "The Move to Artist-Led Online Music Distribution: Explaining Structural Changes in the Digital Music Market," (co-authored with Jesse Bockstedt and Robert J. Kauffman), conference paper nominated for Best-Paper Award at the *Thirty-Eighth Annual Hawaii International Conference on System Sciences*, January 2005.
6. 2005 3M Nontenured Faculty Grant Award, 3M Corporation, \$15,000, awarded December 2004.
7. Grant from the Digital Technology Center, University of Minnesota for \$5,000 to support the August 27-28, 2004 Symposium on the Digital Divide, May 2004.
8. McKnight Grant for Summer 2004 for project on "The Impact of the Digital Divide on Net-Enabled Commerce: Managerial Implications of Unequal Access to the Internet," March 2004.
9. Awarded the "Doctoral Student Recognition of Junior Faculty Research Excellence" award, September 2002.
10. "Team Effort" award from the Carlson School of Management's Information and Decision Sciences Department for efforts in the development of the new MBA Core MIS course, September 2002.
11. "Market Segmentation and Information Development Costs in a Two-Tiered Fee-Based and Sponsored-Based Web Site," conference paper nominated for Best-Paper Award at the *Thirty-Fifth Annual Hawaii International Conference on System Sciences*, January 2002.
12. Principle author of "A White Paper Proposing the Formation of the Center for Managing in Electronic Environments," based on the work of the Electronic Commerce Task Force, DuPree College of Management Georgia Tech, January 1999. Projected budget requirement: \$300,000 per year. Resulted in \$ 1 million iXL naming gift for the iXL Center for Electronic Commerce.
13. CIBER Grant to address research issues related to global electronic commerce and to promote course development to include global issues in electronic commerce, DuPree College of Management, Georgia Tech, Summer 1998.
14. NationsBank grant, "Developing a Web-Based Strategy for the Delivery of Online Banking Services," NationsBank, Charlotte, NC. DuPree College of Management, Georgia Tech. Amount granted: \$30,800. Grant approved: 2/98.

15. “Developing the Learning Network Using Extranets,” (with Sue Rhee), conference paper nominated for Best-Paper Award at the *Thirty-First Annual Hawaii International Conference on System Sciences*, January 1998.
16. “The Impact of Network Externalities and Interdependent Benefits when Initiating Interorganizational Systems,” dissertation summary paper selected as one of three finalists for the 1994 International Conference on Information Systems Best Doctoral Dissertation Competition, Vancouver, BC, Canada, December 1994.
17. Nova Research Faculty Fellowship award for research on the management of technology, Faculty of Business, University of Alberta, \$10,000, 7/94 to 6/95.
18. William W. Cooper Doctoral Dissertation Award in Management or Management Science, Carnegie Mellon University, 1994. Awarded to the best doctoral dissertation in management or management science in any school at Carnegie Mellon University.
19. Society for Information Management (SIM) Doctoral Consortium Fellow, Eleventh Annual International Conference on Information Systems, Copenhagen, Denmark, 1990.
20. Grant from the Richard M. Cyert Family Fellowship Fund, Graduate School of Industrial Administration, Carnegie Mellon University, 1990.
21. William Larimer Mellon Doctoral Fellowship Award, Graduate School of Industrial Administration, Carnegie Mellon University, 1988-1991.
22. Honorable Mention in the AACSB Doctoral Fellowship Program, 1988.
23. Special recognition from the dean of the University of Iowa College of Business Administration for finishing first in the Iowa M.B.A. program, 1984.

CURRICULUM DEVELOPMENT

1. Developed entirely new course “MBA 752 – Business Analytics Strategy”, MBA program, College of Business, North Dakota State University, offered for the first time Fall 2018.
2. Developed entirely new version of graduate course “MIS 770 – Information Resources Management”, MBA program, College of Business, North Dakota State University, offered for the first time Fall 2016.
3. Developed entirely new undergraduate course “MIS 350 – Enterprise Systems”, undergraduate program, College of Business, North Dakota State University, offered for the first time Spring 2016.

4. Developed entirely new version of undergraduate course “MIS 340 – Applied Business Intelligence”, undergraduate program, College of Business, North Dakota State University, new version offered for the first time Spring 2013.
5. Developed entirely new version of undergraduate course “MIS 320 – Management Information Systems”, core course for undergraduate program, College of Business, North Dakota State University, new version offered for the first time Fall 2012.
6. Developed entirely new version of undergraduate course “MIS 376 – Data and Telecommunications Administration”, undergraduate program, College of Business, North Dakota State University, new version offered for the first time Fall 2012.
7. Developed new undergraduate capstone course “CIS 440 – Enterprise Systems Development”, undergraduate program, W.P. Carey School of Business, Arizona State University, offered for the first time Fall 2011.
8. Developed new course “CIS 591 – Competing as an E-Business”, MSIM program, W.P. Carey School of Business, Arizona State University, offered for the first time Spring 2010.
9. SAP University Alliance at Arizona State University. Implemented ERP Simulation Game (HEC Montreal game) into MIS graduate curriculum, offered for the first time Fall 2009.
10. Developed new course “BA 1910W – xBox and iPods – Markets for Digital Goods” as a Writing Intensive Freshman Seminar Fall 2005, Carlson School of Management, University of Minnesota, offered for the first time Spring 2006.
11. Developed new course “IDSc 6040 – Information Technology Management” for the MBA MIS Menu Option Fall 2002, Carlson School of Management, University of Minnesota, offered for the first time Spring 2003.
12. Developed new course “MBA 6240 – Information Technology Management” for the MBA Integrated Core Fall 2002, Carlson School of Mgmt, University of Minnesota.
13. Developed and delivered electronic commerce and e-business module for various Carlson School executive education programs (2001 to present) including
 - MBA Advantage Program
 - Carlson Companies Executive Leadership Program
 - Rexam Experienced Management Program
 - RSM McGladrey Management Program
 - Minnesota Management Institute
14. Developed curriculum requirements for a Graduate Certificate Electronic Commerce, March 2000. Program Faculty Director May 2000 to May 2001, DuPree College of Management, Georgia Tech.

15. Developed executive education program on “Strategies for E-Business,” a 30-hour certificate. Program Faculty Director April 2000 to June 2001, DuPree College of Management, Georgia Tech.
16. Developed and delivered electronic commerce and e-business module for various Georgia Tech executive education programs (1997 to 2001) including
 - Program for Technical Managers
 - Information Technology Management Partnership
 - Resident Information Technology Management Partnership Executive MS in the Management of Technology degree program Executive Masters in International Logistics
 - Strategies for E-Business
 - Mid-Management Program
 - New Technology Ventures
17. Developed new undergraduate course “Electronic Commerce,” DuPree College of Management, 08/ 99.
18. Developed new Ph.D. course “Seminar on Economics of Information Systems,” DuPree College of Management, 01/99.
19. Developed new graduate course “Electronic Commerce” with particular focus on the strategic uses of e-commerce and e-business, DuPree College of Management, 3/96 to 5/01.

SERVICE

1. Director and Founder of the Center for Enterprise Business Analytics at the NDSU College of Business, March 2018 to present.
2. Chair/Organizer for a mini-track on “IoT: Providing Services Using Smart Devices, Wearables, and Quantified Self” for the *Fifty-Second Annual Hawaii International Conference on System Sciences*, 2019, March 2018 to January 2019.
3. Chair/Organizer for a mini-track on “Business Value of Smart Devices on the IoT” for the *Fifty-Second Annual Hawaii International Conference on System Sciences*, 2019, March 2018 to January 2019.
4. Served as chair of the MIS Faculty Search Committee, Accounting, Finance and Information Systems Department, College of Business, North Dakota State University, September 2017 to May 2018.
5. Member of the NDSU College of Business MBA Committee, September 2016 to present.

6. Member of the NDSU College of Business AFIS Research Committee, October 2016 to May 2018.
7. Member of the NDSU College of Business ad hoc Entrepreneurship Committee, September 2016 to May 2017.
8. Chair/Organizer for a mini-track on “Internet of Things: Providing Services Using Smart Devices, Wearables, and Quantified Self” for the *Fiftieth Annual Hawaii International Conference on System Sciences*, 2017, March 2016 to January 2017.
9. Member of the NDSU College of Business Student Progress Committee, September 2015 to present.
10. Member of NDSU faculty senate standing committee Technology and Instructional Services Committee, September 2012 until present. Chair of the committee September 2015 to May 2016, September 2017 to May 2018, and September 2018 to present.
11. Served on the Microsoft Dynamics Academic Alliance advisory board, January 2015 to present. Member of the DynAA curriculum sub-committee, September 2015 to May 2016.
12. Chair/Organizer for a mini-track on “Business Value of the Internet of Things” for the *Forty-Ninth Annual Hawaii International Conference on System Sciences*, 2016.
13. Served as chair of the MIS Faculty Search Committee, Accounting, Finance and Information Systems Department, College of Business, North Dakota State University, September 2014 to March 2015.
14. Served as member of the College of Business Dean Search Committee, College of Business, North Dakota State University, May 2014 to May 2015.
15. Chair/Organizer for a mini-track on “The Internet of Things and Big Data Analytics” for the *Forty-Eighth Annual Hawaii International Conference on System Sciences*, 2015.
16. Co-editor for Special Issue on “Big Data and Business Analytics Adoption and Use: A Step Toward Transforming Operations and Production Management?” *International Journal of Operations & Production Management*, March 2014 to 2016.
17. MIS Club advisor, College of Business, North Dakota State University, August 2012 to present.

18. Served as chair of the CIS Undergraduate Committee, Information Systems Department, W.P. Carey School of Business, Arizona State University, August 2011 to May 2012.
19. Served as chair for the Research Track session “Electronic Markets and Structure,” at the 2011 International Conference on Electronic Commerce, Liverpool, UK, August 4, 2011.
20. Masters Committee Team, Information Systems Department, W.P. Carey School of Business, Arizona State University, August 2009 to May 2011.
21. Co-Editor of a Special Issue of *Electronic Commerce Research and Applications* on “Poverty, Technology and Microfinance,” November 2009 to April 2012.
22. International Conference on Information Systems 2009 Program Committee member, March 2009 to December 2009.
23. Panel judge for RFID Journal LIVE! awards, 2007 – 2012.
24. Chair/Organizer for a mini-track on “Implementation and Usage of Radio Frequency Identification (RFID),” for the *Thirty-Ninth through Forty-Fifth Annual Hawaii International Conference on System Sciences*, 2006 - 2012.
25. Chair/Organizer for a mini-track on “Managing the Adoption and Usage of Radio Frequency Identification (RFID),” for the INFORMS Annual Conference, San Francisco, CA, November 2005, April 2005 to November 2005.
26. Co-Editor of a Special Issue of the *International Journal of Production Economics* on “RFID: Technology, Applications, and Impact on Business Operations,” July 2005 to January 2008.
27. Co-Editor of two Special Sections in the *Journal of the Association for Information Systems* on the “Digital Divide”, published in JAIS December 2005 and January 2006, September 2004 to December 2005.
28. Project Leader for the RFID Project, MIS Research Center, Carlson School of Management, University of Minnesota, September 2004 to June 2008.
29. Co-Chair of the Symposium on the Digital Divide entitled “The Impact of the Digital Divide on Management and Policy: Determinants and Implications of Unequal Access to Information Technology,” held at the Carlson School of Management, University of Minnesota, August 27-28, 2004.
30. MBA Marketing Portfolio Advising Team, Carlson School of Management, University of Minnesota, January 2004 to May 2006.

31. Chair IS MBA Curriculum Committee charged to evaluate all IDSc MBA elective courses for curriculum revision and innovation, September 2003 to May 2004.
32. Chair/Organizer of the IDSC Friday Research Workshop, June 2003 to December 2006.
33. MBA IST Portfolio Advising Team, Carlson School of Management, University of Minnesota, August 2003 to May 2004.
34. Served as session chair and discussant at the Workshop on Information Systems and Economics, Barcelona, Spain, December 2002.
35. MBA MIS Concentration Advisor, Carlson School of Management, University of Minnesota, August 2002 to May 2006.
36. Co-Chair of the Doctoral Student Symposium on E-Commerce Research, 6th Annual UM Electronic Commerce Conference, April 10, 2002.
37. International Conference on Information Systems 2002 Program Committee member, March 2002 to December 2002.
38. Served as chair for the Theme Related Research Track session “The Virtual Environment,” at the 2001 International Conference on Information Systems, New Orleans, LA., December 19, 2001.
39. International Conference on Information Systems 2001 Program Committee member, March 2001 to December 2001.
40. Associate Director of the iXL Center for Electronic Commerce, DuPree College of Management, Summer 1999 to Spring 2000. Responsible for developing educational initiatives.
41. Served as discussant for the Research Paper session at the 2000 International Conference on Information Systems, Brisbane, Australia, December 12, 2000.
42. International Conference on Information Systems 2000 Program Committee member, May 2000 to December 2000.
43. Associate Director of the iXL Center for Electronic Commerce, DuPree College of Management, Summer 1999 to Spring 2000. Responsible for developing educational initiatives.
44. Co-Chair (with S. Narasimhan) of the Electronic Commerce Task Force, DuPree College of Management, Summer 1998 to Spring 1999.

45. Served as co-editor for special issue of *Communications of the ACM* on the Intersection of Information Technology Research and Economics, with Robert J. Kauffman, 1/98 to 8/98.
46. Served as chair for the Research in Progress session “Individual and Group Decision Making at the 1997 International Conference on Information Systems, Atlanta, GA., December 16, 1997.
47. Advisor, DuPree School of Management Intranet Development Effort, 9/96 to 6/97.
48. Member, Georgia Tech Institute Software Subcommittee of the Academic Services Committee, 5/96 to 8/97.
49. Served as co-chair for the 1997 Workshop on Information Systems and Economics in conjunction with the International Conference on Information Systems, Atlanta, GA., December 13-14, 1997, with Robert J. Kauffman, 11/95 to 12/97.
50. Member, Georgia Tech Institute Computing Subcommittee of the Academic Services Committee, 11/95 to 5/97.
51. Member: Association for Information Systems, 1994 to present.
52. Editorial and Reviewer Work:
 - *Electronic Commerce Research and Applications*, Associate Editor, since 2008.
 - *Electronic Commerce Research*, Associate Editor, since 2015.
 - *International Journal of RF Technologies: Research and Applications*, Associate Editor, since 2008.
 - *International Journal of Production Economics*, Special Issue Guest Editor, 7/05 to 7/07.
 - *Journal of the Association for Information Systems*, Special Section Guest Editor, 9/04 to 12/05.
 - *Information Systems Research*, Associate Editor, 06/01 to 12/02.
 - *Communications of the ACM*, Special Section Guest Editor, 9/97 to 8/98.
 - *Management Science*, reviewer, since 2000.
 - *IEEE Transaction on Engineering Management*, reviewer, since 1996.
 - *Intl. Conference on Information Systems*, reviewer, since 1996.
 - *International Journal of Production Economics*, reviewer, since 1995.
 - *Information Systems Research*, reviewer, since 1994.
 - *Journal of Management Information Systems*, reviewer, since 1992.
 - *Management Information Systems Quarterly*, reviewer, since 1992.

REFERENCES

Available upon request.