

VILLANOVA

SCHOOL OF BUSINESS

Center for Business Analytics
Faculty Expertise Guide



Introduction

The Center leads the education, research and practice of business analytics.

The Center for Business Analytics (CBA) leads the development of analytical capabilities of Villanova School of Business undergraduate and graduate students. The CBA is organized around three pillars: Curriculum, Research and Practice.

Curriculum Pillar

The curriculum goals and activities of the CBA provide support to increase and improve the analytics-oriented components of VSB undergraduate and graduate courses, and to produce students competent in current analytics practice and application. Curricular initiatives include the required sophomore Business Analytics course, the three-course undergraduate analytics minor, and a mix of MBA and undergraduate analytics electives.

Research Pillar

The research goals and activities of the CBA focus on emerging-analytics-practitioner issues.

Practice Pillar

The practice goals and activities of the CBA are grounded in collaborative interaction with the business community. Throughout the year, the CBA hosts analytics thought leaders and practitioners who share their insights with students, faculty and professionals. The CBA's Business Analytics Roundtable series brings Villanova faculty and professionals together to share case studies and emerging trends in analytics. The CBA provides VSB students with opportunities to develop hands-on analytics experience through paid consulting projects and internships. The CBA supports the newly formed undergraduate Business Analytics Society through sponsorship of case-competition teams and hosting networking events for professionals and students to discuss careers in analytics.



David Anderson, PhD

Assistant Professor of Analytics

BS, College of William and Mary, Applied Mathematics
PhD, University of Maryland, Robert H. Smith School of Business,
Operations Management and Statistics

Recent Courses Taught:

Undergraduate: Business Analytics, Operations Management,
Management Science
MBA: Data Mining, “Data, Models, and Decisions”
PhD: Quantitative Research Methods: Data Mining and Text Analysis



Expertise and Research Interests:

Business Analytics; Data Mining; HR Analytics; Value of Information; Healthcare Operations

Non-Academic Consulting:

Elder Research, Booz Allen Hamilton, SAS Corporation

Entrepreneurial Activity:

Co-founder of PayAnalytics, a HR-analytics software company focused on helping companies measure and close gender and racial pay gaps. Named 2018 “best newcomer” and “best social impact startup” in Iceland by the Icelandic Startup Awards.

Recent Selected Articles:

Bjarnadottir M, Anderson D, Zia L, Rhodes K. Predicting Colorectal Cancer Mortality. (Forthcoming, *Production and Operations Management* – “Patient-Centric HealthCare Management in the Age of Analytics” Special Issue)

Anderson D, Bjarnadottir M. Bridging the Gap: The Unintended Consequences of Optimal Responses to Equal Pay Legislation (Forthcoming, *Organization Science*)

Luke J. Benvenuto, David R. Anderson, Hanyoung P. Kim, Jaime L. Hook, Lori Shah, Hilary Y. Robbins, Frank D'Ovidio, Matthew Bacchetta, Joshua R. Sonett, Selim M. Arcasoy. Geographic disparities in donor lung supply and lung transplant waitlist outcomes: A Cohort Study (Forthcoming). *American Journal of Transplantation*.

Anderson D, Gao G, Golden B. Life is All About Timing: An Examination of Differences in Treatment Quality for Trauma Patients Based on Hospital Arrival Time. *Production and Operations Management* 23 (12), 2178-2190; 2014.

Professional Memberships:

INFORMS

Q Chung, PhD

Professor, Accountancy & Information Systems



BS, Seoul National University—Engineering
MBA, SUNY at Albany
PhD, Rensselaer Polytechnic Institute—Management
MDiv, Westminster Theological Seminary

Recent Courses Taught:

Undergraduate: Strategic Information Technology; Database Management
MS Analytics: Analytical Methods for Text and Web Mining
MBA: Big Data: Theories and Practice; Information Technology as a Strategic Lever; Anatomy of Digital Communication

Expertise and Research Interests:

Big Data; Information Technology; Trust; Christian Ethics; Distance Education; E-Business; Korea; Radio Frequency Identification; Information Technology Strategy; Trust and Deception in Digital Environment; Distance Education; Mobile Commerce; Text Analytics with Online Customer Reviews; Speech Analytics; Computational Rhetoric in the Age of Big Data

Non-Academic Consulting:

CLEP—College Level Examination Program

Recent Selected Articles:

S. Scheidt & Q. B. Chung, (2018). "Making a case for speech analytics to improve customer service quality: Vision, implementation, and evaluation," *International Journal of Information Management*, DOI:10.1016/j.ijinfomgt.2018.01.002.

X. Luo, W. Zhang, R. Bose, H. Li, & Q. B. Chung, (2018). "Producing Competitive Advantage from an Infrastructure Technology: The Case of Cloud Computing." *Information Systems Management*, 35:2, 147-160.

J. Sipior, J. Bierstaker, Q. B. Chung, & J. Lee. (2017). "A Bring-Your-Own-Device Case for the Classroom," *Communications of the Association for Information Systems*, Vol. 41, Article 10.

Recent Conference Papers and Presentations:

2017 Annual DSI Conference
Washington, DC, November 2017
"Triangulation of Online Consumer Reviews Using Text Mining: Sentiment, Rating, and Confidence"

2015 Americas Conference on Information Systems
San Juan, Puerto Rico, August 2015
"Is Big Data Postmodern?"

Professional Memberships:

Decision Sciences Institute, Association for Information Systems

Kathleen Iacocca, PhD

Assistant Professor, Management & Operations

BS, University of Scranton—Finance
MBA, University of Scranton
PhD, Rutgers University—Supply Chain Management



Recent Courses Taught:

Undergraduate: Introduction to Business Analytics

Expertise and Research Interests:

Business Analytics; Operations Management; Supply Chain Management;
Applications in Health Care; Analytics Applications; Optimization

Non-Academic Consulting: Aetna

Recent Selected Articles:

“Resell vs. Direct Models: US Branded Drug Distribution in the Future,” July 2015, *Pharmaceutical Executive*

“Why Brand Drugs Priced Higher than Generic Equivalents,” April 2015, *International Journal of Pharmaceutical and Healthcare Marketing*

“Improving the Quality of Environmental Management: Impact on Shareholder Value,” Jan. 2015, *International Journal of Quality & Reliability Management*

Recent Conference Papers and Presentations:

INFORMS (The Institute for Operations Research and the Management Sciences) Annual Meeting
Nashville, Tenn., Nov. 2016

“Determining the Aggregate Plan: A Cross-Functional Perspective”

INFORMS (The Institute for Operations Research and the Management Sciences) Annual Meeting
Philadelphia, Pa., Nov. 2015

“Spreadsheet Approach for Integrating Production, Marketing, and Finance Decisions in Aggregate Plans”

Decision Sciences Institute Annual Meeting

Tampa, Fla., Nov. 2014

“Extended Aggregate Planning with Cash Infusions and Sales Promotions”

Professional Memberships:

Decision Science Institute, The Association for Operations Management, Institute for Operations Research and Management Science

Matt Liberatore, PhD

John F. Connelly Endowed Chair in Management Professor, Management & Operations Founding Director, Center of Business Analytics

BA, University of Pennsylvania, Mathematics
MS, University of Pennsylvania, Operations Research
PhD, University of Pennsylvania, Operations Research



Recent Courses Taught:

Undergraduate: Business Analytics
MS Analytics: Advanced Business Applications—Project Management Module; Analytics Practicum
MBA: Strategic Data Mining

Expertise and Research Interests:

Business Analytics; Analytics Applications; Virtual Reality; Project Management, Planning and Scheduling; Supply Chain Planning and Management; Healthcare Operations

Non-Academic Consulting:

FMC Corporation, Rohm & Haas, Campbell Soup, American Olean Tile, Armstrong World Industries, American Cyanamid, Lockheed-Martin, Thomas Jefferson University, US Small Business Administration, Mannington Mills, and iMedium

Editorial Review Board Member, *American Journal of Mathematical and Management Sciences*
Editorial Review Board Member, *IEEE Transactions on Engineering Management*

Recent Selected Articles:

“Analytics Capabilities and the Decision to Invest in Analytics,” Oct. 2016, *Journal of Computer Information Systems*

“Exploring a Measurement of Analytics Capabilities,” Jan. 2016, *Business Economics*

“Outbound Logistics Performance and Profitability: A Taxonomy of Manufacturing and Service Organizations,” *Business and Economics Journal*, 2016

Recent Conference Papers and Presentations:

2018 Northeast Decision Sciences Conference
Providence, RI, April 12 - 14, 2018

“The Effect of Estimation Uncertainty in the Quality Function for the Continuous Time-Cost-Quality Tradeoff Project Scheduling Problem,” with B. Pollack-Johnson

INFORMS (The Institute for Operations Research and the Management Sciences) Annual Meeting
Nashville, Tenn., Nov. 2016

“Project Planning and Scheduling to Maximize Expected Quality in the Presence of Stochastic Time Delays”

2016 Northeast Decision Sciences Institute Meeting
Alexandria, Va., April 2016

“An Experimental Study Comparing User Performance on Laptops and Tablet Computers Using Cloud-Based Analytics Software”

World Presidents Organization (WPO) and Young Presidents Organization (YPO) Meeting
Chester, Pa., Jan. 2015

“Analytics and Big Data: The Opportunity and the Challenge”

Professional Memberships:

Decision Sciences Institute, INFORMS, Project Management Institute

Wenhong Luo, PhD

The John and Rachel Cashwell Emerging Scholar in Management Information Systems Associate Professor, Accountancy & Information Systems



BS, East China Normal University Shanghai, China

MBA, Nijenrode University The Netherlands

PhD, University of Kentucky—Lexington, Ky., USA. Management Information Systems

Recent Courses Taught:

KPMG MS Accounting/Analytics: Data: Models, Analysis and Visualizations

Expertise and Research Interests:

Business Intelligence; Business Analytics Skill Assessment; Business Analytics Capability Assessment; Data Visualization; Health Care Analytics; Fact-Based Decision Making; QlikView Applications

Non-Academic Consulting:

Editorial Review Board Member, *Information and Management*

Recent Selected Articles:

Luo, W. "Responsibility and Skills Requirements for Entry Level Analytics Professionals," **Journal of Organizational and End User Computing**, Vol. 28, No. 4, 2016

Luo, W. "The Inclusion of CIOs in Top Management Teams: A Longitudinal Study of the Strategic Role of IT," *Information Resource Management Journal*, Vol. 29, No. 3, 2016

Luo, W., "Redefining IT Skills in the Undergraduate Business Curriculum: A Business Analytics Perspective," *Journal of Management Systems*, Vol. 25, No. 1, 2015

Liberatore, M. and Luo, W. "ASP, The Art and Science of Practice: A Comparison of Technical and Soft Skill Requirements for Analytics and OR Professionals," *Interfaces*, Vol. 43, No. 2, 2013

Luo, W., Cook, D., and Karson, E.J. "Search Advertising Placement Strategy: Exploring the Efficacy of the Conventional Wisdom," *Information & Management*, Vol. 48, 2011

Recent Conference Papers and Presentations:

2016 Western Decision Science Institute

Las Vegas, Nev., April 2016

"CIO and Functional Representation on the TMT: A Market Basket Analysis"

Professional Memberships:

Decision Sciences Institute

Stephen Mahar, PhD

The Richard J. and Barbara Naclerio

Scholar in Analytics

Associate Professor, Management & Operations

Faculty Director, Master of Science in Analytics



BA, SUNY College at Geneseo—Mathematics

BS, Rochester Institute of Technology—Mechanical Engineering

MBA, Indiana University

PhD, Indiana University—Operations Management & Decision Sciences

Recent Courses Taught:

Undergraduate: Data Mining—Business Analytics

MS Analytics: Intro to Business Analytics—Advanced Business Applications

MBA: Intro to Business Analytics

Executive MBA: Applied Analytics

Expertise and Research Interests:

Supply Chain Management; Operations Management; Multi-Channel Supply Chains; Analytics Applications; Health Care Services; Innovative Education in Operations and Decision Sciences

Recent Selected Articles:

“Beyond Patient Classification: Using Individual Patient Characteristics in Appointment Scheduling,” with Peter Salzarulo and Sachin Modi, *Production and Operations Management*, 25(6), 2016, 1056-1072.

“Optimizing Marketer Costs and Consumer Benefits Across ‘Clicks’ and ‘Bricks,” with P. Daniel Wright, K. M. Bretthauer, and R. P. Hill, *Journal of the Academy of Marketing Science*, 42, 2014, 619-641.

“Eli Lilly and Company Uses Integer Programming to Form Volunteer Teams in Impoverished Countries,” with W. Winston and P. Daniel Wright, *Interfaces*, 43(3), 2013, 268-284.

“Centralized Nurse Scheduling to Simultaneously Improve Schedule Cost and Nurse Satisfaction,” with P. Daniel Wright, *Omega*, 41(6), 2013, 1042-1052.

Professional Membership:

Decision Sciences Institute

Bret Myers, PhD

Assistant Professor, Management & Operations

BS, University of Richmond—Business Administration
MS, University of Virginia—Systems Engineering
PhD, Drexel University—Decision Sciences



Recent Courses Taught:

Undergraduate: Operations Management; Business Analytics
MS Analytics: Introduction to R Programming; Advanced Applications in Analysis
MBA: Analytics in Sports Business; Business Operations in the 21st Century; Business Process Analysis Using Simulation

Expertise and Research Interests:

Analytics in Business and Sports; Programming and Data Analysis in R

Other Academic Positions:

Lecturer—School of Professional Studies, Columbia University

Non-Academic Consulting:

Consultant, Toronto FC
Editorial Review Board Member, *Journal of Sports Analytics*

Recent Selected Articles:

“On the Relationship between Attacking Third Passes and Success in the English Premier League,” Sept. 2016, *The Sport Journal*

“Revisiting the Ranking of Outstanding Professional Sports Records,” July 2015, *Journal of Sports Analytics*

“A proposed decision rule for the timing of soccer substitutions,” 2012 *Journal of Quantitative Analysis in Sports* 8(1)

“A Simulation-Optimization Approach to the Inventory Management of Two Perishable and Substitutable Items,” Nov. 2011, *Academy of Business Disciplines Journal*

Recent Conferences Papers and Presentations:

Sports Analytics Innovation Summit
San Francisco, Calif., Sept. 2014
“Building an Analytical Professional Soccer Club”

INFORMS (The Institute for Operations Research and the Management Sciences) Annual Meeting
Minneapolis, Minn., Oct. 2013

“Using Analytic Hierarchy Process (AHP) to Determine the Most Outstanding Sports Record”

Robert Nydick, PhD

Professor, Management & Operations

BS, Philadelphia University
MS, University of Pennsylvania
PhD, Temple University



Recent Courses Taught:

Undergraduate: Advanced Analytics; Data Mining
MS Analytics: Analytical Methods for Data Mining
KPMG MS Accounting/Analytics: Data Mining
MBA: Analytical Methods for Data Mining

Expertise and Research Interests:

Analytic Hierarchy Process; Public Health; Data Mining; Decision Support and Education of Management Science; the Analytic Hierarchy Process in Medical Decision-Making Settings

Non-Academic Consulting:

The Development of Decision Support Systems for Men Considering Prostate Cancer Early Detection (a study funded by Aetna US Health Care and the Department of Defense), 1998–2001; Consultant, Factors to Support Effective Discharge Decision Making (a study funded by the Department of Health and Human Services, the National Institutes of Health [NIH], and the National Institute of Nursing Research), 2002

Recent Selected Articles:

“Revisiting the Ranking of Outstanding Professional Sports Records,” July 2015, *Journal of Sports Analytics*

“Factors Identified by Experts to Support Decision Making for Post-Acute Referral,” *Nursing Research*, Vol. 58, No. 2 (2009)

“Helping Men Decide about Scheduling a Prostate Cancer Screening Exam,” *Interfaces*, Vol. 39, No. 3 (2009)

“The Analytic Hierarchy Process in Medical and Health Care Decision Making: A Literature Review,” *European Journal of Operational Research*, Vol. 189 (2008)

Recent Conferences Papers and Presentations:

INFORMS (The Institute for Operations Research and the Management Sciences) Annual Meeting
Minneapolis, Minn., Oct. 2013

“Using Analytic Hierarchy Process (AHP) to Determine the Most Outstanding Sports Record”

Alicia Strandberg, PhD
Assistant Professor,
Management & Operations
Faculty Advisor,
Business Analytics Student Society



BA, Rutgers University—Mathematics and Economics
MS, Villanova University—Applied Statistics
PhD, Temple University—Statistics

Courses Taught:

Undergraduate: Business Analytics
MS Analytics: Multivariate Data Analysis; Advance Applications
EMBA: Applied Analytics

Expertise and Research Interests:

Analytics; Applied Statistical Methods; Robust Methods; Data Mining; Variance Ratio Tests

Non-Academic Consulting:

Towers Perrin

Recent Selected Articles:

Jones, C., Campbell, K., Strandberg, A. G. (2016). A Major Selection Problem. *Significance*, 13(6), 10-11.

Garwood, K. C., Strandberg, A. G. (2016). Measuring Agreement among Ranks - Sustainability as an Application: Sustainability Application. *International Journal of Business Intelligence Research (IJBIR)*, 7(1), 45-62.

Campbell, K., Strandberg, A. G., Clements, N. (2016). Optimizing Resources to Better Forecast Future Profits. In Kenneth D Lawrence, Ronald K Klimberg (Eds.), *Advances in Business and Management Forecasting* (Volume 11, 1st ed., pp. 3 - 17). Emerald Group Publishing Limited.

Strandberg A.G. and Garwood K.C. (2014) Online Teaching Best Practices. *Academic and Business Research Institute's Journal of Instructional Pedagogies*, Vol. 4.

"Detecting Randomness: A Review of Existing Tests with New Comparisons." *Communications in Statistics- Simulation and Computation*, Jan. 2014

"A Nonparametric Test for Deviation from Randomness with Applications to Stock Market Index Data." *Communications in Statistics- Simulation and Computation*, Jan. 2013

Recent Conferences Papers and Presentations:

Pennsylvania Institute of Certified Public Accountants
Hershey, Pa., July 2015

"How Schools are Incorporating Analytics into Their Curriculum"

AABRI International Conference- Academic and Business Research Institute
Orlando, Fla., January 2015

"Online Teaching Best Practices to Better Engage Students with Quantitative Material"

William Wagner, PhD

Associate Professor, Accountancy & Information Systems

Coordinator, SAP University Alliance

Associate Department Chair (MIS)



BA/BPhil, Miami University of Ohio—Latin and Greek: Interdisciplinary Studies

MA, University of Kentucky—Classical Languages

MBA, University of Kentucky

PhD, University of Kentucky—Management Information Systems

Courses Taught:

Undergraduate: Enterprise Systems and Applications; Information Technology; CRM and Data Analytics

MS Analytics: Business Intelligence; Enterprise Data Management

MS Church Management: Information Technology

MBA: Customer Relationship Management; Dashboard Analytics; Mobile Applications

Expertise and Research Interests:

Immersive Technologies (AR/VR); ERP; Expert Systems/Applied AI; CRM; Big Data/Hadoop

Non-Academic Consulting:

Sponsored Research, Google, Inc: Wearable Computing Applications for People with Disabilities

Editorial Review Board Member, *Journal of Management Systems*

Editorial Review Board Member, *International Journal of Intelligent Technologies*

Recent Selected Articles:

“Trends in Expert System Development: A Longitudinal Content Analysis of Over Thirty Years of Expert System Case Studies.” *Expert Systems with Applications*, Volume 76, 15 June 2017, Pages 85–96.

“Mobile App Development: A Cross-Discipline Team-Based Approach to Student and Faculty Learning,” *Journal of Engineering Entrepreneurship* (JEEN). 2016.

“Analysis of the Factors Effecting the Adoption of Location-Based Services for Mobile Commerce.” Proceedings of the 2013 International Decision Sciences Institute Conference in conjunction with Asia Pacific Decision Sciences Conference, Jan. 2013

“Developing Dashboards for Performance Management.” *CPA Journal*, Jan 2013

“The Promise of Hyper-Encryption: Eternal Secrecy Using the Bounded Storage and Limited Access Models” *Information Security Journal: A Global Perspective*, Jan. 2013

“The Effective Design of Church Websites: Extending the Consumer Evaluation of Websites to the Non-Profit Sector” *Information Systems Management*, April 2013

Recent Conferences Papers and Presentations:

Northeast Decision Sciences

Alexandria, Va., April 2016

“An Experimental Study Comparing User Performance on Laptops and Tablet Computers Using Cloud-Based Analytics Software”

European and Middle Eastern Conference on Information Systems

Athens, Greece, June 2015

“Knowledge Acquisition Techniques, Problem Domains and System Success: A Content Analysis of Expert System Case Studies”

IRMA

Ottawa, Canada, May 2015

“User Preference Analysis of Internet Social Media Services”

Professional Membership:

American SAP Users Group, Decision Science Institute; Association of Information Systems (AIS)

Daniel Wright, PhD

Associate Professor, Management & Operations Faculty Director, Center for Business Analytics

BS, James Madison University
MBA, Indiana University
PhD, Indiana University—Operations Management



Courses Taught:

Undergraduate: Business Analytics; Operations Management
KPMG MS Accounting/Analytics: Intro to Business Analytics
MBA: Global Practicum; Change Management

Expertise & Research Interests:

Operations Management; Supply Chain Management; Workforce Scheduling; Health Care Applications; Retail/E-tail Supply Chains

Recent Selected Articles:

"Optimizing Retailer Costs and Consumer Benefits Across 'Clicks' and 'Bricks,'" *Journal of the Academy of Marketing Science*, 42, 2014.

"Eli Lilly and Company Uses Integer Programming to Form Volunteer Teams in Impoverished Countries," *Interfaces*, 43(3), 2013.

"Centralized Nurse Scheduling to Simultaneously Improve Schedule Cost and Nurse Satisfaction," with S.Mahar, *OMEGA*, 41(6), 2013.

"Retail/E-Tail—New Challenges and Opportunities for Supply Chain Management," *Production and Inventory Management Journal*, 47(2), 2011.

"Strategies for Addressing the Nursing Shortage: Coordinated Decision Making and Workforce Flexibility," *Decision Sciences*, 41(2), 2010.

Professional Memberships:

Production and Operations Management Society
INFORMS
Decision Sciences Institute

About Villanova School of Business

The Villanova School of Business (VSB) has been at the forefront of business education since it was founded in 1922. Serving over 2,500 undergraduate and graduate students, VSB is home to seven Centers of Excellence (the Daniel M. DiLella Center for Real Estate, Charlotte and James V. O'Donnell Center for Professional Development, the Center for Business Analytics, the Center for Global Leadership, the Center for Marketing & Public Policy Research, the Center for the Study of Church Management & Business Ethics and the Center for Innovation, Creativity, and Entrepreneurship (ICE) Center) with each center designed to foster innovative, cross-disciplinary research and teaching opportunities for business faculty. VSB is known for academic rigor; creativity and innovation; hands-on and service learning opportunities; a firm grounding in ethics; and an applied education that prepares students to become outstanding leaders and global citizens within the ever-changing, complex, and fast-paced world of business. For more, visit business.villanova.edu.

Contact Us

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Villanova School of Business