

Program Chair's Message



Welcome to the 2013 DSI Annual Meeting! This conference promises to be an exciting event with thought-provoking plenary and showcase speakers, an extensive array of professional development opportunities, a number of sessions featuring industry experts, and approximately 800 scheduled presentations and more than 300 scheduled sessions. The

organizing committee has put together an exciting program. Below are a few highlights.

Plenary Talks

Consistent with this year's theme, the conference will feature two plenary sessions by leading experts in the decision analytics area (see more information on the following page):

- **Wayne Winston**, John and Esther Reese Professor of Decision Sciences at Indiana University
"Sports Analytics"—Sunday, November 17, 10:30 a.m.
- **Radhika Kulkarni**, Vice President of Advanced Analytics R&D at SAS Institute Inc.
"Transforming the Data Deluge into Data-Driven Insights: Analytics that Drive Business Value"—Monday, November 18, 10:30 a.m.

Best Paper Awards

Congratulations to the authors of the Best Paper Awards. See the list of winners and presentation times on page v.

Professional & Faculty Development Program

Do you want to learn more about structural equation modeling and PLS from leading scholars? Learn from Professors George Marcoulides and Wynne Chin as they share their insights. Want to hear about research trends in SCM and MIS? Would you like to meet the journal editors on a one-one basis? The Professional & Faculty Development program provides a great opportunity for enhancing research, teaching, and service skills. Check out the agenda on page xxii.

Showcase Track—"Decision Analytics"

New to the annual meeting is the "Decision Analytics Track." The following are some featured sessions from this track:

- **Bayesian Ensemble Learning for Big Data**, Robert McCulloch, University of Chicago
Sunday, November 17, 8:30 - 10:00 a.m.
- **Business Analytics at Ernst & Young: Perspectives and Trends**, Amber Morgan, Ernst & Young
Saturday, November 16, 3:30 - 5:00 p.m.
- **IBM Big Data Strategy and Analytics Perspectives**, Kendrick Heath, IBM
Sunday, November 17, 1:30 - 3:00 p.m.
- **Business Analytics Programs and Curricula**, Gilvan Souza, Indiana University; Michael Rappa, North Carolina State; William Miller, Accenture; Amber Morgan, Ernst & Young; Michael Galbreth, University of South Carolina; Bogdan Bichescu, University of Tennessee
Saturday, November 16, 3:30 - 5:00 p.m.
- **Location Analytics**, Paul Amos, University of Pennsylvania, The Wharton GIS Lab
Monday, November 18, 1:30 - 3:00 p.m.
- **Social Media Intelligence**, Wendy Moe, University of Maryland
Saturday, November 16, 10:30 a.m. - 12:00p.m.

Other Featured Sessions from Various Tracks

- **Healthcare Track. Healthcare Systems and Their Use of OM/DS Techniques.**
Dan Delay, Baltimore and Washington D.C. Health Ministries of Ascension Health; KaLeena Weaver, Solution Integration; Linda LaGanga, Mental Health Center of Denver
Sunday, November 17, 1:30 - 3:00 p.m.
- **International Business Track. Audi in Hungary.**
Martin Schuster, Audi Hungaria Motor Kft; János Rechnitzer, Széchenyi University; Péter Földesi, Széchenyi University; Edit Süle, Széchenyi University
Sunday, November 17, 1:30 - 3:00 p.m.

see **PROGRAM CHAIR**, page iii

Contents

Keynote Presentations.....	ii	Fellows Track	xx
Instructional Innovation Award Competition	v	Doctoral Student Consortium.....	xxi
2013 Fellow & Paper Award Winners.....	v	Classroom Technology Sandbox.....	xxii
Doctoral Dissertation Competition	vi	Professional & Faculty Development Program.....	xxiii
Best Teaching Case Award Competition.....	vii	Specific Interest Group: Project Management	xxiii
Exhibitors.....	vii	Specific Interest Group: Making Statistics More Effective	xxiv
Media Resources, Wireless Access.....	vii	Track Sessions at a Glance	xxv
CPE Credit	vii	Special Events/Meetings	xxx
General Meeting Information.....	ix	Hotel Floorplans.....	xxxii
Donors, Contributors & Sponsors.....	x	Saturday Sessions	1
Acknowledgements	xi	Sunday Sessions.....	47
DSI Officers & Appointed Officials.....	xii	Monday Sessions	81
Schedule Overview	xiii	Tuesday Sessions.....	117
New Faculty Development Program	xx	Participant Index.....	131

DSI 2013 Annual Meeting Keynote Presentations

The 2013 DSI Annual Meeting will feature these exciting plenary talks by leading professionals and academics in the decision sciences.



Wayne Winston
on "Sports Analytics"

Sunday, November 17, 10:30 am
HB Salon A (4th Floor)

Beginning with Michael Lewis' *Moneyball*, there has been increasing interest in how "analytics" can improve performance of sports teams. This talk will present a primer describing the analytics used by baseball, football, and basketball teams to improve player selection, lineup selection, and in game decision making.

Wayne Winston is the John and Esther Reese Professor of Decision Sciences at the Kelley School of Business at Indiana University. In January 2014 he will become a visiting professor at the Bauer School of Business at the University of Houston. He holds a BS in mathematics from M.I.T. and a PH.D in operations research from Yale. He has won over 30 teaching awards, including the Top MBA teaching award (five times). He has written over a dozen books including *Operations Research*, *Practical Management Science*, *Excel 2010 Data Analysis*, and *Business Modeling and Mathematics*. He has taught classes or consulted for many organizations including Broadcom, Roll Global, Booz Allen, Deloitte, Dallas Mavericks, New York Knicks, Ford, Pfizer, Microsoft, Cisco, Medtronic, US Army, Eli Lilly, 3M, and GM. He is also a two-time Jeopardy! champion.



Radhika Kulkarni
on "Transforming the Data
Deluge into Data-Driven
Insights: Analytics that Drive
Business Value"

Monday, November 18, 10:30 am
HB Salon A (4th Floor)

Data volumes continue to increase at a rapid pace along with a need to solve complex business problems based on insight gained from hybrid sources of data. At the same time, computing power and access to multi-processor hardware configurations enable us to solve increasingly complex problems in a fraction of the time it used to take earlier. These driving forces provide the impetus to develop analytical software tools and solutions that provide more powerful algorithms to address scalability as well as performance by exploiting multi-core platforms and cost-effective distributed computing environments; more flexible models to address an ever increasing range of applications; better visualization techniques that are suited to the different analyses; and easier deployment of complex analytical algorithms for wider use across the enterprise.

Radhika Kulkarni is Vice President of Advanced Analytics R&D at SAS Institute, Inc. She oversees software development in many analytical areas including statistics, operations research, econometrics, forecasting and data mining. Her division is also responsible for providing key components of business analytics solutions in several areas including finance, retail, marketing, hospitality and supply chain. Kulkarni is an active member in the Institute for Operations Research and Management Science (INFORMS) and serves on the advisory board of the Institute for Advanced Analytics at North Carolina State University, The Center for Hospitality Research at Cornell University, and the Marketing Analytics and Data Mining Board at Oklahoma State University. She has a master's in mathematics from the Indian Institute of Technology, New Delhi, and a master's and Ph.D. in operations research from Cornell University.

- **Fellows Track. *Advances in Research and Practice on Sustainability I.***

Soumen Ghosh, Georgia Institute of Technology; Manoj K. Malhotra, University of South Carolina; Ram Narasimhan, Michigan State University; Aleda Roth, Clemson University
Sunday, November 17, 1:30 - 3:00 p.m.

- **Fellows Track. *Advances in Research and Practice on Sustainability II.***

Soumen Ghosh, Georgia Institute of Technology; Jatinder Gupta, University of Alabama in Huntsville; Nada R. Sanders, Lehigh University; Asoo Vakharia, University of Florida
Monday, November 18, 3:30 - 5:00 p.m.

- **Services Management Track. *Frontiers in Service Management Research.***

Aleda Roth, Clemson University; Rohit Verma, Cornell University; Mark M. Davis, Bentley University; Kingshuk K. Sinha, University of Minnesota
Sunday, November 17, 3:30 - 5:00 p.m.

- **Services Management Track. *Professional Service Operations Management.***

Mike Lewis, University of Bath School of Management; Janelle Heineke, Boston University; Jean Harvey, University of Quebec in Montreal
Monday, November 18, 1:30 - 3:00 p.m.

- **Strategic Sourcing/Supply Management Track. *Services Sourcing and the Triple Bottomline.***

W.C. Benton, The Ohio State University; Thomas Choi, Arizona State University; Christopher Craighead, The Pennsylvania State University; Aleda Roth, Clemson University; Stephan M Wagner, Swiss Federal Institute of Technology Zurich
Saturday, November 16, 3:30 - 5:00 p.m.

- **Strategic Sourcing/Supply Management Track. *Research in Sustainable Sourcing and Supply Management: Where Are We Heading?***

Constantin Blome, Université Catholique de Louvain; Ram Narasimhan, Michigan State University; Daniel Guide, Pennsylvania State University; Robert D. Klassen, Richard Ivey School of Business; Jayanth Jayaram, University of South Carolina; Antony Paulraj, Southern Denmark University
Monday, November 18, 3:30 - 5:00 p.m.

- **Supply Chain Management Track. *Research Needs in Healthcare, Retail and Defense Using Analytics: Practitioner's Perspective***

Gloria Wren, Loyola University; Chris Panagiotopoulos, LifeBridge Health; Doug Norton, Northrop Grumman Aerospace Systems; Erik Van Ommeren, Sogeti; Shawn Herrin, Under Armour
Monday, November 18, 3:30 - 5:00 p.m.

- **Sustainable Operations Track. *Sharing the Wealth: The Interdisciplinary Nature of Sustainability Research***

Michael Russo, University of Oregon; Joseph Sarkis, Clark University; Nagesh N Murthy, University of Oregon
Sunday, November 17, 8:30 - 10:00 a.m.

Award Competitions

Congratulations to the finalists of the DSI award competitions: Elwood S. Buffa Doctoral Dissertation Award Competition, Instructional Innovation Award Competition, and Best Teaching Case Studies Award Competition. The winners of these competitions will be selected after their presentations at the conference. Please see the list of finalists and the times of the competition sessions on the following pages.

Specific Interest Groups (SIG) and Track Caucus:

- **SIGS.** The SIGS on Project Management (PM) (see page xxiii) and Making Statistics More Effective in Schools of Business (MSMESB) (page xxiv) are active at the annual meeting this year. PM has seven sessions, while MSMESB has 10 sessions.

- **Track Caucus:** Track Caucuses provide an opportunity for members with shared interests to network and explore potential collaboration, including establishing a Specific Interest Group. Join like-minded scholars and explore common research interests.
Monday, November 18, 5:00 - 6:00pm

Special Event—Classroom Technology Sandbox

The DSI 2013 special event, Classroom Technology Sandbox, will take place on Sunday, November 17, and present a new venue for trying out technical products for classroom use (see page xxi). The event is open to all conference attendees. Attendees don't just meet the technology vendors but also get to experiment with the products and learn from colleagues who are already using the technology in the classroom. Participating vendors include Cengage, Ivy Software, Responsive Learning Technologies and SAS/JMP.

Special Workshop-Microsoft Windows 8 and DreamSpark Premium

On Monday, November 18, Microsoft Executive Bradley K. Jensen will hold two workshops where he will demonstrate how to leverage Windows 8 and DreamSpark in the classroom. He will also share success stories from educators who have in-class experiences with both. Bring a Windows 8 laptop to these hands-on workshops.

New Talent Showcase

PhD students will showcase their research in several sessions enabling employers to observe job market candidates present (see page xxix).

Meals and Networking Opportunities

Continental breakfasts will be offered from 7:45-8:15 a.m. on Sunday and Monday, and 7:30-8:00 a.m. on Tuesday. The **Welcome Reception** will be held on Saturday from 6:00-7:00 p.m. On Sunday, the **Fellows Appreciation Luncheon** will take place from noon-1:00 p.m. The **President's Reception** will follow on Monday, 6:00-7:00 p.m, with the **President's Luncheon** being held from 11:30-1:00 p.m. on Tuesday. Please join us during these events and take the opportunity to engage with colleagues, catch-up with friends, and extend your networks.

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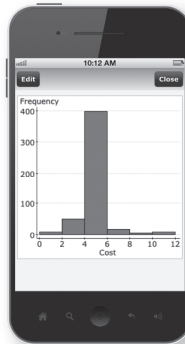
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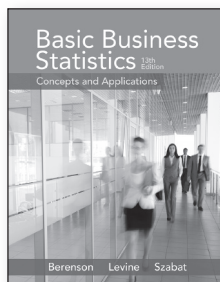


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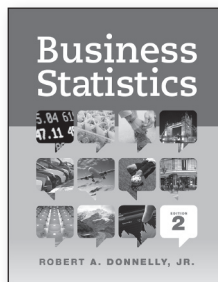
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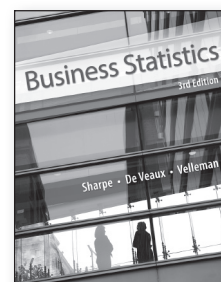
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2013 Instructional Innovation Award Competition Finalists

Co-sponsored by Alpha Iota Delta and Frank G. Zarb School of Business, Hofstra University

Instructional Innovation Award—Finalists

Monday, November 18th, 8:30-10:00 am | ATLANTIC

The Instructional Innovation Award Competition seeks to recognize outstanding contributions that advance instructional approaches within the decision sciences. Four finalists have been chosen to present their papers as part of the competition. The winner will be determined after the finalists' presentations.

Teaching Innovations Using Active and Team-Based Learning in Business Classrooms

Brent Kitchens (University of Florida)
Tawnya Means (University of Florida)
Yinliang Tan (University of Florida)

Three instructors share their teaching experiences using innovative team-based learning and active learning strategies in both traditional and active learning studio classrooms. They describe the classrooms, teaching philosophy, methods, and results of student evaluations as well as discuss the transferability of these lessons.

The Integrative Business Experience (IBE): An Integrated, Hands-On Foundation for Undergraduate Business Education

Larry Michaelsen (University of Central Missouri)

In the Integrative Business Experience students take four courses, get a bank loan, start-up a business and use the profit to finance a

hands-on community service project. IBE student businesses have received \$110,025 in loans, generated revenue of \$416,298 and a profit of \$229,058, and given 15,796 hours of service.

The Power '20 Questions': Increasing Student Interest and Engagement with Business Cases by Turning Them into Consulting Exercises

Sinan Erzurumlu (Babson College)

How can you get undergraduate students more engaged with business cases? This approach transforms case-based learning from a passive analysis of case details to an active process of discovery through smart questioning.

'Supply Chain—Marketing Shark Tank' Experiential Lab Game in Interdisciplinary Business Education: Qualitative and Quantitative Analyses

Anshu Saxena Arora (Savannah State University)
Amit Arora (Georgia Southern University)

In order to strengthen the interdisciplinary business education, we introduced the Supply Chain – Marketing (SC-Mark) Shark Tank experiential lab game for our 161 undergraduate students in 'Advertising and Promotion Management' and 'Supply Chain Management' courses; and measured its effectiveness both qualitatively and quantitatively.

Coordinator: Kaushik Sengupta (Hofstra University)

2013 Fellow & Paper Award Winners

2013 FELLOW

Asoo J. Vakharia, University of Florida

BEST APPLICATION AWARD

Winner:

Supply Chain Planning at a Chemical Process Industry

Nils-Hassan Quttineh, Linköping University
Helene Lidestam, Linköping University

[#17, Saturday, Nov 16th, 2013, 8:30-10:00 a.m. | GB Salon IV]

BEST THEORETICAL/EMPIRICAL RESEARCH AWARD

Winner:

Why Do Some Product Recalls Succeed and Others Fail?: A Grounded Theory Investigation of the Recall Process

Kaitlin Wowak, The University of Notre Dame
Christopher Craighead, The Pennsylvania State University
Dave Ketchen, Auburn University

[#32, Saturday, Nov 16th, 2013, 10:30AM-12:00 p.m. | Falkland]

BEST INTERDISCIPLINARY RESEARCH PAPER

Winner:

Managing Brand Equity in E-Banking: A Simultaneous Equations System Approach

Ta-Wei Kao, The State University of New York at Buffalo
Winston T. Lin, The State University of New York at Buffalo
Hsin-Hsin Chang, National Cheng Kung University
[#111, Sunday, Nov 17th, 2013, 8:30-10:00 a.m. | Dover A]

BEST STUDENT PAPER

Winner:

Conceptualizing Redundancy in Hospital Operations—The Key to Dynamic Balance

Huay Ling Tay, Vikram Bhakoo, and Prakash J. Singh, University of Melbourne, Australia
[#77, Saturday, Nov 16th, 2013, 3:30-5:00 p.m. | Bristol]

Coordinators: Srinagesh Gavimani, Cornell University; Hui Zhao, Penn State University

Best Paper Awards Co-sponsor: University of South Carolina, Center for Global Supply Chain and Process Management, and Department of Management Science

2013 Elwood S. Buffa Doctoral Dissertation Competition

Co-sponsored by Hercher Publishing, Inc., and the Decision Sciences Institute

Elwood S. Buffa Doctoral Dissertation Award—Finalists

Monday, November 18th, 8:30-10:00 am | BRISTOL

The DSI Doctoral Dissertation Award Competition is named in honor of Professor Elwood S. Buffa, UCLA, for his many contributions to the decision sciences. The purpose of the award is to encourage and publicize outstanding research by selecting and recognizing the best dissertations written during 2012 in the decision sciences. The winner will be determined after the finalists' presentations.

An Agent-Based Modeling Approach to Reducing Pathogenic Transmission in Medical Facilities and Community Populations

Sean Barnes (Ph.D. University of Maryland, Advisor: Bruce Golden)
Currently at University of Maryland

Improving Hospital Quality and Patient Safety: An Examination of Organizational Culture and Information Systems

John Gardner (Ph.D. Ohio State University, Advisor: Ken Boyer)
Currently at Brigham Young University

Network Models and Infectious Disease Control: Analysis and Insights

Eva A. Enns (Ph.D. Stanford University, Advisor: Margaret L. Brandeau)
Currently at University of Minnesota School of Public Health

Essays on Service Improvisation Competence: Evidence from the Hospitality Industry

Enrico Secchi (Ph.D. Clemson University, Advisor: Aleda Roth)
Currently at University of Victoria

Coordinator: Arunachalam Narayanan, University of Houston



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2013 Best Teaching Case Studies Award Competition

Sponsored by Loyola University, Maryland – Sellinger College of Business

Best Teaching Case Studies Award—Finalists

Saturday, November 16th, 3:30-5:00 pm | FALKLAND

The Teaching Case Studies Workshop serves an active role in the dissemination of new ideas with respect to case studies topics. Cases may be methodological in nature (i.e., crafted to support the learning of a specific technical skill) or integrative (i.e., designed to foster the integration of scientific approaches and analyses with real-world decision making). The winner will be determined after the finalists' presentations.

Creating Shared Values Through a Socially Responsible Supply Chain: The Case of Samsung Tesco

Yoo-Taek Lee (Boston University School of Management)

This case provides a platform for students to discuss corporate social responsibility in relation to managing supply chains. Built on the concept of creating shared value, widely discussed CSR concept in management strategy, describes how a retailer has developed a socially responsible supply chain.

Where in the World Is Timbuk2? Outsourcing, Offshoring, and Mass Customization

Kyle Cattani (Indiana University)
Gerard Cachon (Wharton School, University of Pennsylvania)
Serguei Netessine (INSEAD Business School)

This case illustrates a successful implementation of mass customization but then asks if this is the only strategy the firm should pursue. In particular, the main focus of the case is whether or not the firm should begin production in China.

Tetra Pak: Sustainable Initiatives in China

Fu Jia (University of Exeter Business School)

The objective of this case is to illustrate Tetra Pak's sustainability strategy, its implementation in supply chain management, and challenges the company faces in a maturing industry as local competitors become ever more sophisticated in business operations.

Coordinator: Arash Azadegan (Rutgers Business University)

Media Resources

Sessions at the Institute's Annual Meeting are organized around different types of sessions ranging from paper presentations, workshops, tutorials, to panel discussions. As in the past, each session room will be equipped with a screen and an LCD projector. Overhead projectors can be requested on-site by calling 1-800-294-3179.

If you would like to order, rent, and pay for other media equipment during the meeting, contact Prestige Audio Visual by calling 1-800-294-3179. Technicians from Prestige AV will be on-site for the duration of the meeting. You should contact Prestige directly for the specific charges and individual payment arrangements.

Wireless Internet Access

Wireless Internet is available on the 3rd floor (Grand Ballroom) and on the 4th floor. Please see the Registration staff for the internet access code.

CPE Credit Available

Continuing Professional Education (CPE) credit will be available to all CPAs attending the 2013 Annual Meeting. CPE forms will be available at the conference registration desks. The forms are similar to those used at AAA national and regional meetings.

Exhibitors

Please plan to visit the exhibitors' booths and receive information on the latest books and the newest equipment and software.

- ActiveScholar, LLC
- Business Expert Press
- Darden Business Publishing
- ECCH
- Forio Online Simulations
- Frontline Systems, Inc.
- Hercher Publishing, Inc.
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2013 General Meeting Information

Conference Registration

Check-in for those who have pre-registered, and registration for those who have not, will be held in the Grand Ballroom (3rd floor) of the Baltimore Marriott Waterfront. Registration hours during the conference are:

Friday, November 15	6:30 pm – 8:30 pm
Saturday, November 16	7:30 am – 5:00 pm
Sunday, November 17	7:30 am – 5:00 pm
Monday, November 18	7:30 am – 5:00 pm
Tuesday, November 19	7:30 am – 11:45 am

Placement Services

Job Placement Services, as well as reserved interview tables, will be set up in the Grand Ballroom (3rd floor) during the following hours:

Saturday, November 16	12:00 pm – 7:00 pm
Sunday, November 17	9:30 am – 5:00 pm
Monday, November 18	7:30 am – 5:00 pm
Tuesday, November 19	7:30 am – 11:30 am

Exhibitors

Major book publishers and representatives of computational equipment will exhibit in the Grand Ballroom (3rd floor) during the following hours:

Saturday, November 16	9:30 am – 5:30 pm
Sunday, November 17	9:30 am – 5:30 pm
Monday, November 18	8:30 am – 5:30 pm
Tuesday, November 19	8:30 am – 11:30 am

New Attendees Welcome/Orientation

Vice President for Member Services Robert Pavur of the University of North Texas welcomes all new DSI attendees to a session to be held on Saturday, November 16, from 5:00 pm – 6:00 pm, in Laurel B (4th floor). Members of the Board of Directors are encouraged to attend.

Annual Meeting Welcome Reception

Program Chair Funda Sahin of the University of Houston welcomes you to the Institute's 44th Annual Meeting. A Welcome Reception, with funding from the Frank G. Zarb School of Business, Hofstra University, will be held on Saturday, November 16, from 6:00 pm to 7:00 pm, in Grand Foyer West (3rd floor). This event will be an excellent opportunity to connect with your colleagues early in the Annual Meeting. The reception will be a cash bar with complimentary hors d'oeuvres.

Fellows Appreciation Luncheon

The Fellows Appreciation Luncheon will be held on Sunday, November 17, beginning at 12:00 pm, in the Harbor Ballroom, Salons C-E (4th floor). The 2013 Fellow, Asoo Vakharia, University of Florida, and the winner of the inaugural Carol J. Latta Memorial DSI Emerging Leadership Award for Outstanding Early Career Scholar will be recognized at this event.

Annual General Business Meeting

The Annual General Business Meeting is open to the membership and will be held on Sunday, November 17, from 5:00 pm to 6:00 pm, in the Harbor Ballroom, Salon A. Presiding are President Maling Ebrahimpour, University of South Florida St. Petersburg, and Treasurer Manus (Johnny) Rungtusanatham, Ohio State University.

President's Reception

The President's Reception, honoring Maling Ebrahimpour, will be held Monday, November 18, from 6:00 pm to 7:00 pm, in the Harbor Ballroom, Salons C-E. Everyone is encouraged to attend.

President's Luncheon

President Maling Ebrahimpour and Program Chair Funda Sahin will thank all participants for contributing to the 44th DSI Annual Meeting at this event, which will be held on Tuesday, November 19, beginning at 11:30 am, in the Harbor Ballroom, Salons C-E. Recipients of the Instructional Innovation Award, Best Paper Awards, the Doctoral Dissertation Award, the Best Case Studies Award, and the Dennis E. Grawoig Distinguished Service Award will be announced.

Continental Breakfasts

With funding from the C.T. Bauer College of Business, University of Houston, we are offering continental breakfasts from 7:45 am to 8:15 am on Sunday and Monday, and on Tuesday from 7:30 am – 8:00 am. Breakfasts will be served in Grand Foyer West.

Proceedings Format

The 2013 Annual Meeting Proceedings, consisting of accepted papers presented during the Annual Meeting, is produced in CD-ROM format only, and is included in the conference registration fee for all registered attendees who wish to receive it. Additional CD-ROM Proceedings can be purchased at a cost of \$25.00.

Local Services

Tours, rental cars, dining, entertainment, babysitting, and childcare services can be arranged by the Marriott's Concierge.

Internet Café

An Internet Café will be provided to all 2013 Annual Meeting attendees in the Grand Ballroom (3rd floor) during conference registration hours.

Donors, Contributors and Sponsors

The Decision Sciences Institute would like to thank the following institutions and companies for their participation in a number of program and nonprogram activities that will be held during the Institute's 2013 Annual Meeting. Through their generous contributions a number of special events and program activities were made possible.

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- Texas State University – San Marcos, McCoy College of Business, Department of CIS & QMST
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- University of Houston, C.T. Bauer College of Business
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Acknowledgements

2013 Annual Meeting Program Chair and Coordinators

Program Chair

Funda Sahin, University of Houston

Proceedings Coordinator

Hope Baker, Kennesaw State University

Job Placement Coordinator

Vivek Shah, Texas State University

Associate Program Chair

Jennifer Blackhurst, Iowa State University

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Stephen Ostrom, Arizona State University

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2013 Annual Meeting Track Chairs and Special Track Chairs

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Decision Analytics

Michael Galbreth, University of S. Carolina
Bogdan Bichescu, University of Tennessee

Marketing

Jeffrey Smith, University of South Florida
Kirk Karwan, Furman University

Strategic Sourcing and Supply Management

Anand Nair, Michigan State University

Healthcare Management

Peter A. Salzarulo, Miami University

Product/Process Innovation

Robert Bregman, University of Houston

Sustainable Operations

Frank Montabon, Iowa State University

Information Systems Management

Norman Johnson, University of Houston
Lakshmi Goel, University of North Florida

Quality Management and Lean Operations

John Gray, Ohio State University

SPECIAL TRACKS:**Fellows Track**

Soumen Ghosh, Georgia Tech

Innovative Education

Janet Hartley, Bowling Green State University

Services Management

Sriram Narayanan, Michigan State University

New Talent Showcase

Manouchehr Tabatabaei, Georgia Southern University

International Business

Gyula Vastag, University of Pannonia

Strategic Management and Organizational Behavior/Theory

Mike Lewis, University of Bath

Logistics Management

Christoph Bode, ETH Zurich

2013 Annual Meeting Coordinators

Best Paper Awards Competition

Srinagesh Gavirneni, Cornell University
Hui Zhao, Pennsylvania State University

Best Teaching Case Studies Award Competition

Arash Azadegan, Rutgers Business University

Doctoral Student Consortium

Daniel Guide, Pennsylvania State University

Elwood S. Buffa Doctoral Dissertation Award Competition

Arunachalam Narayanan, University of Houston

Instructional Innovation Award Competition

Kaushik Sengupta, Hofstra University

New Faculty Development Consortium

Anthony Ross, University of Wisconsin, Milwaukee

Professional Faculty Development

Shawnee Vickery, Michigan State University
Xenophon Koufteros, Texas A&M University

Making Statistics More Effective in Schools of Business Specific Interest Group

Robert L. Andrews, Virginia Commonwealth University

Project Management Specific Interest Group

Gary Klein, University of Colorado
Carla M. Messikomer, Project Management Institute

Special Event: Classroom Technology Sandbox

Natalie Simpson, University of Buffalo
Derek Sedlack, South University

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*The Decision Sciences Institute Board of Directors
extends its deep appreciation to the
J. Mack Robinson College of Business,
Georgia State University, Atlanta, Georgia,
for its contributions to and support of
the Institute's Home Office.*

Schedule Overview

Saturday November 16, 2013

	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Third Floor GB Salon I			7:45a - 10:30a New Faculty Development Consortium							3:00p - 5:15p New Faculty Development Consortium II		
Third Floor GB Salon II			8:00a - 10:30a Doctoral Student Consortium		10:45a - 12:00p Joint Consortium Session: Insights from Academic Deans	12:15p - 1:20p Joint Consortium Luncheon	1:30p - 2:45p Joint Consortium Session: Publishing in Top Journals		3:00p - 5:00p Doctoral Student Consortium II			
Third Floor GB Salon III							1:30p - 3:00p Contextual adaptations in sourcing strategies			3:30p - 5:00p Services Sourcing and the Triple Bottom Line		
Third Floor GB Salon IV		8:30a - 10:00a Applications in SCM		10:30a - 12:00p Emerging Topics in SCM			1:30p - 3:00p Global Supply Chain Management			3:30p - 5:00p Competition and Cooperation in Supply Chains		
Third Floor Atlantic		8:30a - 10:00a Project Decisions		10:30a - 12:00p Project Management Curriculum for Undergraduate Programs: A Cross-Disciplinary Approach			1:30p - 3:00p Information Technology Project Management		3:30p - 5:00p Project Risk Management			
Third Floor Bristol		8:30a - 10:00a Logistics-Marketing Interface		10:30a - 12:00p Personal Aspects of Doing International Business			1:30p - 3:00p Scheduling of Health Resources		3:30p - 5:00p Designing Health Care Systems			
Third Floor Chasseur		8:30a - 10:00a Privacy Concerns with Health Information		10:30a - 12:00p Health Care Technology and Privacy			1:30p - 3:00p Electronic Health Records and Performance		3:30p - 5:00p Health Care Policy and Markets			
Third Floor Dover A		8:30a - 10:00a Service recovery and complaint handling		10:30a - 12:00p General topics			1:30p - 3:00p Enhancing service quality		3:30p - 5:00p Innovation in services			
Third Floor Dover B							1:30p - 3:00p Operational issues in managing services		3:30p - 5:00p Knowledge creation, knowledge management and learning in service systems			
Third Floor Dover C		8:30a - 10:00a Supplier / Buyer Relationship		10:30a - 12:00p Supply Chain / Information Systems Interaction			1:30p - 3:00p Simulation Models and System Dynamics in SCM		3:30p - 5:00p Supply Chain Coordination			
Third Floor Grand Foyer West												6:00p - 7:00p Welcome Reception
Fourth Floor Falkland		8:30a - 10:00a Miscellaneous issues in manufacturing		10:30a - 12:00p Empirical Studies in Logistics Management			1:30p - 3:00p Innovative Logistics Applications		3:30p - 5:00p Best Teaching Case Studies Award Competition			
Fourth Floor Galena		8:30a - 10:00a Customer Interfaces I		10:30a - 12:00p Customer Interfaces II			1:30p - 3:00p Empirical Research in Product/Process Innovation		3:30p - 5:00p Managing Product/Process Innovation			
Fourth Floor Heron		8:30a - 10:00a Reflections on Pedagogy		10:30a - 12:00p Teaching Cases: Ethics and Sustainability			1:30p - 3:00p Tools for Student Engagement		3:30p - 5:00p Teaching Lean and Inventory Management			
Fourth Floor Iron		8:30a - 10:00a IS Adoption and Diffusion		10:30a - 12:00p IS Management and Governance			1:30p - 3:00p Organization and IS		3:30p - 5:00p Human Behavior and IS			

Schedule Overview

Saturday November 16, 2013

	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Fourth Floor James			8:30a - 10:00a Engaging Industry and Students Through Case Competitions		10:30a - 12:00p Instructional Innovations: Flipping the Classroom			1:30p - 3:00p Issues in Academic Administration		3:30p - 5:00p Animated PowerPoint Presentations for Operations and Supply Chain Management: Inventory Systems Applications		
Fourth Floor Essex A			8:30a - 10:00a Definitions of sustainability		10:30a - 12:00p New Developments in Structural Equation Modeling			1:30p - 3:00p New Developments in PLS		3:30p - 5:00p Is PLS a Panacea? A Lively Debate		
Fourth Floor Essex B			8:30a - 10:00a Marketing and Communication Committee		10:30a - 12:00p Sustainability and Decision Making			1:30p - 3:00p Lean and Operations Perspectives on Sustainability		3:30p - 5:00p Finance and Investment Advisory Committee		
Fourth Floor Essex C								1:30p - 3:00p Fellows Committee			5:00p - 6:00p 2013-2014 Asia-Pacific Key Officers	
Fourth Floor HB Salon A					10:30a - 12:00p DSJ Editor, Senior Editors and Associate Editors							
Fourth Floor Kent A & B			8:30a - 10:00a Increase Relevance by Shifting Focus Away from Classical Statistical Mechanics & Hypothesis Testing		10:30a - 12:00p Developing Students' Communications Skills			1:30p - 3:00p Should B-Schools Embrace AP Statistics?		3:30p - 5:00p A Course in Data Discovery and Predictive Analytics		
Fourth Floor Kent C			8:30a - 10:00a Accounting Education		10:30a - 12:00p Accounting Education, etc.			1:30p - 3:00p Financial Accounting		3:30p - 5:00p Financial Accounting (2)		
Fourth Floor Laurel A			8:30a - 10:00a Top Management/HR and "Holistic" Quality and Lean		10:30a - 12:00p Quality-related practices, including six sigma			1:30p - 3:00p Quality Certifications, such as ISO 9001		3:30p - 5:00p Quality and Outsourcing		
Fourth Floor Laurel B								1:30p - 3:00p 2013-2014 Northeast Key Officers		3:30p - 5:00p Value of IS		5:00p - 6:00p New Members Welcome Meeting
Lobby Ground Level Waterview A			8:30a - 10:00a Language, Leadership and Negotiation		10:30a - 12:00p Ethics and Ethical Organizing			1:30p - 3:00p Entrepreneurship and Business Schools		3:30p - 5:00p Green Business		
Lobby Ground Level Waterview B			8:30a - 10:00a Teaching Service Innovation using PCN Analysis		10:30a - 12:00p Social Media Intelligence					3:30p - 5:00p Business Analytics at Ernst & Young: Perspectives and Trends		
Lobby Ground Level Waterview C			8:30a - 10:00a Decision Analytics Methods		10:30a - 12:00p Data Mining			1:30p - 3:00p Decision Analysis		3:30p - 5:00p Decision Analytics Methods II		
Lobby Ground Level Waterview D			8:30a - 10:00a Financial Analytics		10:30a - 12:00p Marketing Analytics			1:30p - 3:00p Analytics in Healthcare		3:30p - 5:00p Analytics for Airline Operations		

Schedule Overview

Sunday November 17, 2013

	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Third Floor GB Salon I				8:30a - 10:00a Strategic Issues in Supply Management					1:30p - 3:00p Supply management in uncertain environment		3:30p - 5:00p Ethics and Environmental Issues in Sourcing		
Third Floor GB Salon II				8:30a - 10:00a Pricing and Retail Models in SCM					1:30p - 3:00p Inventory and Pricing in SCM		3:30p - 5:00p Inventory Modeling in SCM		
Third Floor GB Salon III				9:00a - 9:45a Engage Learning: Digital Homework Solutions	10:00a - 10:45a Ivy Software: Quantitative Pre-Matriculation Materials for MBA Programs	11:00a - 11:45a Engage Learning: Using Technology in the Classroom		1:00p - 2:45p Responsive Learning Technologies		3:00p - 4:45p JMP Software: SAS			
Third Floor GB Salon IV				8:30a - 10:00a Sustainable Supply Chains - I					1:30p - 3:00p Behavioral Effects on Supply Chain Decisions		3:30p - 5:00p Publication Committee		
Third Floor Atlantic				8:30a - 10:00a Lessons Learned: Project Methodologies, Cases, and Instruction					1:30p - 3:00p Choosing the Right Project		3:30p - 5:00p Publishing Opportunities in Project Management		
Third Floor Bristol				8:30a - 10:00a Transportation and Vehicle Routing					1:30p - 3:00p Audi in Hungary		3:30p - 5:00p Country Strategies and Perspectives		
Third Floor Chasseur				8:30a - 10:00a Analyzing Health Delivery Outcomes					1:30p - 3:00p Health Care-Practitioners View		3:30p - 5:00p The Role of Technology in Health Systems		
Third Floor Dover A				8:30a - 10:00a Applications and impact of technology in services					1:30p - 3:00p Disaster recovery, and resilience social issues in service supply chains		3:30p - 5:00p Frontiers in Service Management Research		
Third Floor Dover B				8:30a - 10:00a Studies in the airlines industry									
Third Floor Dover C				8:30a - 10:00a Production/Manufacturing interactions with SCM					1:30p - 3:00p Optimization Models in Supply Chain Management		3:30p - 5:00p Inventory Management in SCM		
Third Floor Grand Foyer West		7:45a - 8:15a Cont'l B'fast											
Fourth Floor Falkland				8:30a - 10:00a Analytical & Empirical Models in Manufacturing					1:30p - 3:00p Advances in Research and Practice on Sustainability I		3:30p - 5:00p Research Trends in Management Information Systems		
Fourth Floor Galena				8:30a - 10:00a Behavioral Aspects of Product/Process Innovation					1:30p - 3:00p Empirical Analysis of Marketing Issues		3:30p - 5:00p Social Media I		

Schedule Overview

Sunday November 17, 2013

	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Fourth Floor Heron				8:30a - 10:00a Bridging Academia and Practice					1:30p - 3:00p Innovations in Information Systems Courses and Curricula		3:30p - 5:00p Instructional Innovations: Learning through Games		
Fourth Floor Iron				8:30a - 10:00a Social Platforms				1:30p - 3:00p General IS Topics (I)			3:30p - 5:00p Electronic and Mobile Business		
Fourth Floor James				8:30a - 10:00a Facilitating the Development of Critical Thinking Skills				1:30p - 3:00p Charting the Future of Innovation in Teaching and Learning			3:30p - 5:00p Using Games in Online OM Courses		
Fourth Floor Essex A & B				8:30a - 10:00a Regional Activities Committee				1:30p - 3:00p Professional & Faculty Development Program: Editor's Panel			3:30p - 5:00p 2013-2014 Southeast Key Officers		
Fourth Floor Essex C				8:30a - 10:00a Research Trends in Supply Chain Management				1:30p - 3:00p Measuring sustainability performance			3:30p - 5:00p Web Based Teaching (WBE)		
Fourth Floor HB Salon A					10:30a - 12:00p Keynote Speech: Sports Analytics							5:00p - 6:00p Annual Business Meeting	
Fourth Floor HB Salon C-E							12:00p - 1:00p Fellows Luncheon						
Fourth Floor Kent A & B				8:30a - 10:00a Creating a Business Analytics Class				1:30p - 3:00p Experiences and Advice on Including Analytics in the Curriculum			3:30p - 5:00p Implications of Big Data for Statistics Instruction		
Fourth Floor Kent C				8:30a - 10:00a Financial Accounting (3)				1:30p - 3:00p International Accounting			3:30p - 5:00p Managerial Accounting		
Fourth Floor Laurel A				8:30a - 10:00a Teamwork Improvement, Quality and Confidential Information Sharing				1:30p - 3:00p Personality, Perception and Technology Acceptance			3:30p - 5:00p Empirical Research in Lean Operations		
Fourth Floor Laurel B				8:30a - 10:00a Process Innovation				1:30p - 3:00p Strategic Planning for International Affairs			3:30p - 5:00p Information Technology Committee		
Fourth Floor Laurel C				8:30a - 10:00a Sharing the Wealth: The Interdisciplinary Nature of Sustainability Research									
Lobby Ground Level Waterview A		7:15a - 8:00a Nondenominational Christian Fellowship Time		8:30a - 10:00a Capitalism and Organizing				1:30p - 3:00p Dynamic Capabilities			3:30p - 5:00p Competitive Dynamics, Power and Growth		
Lobby Ground Level Waterview B				8:30a - 10:00a Stress and Uncertainty				1:30p - 3:00p Knowledge Exchange			3:30p - 5:00p 2013-2014 Southwest Key Officers		
Lobby Ground Level Waterview C				8:30a - 10:00a Game Theoretic Models				1:30p - 3:00p Health Care Analytics II			3:30p - 5:00p Predictive Analytics		
Lobby Ground Level Waterview D				8:30a - 10:00a Bayesian Analysis meets Big Data				1:30p - 3:00p IBM Big Data Strategy and Analytics Perspectives			3:30p - 5:00p The Future of Analytics in Healthcare: Clinical Records		

Schedule Overview

Monday November 18, 2013

	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Third Floor GB Salon I				8:30a - 10:00a Sourcing strategies for managing risk					1:30p - 3:00p Sourcing strategies and practices		3:30p - 5:00p Sourcing and inter-organizational relationship		
Third Floor GB Salon II				8:30a - 10:00a Technological Advances in SCM					1:30p - 3:00p Transportation and Sustainability in SCM		3:30p - 5:00p Research in Sustainable Sourcing and Supply Management: Where are we heading?		
Third Floor GB Salon III				8:30a - 10:00a Workshop: How to Leverage Windows 8 in Development in the Classroom?					1:30p - 3:00p Microsoft Dreamspark				
Third Floor GB Salon IV				8:30a - 10:00a Sustainable Supply Chains - II					1:30p - 3:00p Innovation in SCM		3:30p - 5:00p Innovation and Security in SCM		
Third Floor Atlantic				8:30a - 10:00a Instructional Innovation Award Competition					1:30p - 3:00p Logistics and Transportation Services		3:30p - 5:00p Distribution, Warehousing and Inventory Management		5:00p - 6:00p Track Caucus: Quality Management and Lean Operations
Third Floor Bristol				8:30a - 10:00a Elwood S. Bufa Doctoral Dissertation Award Competition					1:30p - 3:00p Operations of International Business		3:30p - 5:00p Cultural Dimensions of International Business		5:00p - 6:00p Track Caucus: Services Management
Third Floor Chasseur				8:30a - 10:00a Health Care Supply Chain Management					1:30p - 3:00p Strategic Supply Management in Health Systems		3:30p - 5:00p Process Improvement in Health Delivery		5:00p - 6:00p Track Caucus: Strategic Sourcing/Supply Management
Third Floor Dover A				8:30a - 10:00a Managing inventory and suppliers in services					1:30p - 3:00p Professional Service Operations Management		3:30p - 5:00p Topics in service capacity design and allocation		5:00p - 6:00p Track Caucus: Supply Chain Management
Third Floor Dover B									1:30p - 3:00p Topics in buyer-supplier relationships				5:00p - 6:00p Track Caucus: Sustainable Operations
Third Floor Dover C											3:30p - 5:00p Buyer Supplier Relations		
Third Floor Grand Foyer West			7:45a - 8:15a Cont'l B*fast										
Fourth Floor Falkland				8:30a - 10:00a Logistics Network Design Decisions					1:30p - 3:00p Miscellaneous topics in manufacturing		3:30p - 5:00p Advances in Research and Practice on Sustainability II		5:00p - 6:00p Track Caucus: International Business
Fourth Floor Galena				8:30a - 10:00a The Intersection of Marketing and Operations Management					1:30p - 3:00p Social Media II		3:30p - 5:00p New Product Development		5:00p - 6:00p Track Caucus: Logistics Management

Schedule Overview

Monday November 18, 2013

	6:00am	7:00am	8:00am	9:00am	10:00am	11:00am	12:00pm	1:00pm	2:00pm	3:00pm	4:00pm	5:00pm	6:00pm
Fourth Floor Heron				8:30a - 10:00a Manufacturing metrics					1:30p - 3:00p Teaching Cases: Applications of Decision-making		3:30p - 5:00p Emerging Trends in Education	5:00p - 6:00p Track Caucus: Manufacturing Management	
Fourth Floor Iron				8:30a - 10:00a Risk, Security, and Privacy (I)				1:30p - 3:00p Risk, Security, and Privacy (II)		3:30p - 5:00p General IS Topics (II)		5:00p - 6:00p Track Caucus: Marketing	
Fourth Floor James				8:30a - 10:00a Integrating Theory and Practice in the Curriculum				1:30p - 3:00p Enhancing the Classroom Experience through Technology		3:30p - 5:00p Online Teaching and Tools		5:00p - 6:00p Track Caucus: Product/Process Innovation	
Fourth Floor Essex A				8:30a - 10:00a Green Design				1:30p - 3:00p Sustainability in computing and planning		3:30p - 5:00p Sustainability's effects on supply chains			
Fourth Floor Essex B				8:30a - 10:00a 2014 Annual Meeting Program Chair's Visionary Meeting				1:30p - 3:00p Member Services Committee		3:30p - 5:00p DSIE Editor and Associate Editors			
Fourth Floor Essex C		8:10a - 8:30a Alpha Iota Delta: B*Fast		8:30a - 10:00a Alpha Iota Delta Business Meeting									
Fourth Floor HB Salon A					10:30a - 12:00p Keynote Speech: Transforming the Data Deluge into Data-Driven Insights: Analytics that Drive Business								
Fourth Floor HB Salon C-E													6:00p - 7:00p President's Reception
Fourth Floor Kent A & B				8:30a - 10:00a Software Tools for Data Visualization				1:30p - 3:00p Statistics for Decision Making in the Twenty-First Century		3:30p - 5:00p Tips and Experiences from Efforts to Improve the Statistics Class		5:00p - 6:00p Track Caucus: Innovative Education	
Fourth Floor Kent C				8:30a - 10:00a Miscellaneous Accounting Topics				1:30p - 3:00p Contemporary Research in Quality and Lean		3:30p - 5:00p Nominating Committee		5:00p - 6:00p Track Caucus: Accounting and Finance	
Fourth Floor Laurel A				8:30a - 10:00a Data Mining, Integrated Power and supply Network Design				1:30p - 3:00p Efficiency and Firm Performance		3:30p - 5:00p Lean Operations		5:00p - 6:00p Track Caucus: Accounting and Finance	
Fourth Floor Laurel B				8:30a - 10:00a Beta Gamma Sigma				1:30p - 3:00p User involvement in services		3:30p - 5:00p Research Needs in Healthcare, Retail and Defense using Analytics: Practitioner's Perspective		5:00p - 6:00p Track Caucus: Decision Analytics	

New Faculty Development Consortium

[#1] Saturday, Nov 16th, 2013, 7:45-10:30 a.m. | GB Salon I

7:45 - 8:00am: Continental Breakfast and Registration

8:00 - 8:30am: Welcome and Introductions

Anthony Ross (University of Wisconsin Milwaukee)

8:30 - 9:30am: Fellows Panel: What We Did Not Know Then-What You Should Know Now

Panelists:

Julie Kendall (Rutgers University), Peter Ward (The Ohio State University), Manoj K. Malhotra (University of South Carolina), Marc J. Schniederjans (University of Nebraska-Lincoln), Lori S. Franz (University of Missouri)

9:30 - 10:30am: Fellows Panel: Biggest Mistakes Junior Faculty Make and How to Avoid Them

Panelists:

Julie Kendall (Rutgers University), Marc J. Schniederjans (University of Nebraska-Lincoln), Lori S. Franz (University of Missouri), Peter Ward (The Ohio State University), Manoj K. Malhotra (University of South Carolina)

10:30 - 10:45am: Networking Break

[#44] Saturday, Nov 16th, 2013, 10:45 a.m.-12:00 p.m. | GB Salon II

Joint Consortium Session: Insights from Academic Deans

Chair: Anthony Ross (University of Wisconsin Milwaukee)

Panelists: Latha Ramchand, Dean, C. T. Bauer College of Business, University of Houston; Paul M. Bobrowski, Dean, School of Business Administration, University of Dayton; Tim Smunt, Dean, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee; Karyl Leggio, Dean, Sellinger School of Business and Management, Loyola University Maryland

[#45] Saturday, Nov 16th, 2013, 12:15-1:20 p.m. | GB Salon III

Joint Consortium Luncheon

Chair(s): Funda Sahin (University of Houston), Maling Ebrahimpour (USF St Petersburg), Gregory Ulferts (Alpha Iota Delta), James Viehland (Beta Gamma Sigma)

[#46] Saturday, Nov 16th, 2013, 1:30-2:45 p.m. | GB Salon II

Joint Consortium Session: Publishing in Top Journals

Chair: Anthony Ross (University of Wisconsin Milwaukee)

Editors: Asoo Vakharia, University of Florida, Editor, *Decision Sciences Journal*; Vijay Kannan, Utah State Univ., Editor, *Decision Sciences Journal of Innovative Education*; Thomas Choi, Arizona State University, Co-Editor-in-Chief, *Journal of Operations Management*; Daniel Guide, Pennsylvania State University, Co-Editor-in-Chief, *Journal of Operations Management*

2:45 - 3:00pm: Coffee Break

[#71] Saturday, Nov 16th, 2013, 3:00-5:15 p.m. | GB Salon I

3:00 - 4:00pm: Breakout Session A: Navigating the Waters at Teaching/Research University

Panelists:

Laura Birou (Louisiana Tech University), Peggy Daniels Lee (Indiana-Purdue University Indianapolis), G. Keong Leong (University of Nevada Las Vegas), Kathryn Zuckweiler (University of Nebraska at Kearney)

3:00 - 4:00pm: Breakout Session B: Navigating the Waters at Research Universities

Panelists:

Joy Field (Boston College), M. A. Venkataramanan (Indiana University), Jan Olhager (Lund University, Sweden), Thomas J. Kull (Arizona State University)

4:00 - 5:00pm: Enjoying Life as an Academic

Panelists:

Bertie Greer (Northern Kentucky University), Chetan Sankar (Auburn University), Jan Olhager (Lund University, Sweden), Xiaosong David Peng (University of Houston)

5:00 - 5:15pm: Closing Remarks

Anthony Ross (University of Wisconsin Milwaukee)

5:15 - 6:00pm: Reception (Jointly with Doctoral Consortium)

Sponsored by Alpha Iota Delta and Beta Gamma Sigma

Chair: Anthony Ross (University of Wisconsin Milwaukee)

Fellows Track

[#148] Sunday, Nov 17th, 2013, 1:30-3:00 p.m. | Falkland

Advances in Research and Practice on Sustainability I

Soumen Ghosh, Georgia Institute of Technology; Manoj K. Malhotra, University of South Carolina; Ram Narasimhan, Michigan State University; Aleda Roth, Clemson University

[#250] Monday, Nov 18th, 2013, 3:30-5:00 p.m. | Falkland

Advances in Research and Practice on Sustainability II

Soumen Ghosh, Georgia Institute of Technology; Jatinder Gupta, University of Alabama in Huntsville; Nada R. Sanders, Lehigh University; Asoo Vakharia, University of Florida

Coordinator: Soumen Ghosh, Georgia Tech

Doctoral Student Consortium

[2] Saturday, Nov 16th, 2013, 8:00-10:30 a.m. | GB Salon II

8:00 – 8:30 am: Continental Breakfast and Registration

8:30 – 9:00 am: Welcome and Introductions

Presenter: Daniel Guide (Pennsylvania State University)

9:00 – 10:30 am: Best Teaching Practices from the Master

Presenter: Harvey J. Brightman (Georgia State University)

10:30 – 10:45 am: Networking Break

[#44] Saturday, Nov 16th, 2013, 10:45 a.m.-12:00 p.m. | GB Salon II

Joint Consortium Session: Insights from Academic Deans

Chair: Anthony Ross (University of Wisconsin Milwaukee)

Panelists:

Latha Ramchand, Dean, C. T. Bauer College of Business, University of Houston

Paul M. Bobrowski, Dean, School of Business Administration, University of Dayton

Tim Smunt, Dean, Sheldon B. Lubar School of Business, University of Wisconsin-Milwaukee

Karyl Leggio, Dean, Sellinger School of Business and Management, Loyola University Maryland

[#45] Saturday, Nov 16th, 2013, 12:15-1:20 p.m. | GB Salon III

Joint Consortium Luncheon

Presenters:

Funda Sahin (University of Houston)

Maling Ebrahimpour (University of South Florida St Petersburg)

Gregory Ulferts (Alpha Iota Delta)

James Viehland (Beta Gamma Sigma)

[#46] Saturday, Nov 16th, 2013, 1:30-2:45 p.m. | GB Salon II

Joint Consortium Session: Publishing in Top Journals

Chair: Anthony Ross (University of Wisconsin Milwaukee)

Editors: Asoo Vakharia, University of Florida, Editor, *Decision Sciences Journal*

Vijay Kannan, Utah State University, Editor, *Decision Sciences Journal of Innovative Education*

Thomas Choi, Arizona State University, Co-Editor-in-Chief, *Journal of Operations Management*

Daniel Guide, Pennsylvania State University, Co-Editor-in-Chief, *Journal of Operations Management*

2:45 – 3:00 pm: Networking Break

[#70] Saturday, Nov 16th, 2013, 3:00-5:00 p.m. | GB Salon II

3:00 – 4:30 pm: The Transition from Student to Faculty and Your Research Strategy

Panelists:

Daniel Guide (Pennsylvania State University)

James Abbey (The Pennsylvania State University)

Aravind Chandrasekaran (The Ohio State University)

Erika Marsillac (Old Dominion University)

David D. Dobrzykowski (University of Toledo)

4:30 – 4:45 pm: Closing Remarks

5:15 - 6:00pm: Reception (Jointly with New Faculty Consortium)

Sponsored by Alpha Iota Delta and Beta Gamma Sigma

Chair: Daniel Guide (Pennsylvania State University)

Classroom Technology Sandbox

[#125] Sunday, Nov 17th, 2013, 9:00-9:45 a.m. | GB Salon III

Cengage Learning: Digital Homework Solutions

Chair: Sandra S. Mckelvey (Cengage Learning)

[#126] Sunday, Nov 17th, 2013, 10:00-10:45 a.m. | GB Salon III

Ivy Software: Quantitative Pre-Matriculation Materials for MBA Programs

Chair: Robert Nisbet Holt (Ivy Software)

Presenter: Ferebee Smith (Ivy Software)

[#128] Sunday, Nov 17th, 2013, 11:00-11:45 a.m. | GB Salon III

Cengage Learning: Using Technology in the Classroom

Chair: Sandra S. Mckelvey (Cengage Learning)

[#130] Sunday, Nov 17th, 2013, 1:00-2:45 p.m. | GB Salon III

Responsive Learning Technologies

Chair: Sam Wood (Responsive Learning Technologies)

[#154] Sunday, Nov 17th, 2013, 3:00-4:45 p.m. | GB Salon III

JMP Software: SAS

Chair: Curt Hinrichs (JMP Academic Group, SAS Institute, Inc.)

Coordinators: Natalie Simpson, University at Buffalo;

Derek Sedlack, South University

Professional & Faculty Development Program

[#41] Saturday, Nov 16th, 2013, 10:30AM-12:00 p.m. | Essex A

New Developments in Structural Equation Modeling

Chair(s): Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Shawnee K. Vickery (Michigan State University)

Presenter: George Marcoulides (University of California, Riverside)

A fairly large number of academics are using structural equations modeling. Several novel approaches and techniques will be discussed and practical examples will be offered. The level of presentation for the workshop presumes some familiarity with the basic principles of factor analysis. No prior familiarity with the Mplus software is assumed.

[#66] Saturday, Nov 16th, 2013, 1:30-3:00 p.m. | Essex A

New Developments in PLS

Chair(s): Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Shawnee K. Vickery (Michigan State University)

Presenter: Wynne Chin (University of Houston)

PLS is a popular software that offers several advantages over other SEM software packages. In this session a variety of new developments regarding PLS will be discussed and tangible examples will be offered.

[#92] Saturday, Nov 16th, 2013, 3:30-5:00 p.m. | Essex A

Is PLS a Panacea? A Lively Debate

Chair: Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Shawnee K. Vickery (Michigan State University)

Panelists:

Wynne Chin (University of Houston), George Marcoulides (University of California, Riverside)

PLS has seen popular for many years across several disciplines. Many users examine their models via PLS but fail to understand whether the use of PLS is wise given their model specification. The two panelists will discuss the merits and caveats of using PLS.

[#122] Sunday, Nov 17th, 2013, 8:30-10:00 a.m. | Essex C

Research Trends in Supply Chain Management

Chair: Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University)

Panelists:

Shawnee K. Vickery (Michigan State University), Christopher Craighead (The Pennsylvania State University), Subodha Kumar (Mays Business School), Ram Narasimhan (Michigan State University), Stephan M Wagner (Swiss Federal Institute of Technology Zurich (ETH Zurich)), Xiande Zhao (China-Europe International Business School (CEIBS))

The panel will discuss the existing state of research in the field of supply chain management and offer directions for future research. Opportunities for research across a variety of domains will be identified. The panel will identify "hot topics" and relevant methodologies.

[#151] Sunday, Nov 17th, 2013, 1:30-3:00 p.m. | Essex A & B

Professional & Faculty Development Program: Editor's Panel

Chair(s): Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Shawnee K. Vickery (Michigan State University)

Panelists:

Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Thomas Choi (Arizona State University), Stanley E. Fawcett (Weber State University), Daniel Guide (Pennsylvania State University), Johnny Rungtusanatham (Ohio State University), Srinivas Talluri (Michigan State University), Asoo Vakharia (University of Florida), Chad Autry (University of Tennessee, Knoxville)

The session will begin with a brief introduction of each Journal. Panelists will then provide an overview of shifts in topics, theories, and methodologies over the past 20 years and engage in a discussion of current topics and innovations. The editors will offer recommendations for prospective authors.

[#171] Sunday, Nov 17th, 2013, 3:30-5:00 p.m. | Falkland

Research Trends in Management Information Systems

Chair(s): Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Shawnee K. Vickery (Michigan State University)

Panelists:

Shawnee K. Vickery (Michigan State University), Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University), Pankaj Setia (University of Arkansas), Salvatore March (Vanderbilt University), Marcus Rothenberger (University of Nevada - Las Vegas), Greg Heim (Texas A&M University)

The panel will discuss the challenges and opportunities of publishing papers in top journals the field of management information systems. It will discuss the existing state of research and offer directions for future research. The panel will identify "hot topics" and relevant methodologies.

[#172] Sunday, Nov 17th, 2013, 3:30-5:00 p.m. | Essex C

Web Based Teaching (WBE)

Chair: Xenophon Koufteros (Department of Information & Operations Management, Mays Business School at Texas A&M University)

Presenters: Anil Aggarwal (University of Baltimore), Veena Adlakh (University of Baltimore)

Many professors will invariably be called to teach online courses. The session will offer valuable insights regarding e-Learning, m-Learning, social media and gaming.

Coordinators: Shawnee Vickery, Michigan State University; Xenophon Koufteros, Texas A&M University

Specific Interest Group (SIG): Project Management

[#21] Saturday, Nov 16th, 2013, 8:30-10:00 a.m. | Atlantic

Project Decisions

Chair: Gary Klein (University of Colorado, Colorado Springs)

Collaboration between Project Management and Decision Sciences: A Necessity and the Potential Protocols

Non-Refereed Research Abstract

Ramesh Vahidi (The University of Southampton)

There is an extensive and growing literature on developing decision models for project decisions. However, based on a study in the UK, there are gaps between the developed models and the realities of the project environments. This magnifies in significance in terms of project success and failure.

Improved Decision Making by Systemic Stakeholder Analysis Methods in Projects

Non-Refereed Research Abstract

Pernille Eskerod (University of Southern Denmark), Martina Huemann (Vienna University of Economics and Business Administration)

Stakeholder analysis has been a tool to support decision making within project management for many years. Still though, many problems related to project stakeholders can be observed. Based on the research project Rethinking Project Stakeholder Management funded by Project Management Institute, we discuss how systemic methods can improve decision making.

[#42] Saturday, Nov 16th, 2013, 10:30AM-12:00 p.m. | Atlantic

Project Management Curriculum for Undergraduate Programs: A Cross-Disciplinary Approach

Chair(s): (none specified)

[#67] Saturday, Nov 16th, 2013, 1:30-3:00 p.m. | Atlantic

Information Technology Project Management

Chair: Gary Klein (University of Colorado, Colorado Springs)

Absorptive Capacity and System Quality in IS Development Projects

Refereed Research Paper

Julia Li (University of Massachusetts), James Jiang (Australian National University)

The literature lacks a coherent model explaining the deployment of knowledge during a development project. Based upon the absorptive capacity perspective, a formal model is derived to represent the process of applying knowledge maps and open sharing which leads to a system that is more flexible, responsive and efficient.

The Impact of User Involvement on Information System Projects

Non-Refereed Research Abstract

Bradford R. Eichhorn (Cleveland State University), Oya Icmeli Tukul (Cleveland State University)

In this study, we investigate the impact of business users' involvement in IS projects. Our comprehensive Multiple Factor User Satisfaction model refines business requirements into two categories and measures project performance along three dimensions. We empirically tested the model and will present our results.

The Effects of Team Traits on Team Performance in I/S Development Projects

Non-Refereed Research Abstract

Morgan Shepherd (University of Colorado), Julia Li (University of Massachusetts)

This research looks at the effects of team traits as mediated by team operations and flexibility on team performance in I/S development projects. Performance is a function of project learning and quality of the final product. Survey methodology was used to collect data to confirm the model using established measurement constructs.

Antecedents of User Engagement in Software Development Projects

Non-Refereed Research Abstract

Peggy Beranek (University of Colorado Colorado Springs), Gary Klein (University of Colorado, Colorado Springs)

Engaging users in the co-production of software requires aspects of motivation, skill, and psychological safety. A number of potential antecedents to engaging users are derived from theory and prior studies to surface critical factors.

[#93] Saturday, Nov 16th, 2013, 3:30-5:00 p.m. | Atlantic

Project Risk Management

Chair: Gary Klein (University of Colorado, Colorado Springs)

Project Management Dilemmas in a Sharing Economy: A Study of How Project Managers Overcome Obstacles and Manage Risk

Non-Refereed Research Abstract

Julie Kendall (Rutgers University), Ken Kendall (Rutgers University)

We interpret in-depth interviews with project managers from for profit and nonprofit organizations with the objective of codifying project management advice from professional project managers. We use the social constructivist paradigm to better understand how project managers create a shared reality about overcoming their obstacles and minimizing project risk.

Constructive Conflict Resolution Effectiveness in Outsourced IT Programs

Refereed Research Paper

Neeraj Parolia (Towson University), James Jiang (Australian National University)

IT vendors employ program governance techniques to minimize risks associated with conflict among a variety of clients. We consider the management of conflict risks across multiple projects combined as a single program.

Factors that Contribute to Project Delays in Government Sponsored Construction Environments

Non-Refereed Research Abstract

Kaushik Sengupta (Hofstra University), Vishwanath G. Hegde (California State University East Bay)

Project delays leading to cost overruns in government-sponsored projects are common. Research in examining overall factors that lead to the delays and the perception of stakeholders have not been studied before. Based on survey data collected from project management professionals, we identify factors that lead to delays in such projects.

Roots of Executive Information System Project Risk

Refereed Research Paper

Houn-Gee Chen (National Taiwan University), Chia-ping Yu (TamKang University), Tzy-Yuan (Dawn) Chou (Ministry of Finance), Gary Klein (University of Colorado, Colorado Springs)

Many believe that it would be advantageous to tackle risks with early in the life-cycle, proactive approaches rather than reactive or contingent approaches. We conduct a case study to track risk roots in an EIS back to mismatches among the four dimensions of the socio-technical model.

Specific Interest Group (SIG): Project Management

[#123] Sunday, Nov 17th, 2013, 8:30-10:00 a.m. | Atlantic

Lessons Learned: Project Methodologies, Cases, and Instruction

Chair: Gary Klein (University of Colorado, Colorado Springs)

The Development of a Quality Function Diagram Application Mapping Risk Interactions in Project Planning

Refereed Research Paper

Richard Martin (Coastal Carolina University), Jay Teets (Coastal Carolina University), Richard Monroe (East Carolina University)

The traditional tools used in project risk assessment fail to present a complete risk view. We propose an adaptation of the Quality Function Diagram to assist project planners in assessing project risk a greater detail.

When Two Rights Make a Wrong Decision: Simultaneous Use of CPM and EVM Can Lead to the Wrong Decision

Refereed Research Paper

Frank T Anbari (Project Management Program, Drexel University)

Instead of CPM, an Earned Schedule (ES) allows EVM metrics to be transformed to time metrics to enhance the evaluation of schedule performance and forecast the completion date. ES and EVM use the same underlying assumptions, leading to consistent forecasts and providing support for making evidence-based decisions about the project.

Introducing Students to Project Management Software Using the Lightning Drive-in Project

Refereed Research Paper

Tobin Porterfield (Towson University), Neeraj Parolia (Towson University)

To compliment learning the techniques of project management, students are often introduced to project management software (e.g. Microsoft Project, Merlin, Open Project). The Lightning Drive-in Project provides a framework for students to work individually with project management software to develop and analyze a project plan.

[#152] Sunday, Nov 17th, 2013, 1:30-3:00 p.m. | Atlantic

Choosing the Right Project

Chair: Gary Klein (University of Colorado, Colorado Springs)

Visualizations of Project Interdependencies for Portfolio Decision Making: Evaluation through Decision Experiments

Refereed Research Paper

Catherine P Killen (University of Technology, Sydney)

This study simulates the impact of different methods to represent project interdependency data on the resulting quality of project portfolio decisions. The findings show that the type of data representation may influence the quality of decisions and that the use of network mapping displays is correlated with the best results.

Capital Project Selection Using an Integrated AHP-LP Model: A Case of the Nigerian National Petroleum Corporation

Non-Refereed Research Abstract

Ike Ehie (Kansas State University), Innocent Gandpa Joseph (NNPC-NAPIMS), Emmanuel Olateju Oyatoye (UNILAG)

The study adopts a four-tier hierarchical structure that selects capital projects in the public sector environment. An integrated-AHP-LP model was developed to address the capital budgeting problem and it's applied in an energy-based public sector. The results proved better than the traditional financial ratio measures widely adopted in the industry.

Exploring the Personal Dynamics of Project Initiation Decisions

Non-Refereed Research Abstract

Mark Mullaly (Interthink Consulting)

This study explores how individual actors engage in and support the process of making effective project initiation decisions. The study employed grounded theory methodology to develop a substantive theory

of how agency and rule emphasis influence the effectiveness of project initiation decisions.

[#173] Sunday, Nov 17th, 2013, 3:30-5:00 p.m. | Atlantic

Publishing Opportunities in Project Management

Chair(s): (none specified)

Coordinators: Gary Klein, University of Colorado at Colorado Springs; Carla M. Messikomer, Project Management Institute

Sponsored by the Project Management Institute

Specific Interest Group (SIG): Making Statistics More Effective in Schools of Business

[#20] Saturday, Nov 16th, 2013, 8:30-10:00a.m. | Kent A & B

Increase Relevance by Shifting Focus Away from Classical Statistical Mechanics & Hypothesis Testing

[#40] Saturday, Nov 16th, 2013, 10:30 a.m.-12:00p.m. | Kent A & B

Developing Students' Communications Skills

[#65] Saturday, Nov 16th, 2013, 1:30-3:00p.m. | Kent A & B

Should B-Schools Embrace AP Statistics?

[#91] Saturday, Nov 16th, 2013, 3:30-5:00p.m. | Kent A & B

A Course in Data Discovery and Predictive Analytics

[#121] Sunday, Nov 17th, 2013, Sunday, 8:30-10:00a.m. | Kent A & B

Creating a Business Analytics Class

[#150] Sunday, Nov 17th, 2013, 1:30-3:00p.m. | Kent A & B

Experiences and Advice on Including Analytics in the Curriculum

[#170] Sunday, Nov 17th, 2013, 3:30-5:00p.m. | Kent A & B

Implications of Big Data for Statistics Instruction

[#200] Monday, Nov 18th, 2013, 8:30-10:00a.m. | Kent A & B

Software Tools for Data Visualization

Mia L Stephens (SAS, JMP Division), Matt Tyler (IBM), Michael Speed (SAS Institute)

[#228] Monday, Nov 18th, 2013, 1:30-3:00p.m. | Kent A & B

Statistics for Decision Making in the Twenty-First Century

[#251] Monday, Nov 18th, 2013, 3:30-5:00p.m. | Kent A & B

Tips and Experiences from Efforts to Improve the Statistics Class

Coordinator: Robert L. Andrews, Virginia Commonwealth University

Track Sessions at a Glance

Award Competitions:

Best Teaching Case Studies Award Competition | 72 | Saturday, 3:30-5:00p.m. | Falkland
Instructional Innovation Award Competition | 182 | Monday, 8:30-10:00a.m. | Atlantic
Elwood S. Buffa Doctoral Dissertation Award Competition | 204 | Monday, 8:30-10:00a.m. | Bristol

Accounting and Finance | 3 | Accounting Education | Saturday, 8:30-10:00a.m. | Kent C
Accounting and Finance | 23 | Accounting Education & Research | Saturday, 10:30 a.m.-12:00p.m. | Kent C
Accounting and Finance | 47 | Financial Accounting I | Saturday, 1:30-3:00p.m. | Kent C
Accounting and Finance | 73 | Financial Accounting II | Saturday, 3:30-5:00p.m. | Kent C
Accounting and Finance | 100 | Financial Accounting III | Sunday, 8:30-10:00a.m. | Kent C
Accounting and Finance | 131 | International Accounting | Sunday, 1:30-3:00p.m. | Kent C
Accounting and Finance | 155 | Managerial Accounting | Sunday, 3:30-5:00p.m. | Kent C
Accounting and Finance | 183 | Accounting Education & Research II | Monday, 8:30-10:00a.m. | Kent C

Decision Analytics | 4 | Decision Analytics Methods | Saturday, 8:30-10:00a.m. | Waterview C
Decision Analytics | 5 | Financial Analytics | Saturday, 8:30-10:00a.m. | Waterview D
Decision Analytics | 24 | Data Mining I | Saturday, 10:30 a.m.-12:00p.m. | Waterview C
Decision Analytics | 25 | Marketing Analytics | Saturday, 10:30 a.m.-12:00p.m. | Waterview D
Decision Analytics | 26 | Social Media Intelligence | Saturday, 10:30 a.m.-12:00p.m. | Waterview B
Decision Analytics | 49 | Decision Analysis | Saturday, 1:30-3:00p.m. | Waterview C
Decision Analytics | 48 | Health Care Analytics | Saturday, 1:30-3:00p.m. | Waterview D
Decision Analytics | 74 | Analytics for Airline Operations | Saturday, 3:30-5:00p.m. | Waterview D
Decision Analytics | 75 | Business Analytics at Ernst & Young: Perspectives and Trends | Saturday, 3:30-5:00p.m. | Waterview B
Decision Analytics | 76 | Decision Analytics Methods II | Saturday, 3:30-5:00p.m. | Waterview C
Decision Analytics | 101 | Bayesian Ensemble Learning for Big Data | Sunday, 8:30-10:00a.m. | Waterview D
Decision Analytics | 102 | Game Theoretic Models | Sunday, 8:30-10:00a.m. | Waterview C
Decision Analytics | 132 | Health Care Analytics II | Sunday, 1:30-3:00p.m. | Waterview C
Decision Analytics | 133 | IBM Big Data Strategy and Analytics Perspectives | Sunday, 1:30-3:00p.m. | Waterview D
Decision Analytics | 156 | Predictive Analytics | Sunday, 3:30-5:00p.m. | Waterview C
Decision Analytics | 157 | The Future of Analytics in Healthcare: Clinical Records | Sunday, 3:30-5:00p.m. | Waterview D
Decision Analytics | 184 | Business Analytics Programs and Curricula | Monday, 8:30-10:00a.m. | Waterview D
Decision Analytics | 185 | Predictive Analytics II | Monday, 8:30-10:00a.m. | Waterview C
Decision Analytics | 207 | Location Analytics | Monday, 1:30-3:00p.m. | Waterview D
Decision Analytics | 208 | Optimization | Monday, 1:30-3:00p.m. | Waterview C
Decision Analytics | 231 | Data Envelopment Analysis | Monday, 3:30-5:00p.m. | Waterview D
Decision Analytics | 232 | Retail and Price Analytics | Monday, 3:30-5:00p.m. | Waterview C
Decision Analytics | 271 | Data Mining II | Tuesday, 8:00-9:30a.m. | Waterview C

Healthcare Management | 6 | Privacy Concerns with Health Information | Saturday, 8:30-10:00a.m. | Chasseur
Healthcare Management | 27 | Health Care Technology and Privacy | Saturday, 10:30 a.m.-12:00p.m. | Chasseur
Healthcare Management | 50 | Electronic Health Records and Performance | Saturday, 1:30-3:00p.m. | Chasseur
Healthcare Management | 51 | Scheduling of Health Resources | Saturday, 1:30-3:00p.m. | Bristol
Healthcare Management | 77 | Designing Health Care Systems | Saturday, 3:30-5:00p.m. | Bristol
Healthcare Management | 78 | Health Care Policy and Markets | Saturday, 3:30-5:00p.m. | Chasseur
Healthcare Management | 103 | Analyzing Health Delivery Outcomes | Sunday, 8:30-10:00a.m. | Chasseur
Healthcare Management | 134 | Healthcare Systems and Their Use of OM/DS Techniques | Sunday, 1:30-3:00p.m. | Chasseur

Track Sessions at a Glance

Healthcare Management | 158 | The Role of Technology in Health Systems | Sunday, 3:30-5:00p.m. | Chasseur
Healthcare Management | 186 | Health Care Supply Chain Management | Monday, 8:30-10:00a.m. | Chasseur
Healthcare Management | 209 | Strategic Supply Management in Health Systems | Monday, 1:30-3:00p.m. | Chasseur
Healthcare Management | 233 | Process Improvement in Health Delivery | Monday, 3:30-5:00p.m. | Chasseur
Healthcare Management | 284 | Perception and Decision Making in Health Care | Tuesday, 10:00-11:30a.m. | Chasseur

Information Systems Management | 7 | IS Adoption and Diffusion | Saturday, 8:30-10:00a.m. | Iron
Information Systems Management | 28 | IS Management and Governance | Saturday, 10:30 a.m.-12:00p.m. | Iron
Information Systems Management | 52 | Organization and IS | Saturday, 1:30-3:00p.m. | Iron
Information Systems Management | 79 | Human Behavior and IS | Saturday, 3:30-5:00p.m. | Iron
Information Systems Management | 80 | Value of IS | Saturday, 3:30-5:00p.m. | Laurel B
Information Systems Management | 104 | Social Platforms | Sunday, 8:30-10:00a.m. | Iron
Information Systems Management | 135 | General IS Topics I | Sunday, 1:30-3:00p.m. | Iron
Information Systems Management | 159 | Electronic and Mobile Business | Sunday, 3:30-5:00p.m. | Iron
Information Systems Management | 187 | Risk, Security, and Privacy I | Monday, 8:30-10:00a.m. | Iron
Information Systems Management | 210 | Risk, Security, and Privacy II | Monday, 1:30-3:00p.m. | Iron
Information Systems Management | 234 | General IS Topics II | Monday, 3:30-5:00p.m. | Iron
Information Systems Management | 272 | Global and Cultural Issues in IS | Tuesday, 8:00-9:30a.m. | Iron

Innovative Education | 8 | Engaging Industry and Students Through Case Competitions | Saturday, 8:30-10:00a.m. | James
Innovative Education | 9 | Reflections on Pedagogy | Saturday, 8:30-10:00a.m. | Heron
Innovative Education | 29 | Instructional Innovations: Flipping the Classroom | Saturday, 10:30 a.m.-12:00p.m. | James
Innovative Education | 30 | Teaching Cases: Ethics and Sustainability | Saturday, 10:30 a.m.-12:00p.m. | Heron
Innovative Education | 53 | Issues in Academic Administration | Saturday, 1:30-3:00p.m. | James
Innovative Education | 54 | Tools for Student Engagement | Saturday, 1:30-3:00p.m. | Heron
Innovative Education | 81 | Animated PowerPoint Presentations for Operations and Supply Chain Management: Inventory Systems Applications | Saturday, 3:30-5:00p.m. | James
Innovative Education | 82 | Teaching Lean and Inventory Management | Saturday, 3:30-5:00p.m. | Heron
Innovative Education | 105 | Bridging Academia and Practice | Sunday, 8:30-10:00a.m. | Heron
Innovative Education | 106 | Facilitating the Development of Critical Thinking Skills | Sunday, 8:30-10:00a.m. | James
Innovative Education | 136 | Charting the Future of Innovation in Teaching and Learning | Sunday, 1:30-3:00p.m. | James
Innovative Education | 137 | Innovations in Information Systems Courses and Curricula | Sunday, 1:30-3:00p.m. | Heron
Innovative Education | 160 | Instructional Innovations: Learning through Games | Sunday, 3:30-5:00p.m. | Heron
Innovative Education | 161 | Using Games in Online OM Courses | Sunday, 3:30-5:00p.m. | James
Innovative Education | 188 | Integrating Theory and Practice in the Curriculum | Monday, 8:30-10:00a.m. | James
Innovative Education | 211 | Enhancing the Classroom Experience through Technology | Monday, 1:30-3:00p.m. | James
Innovative Education | 212 | Teaching Cases: Applications of Decision-making | Monday, 1:30-3:00p.m. | Heron
Innovative Education | 235 | Emerging Trends in Education | Monday, 3:30-5:00p.m. | Heron
Innovative Education | 236 | Online Teaching and Tools | Monday, 3:30-5:00p.m. | James
Innovative Education | 273 | Approaches for Student Engagement | Tuesday, 8:00-9:30a.m. | James
Innovative Education | 274 | Comparing Traditional and Online Learning Assessments | Tuesday, 8:00-9:30a.m. | Heron
Innovative Education | 285 | Measuring Teaching Effectiveness | Tuesday, 10:00-11:30a.m. | James

International Business | 31 | Personal Aspects of Doing International Business | Saturday, 10:30 a.m.-12:00p.m. | Bristol
International Business | 138 | Audi in Hungary | Sunday, 1:30-3:00p.m. | Bristol
International Business | 162 | Country Strategies and Perspectives | Sunday, 3:30-5:00p.m. | Bristol
International Business | 213 | Operations of International Business | Monday, 1:30-3:00p.m. | Bristol
International Business | 237 | Cultural Dimensions of International Business | Monday, 3:30-5:00p.m. | Bristol

Track Sessions at a Glance

Logistics Management | 10 | Logistics-Marketing Interface | Saturday, 8:30-10:00a.m. | Bristol
Logistics Management | 32 | Empirical Studies in Logistics Management | Saturday, 10:30 a.m.-12:00p.m. | Falkland
Logistics Management | 55 | Innovative Logistics Applications | Saturday, 1:30-3:00p.m. | Falkland
Logistics Management | 107 | Transportation and Vehicle Routing | Sunday, 8:30-10:00a.m. | Bristol
Logistics Management | 189 | Logistics Network Design Decisions | Monday, 8:30-10:00a.m. | Falkland
Logistics Management | 214 | Logistics and Transportation Services | Monday, 1:30-3:00p.m. | Atlantic
Logistics Management | 238 | Distribution, Warehousing and Inventory Management | Monday, 3:30-5:00p.m. | Atlantic

Manufacturing Management | 11 | Miscellaneous Issues in Manufacturing | Saturday, 8:30-10:00a.m. | Falkland
Manufacturing Management | 108 | Analytical & Empirical Models in Manufacturing | Sunday, 8:30-10:00a.m. | Falkland
Manufacturing Management | 190 | Manufacturing Metrics | Monday, 8:30-10:00a.m. | Heron
Manufacturing Management | 215 | Miscellaneous Topics in Manufacturing | Monday, 1:30-3:00p.m. | Falkland
Manufacturing Management | 275 | Manufacturing Practice | Tuesday, 8:00-9:30a.m. | Falkland
Manufacturing Management | 286 | Design and Strategy | Tuesday, 10:00-11:30a.m. | Falkland

Marketing | 12 | Customer Interfaces I | Saturday, 8:30-10:00a.m. | Galena
Marketing | 33 | Customer Interfaces II | Saturday, 10:30 a.m.-12:00p.m. | Galena
Marketing | 139 | Empirical Analysis of Marketing Issues | Sunday, 1:30-3:00p.m. | Galena
Marketing | 163 | Social Media I | Sunday, 3:30-5:00p.m. | Galena
Marketing | 191 | The Intersection of Marketing and Operations Management | Monday, 8:30-10:00a.m. | Galena
Marketing | 216 | Social Media II | Monday, 1:30-3:00p.m. | Galena

Product/Process Innovation | 56 | Empirical Research in Product/Process Innovation | Saturday, 1:30-3:00p.m. | Galena
Product/Process Innovation | 83 | Managing Product/Process Innovation | Saturday, 3:30-5:00p.m. | Galena
Product/Process Innovation | 109 | Behavioral Aspects of Product/Process Innovation | Sunday, 8:30-10:00a.m. | Galena
Product/Process Innovation | 110 | Process Innovation | Sunday, 8:30-10:00a.m. | Laurel B
Product/Process Innovation | 239 | New Product Development | Monday, 3:30-5:00p.m. | Galena
Product/Process Innovation | 287 | New Product Development Tools and Models | Tuesday, 10:00-11:30a.m. | Galena

Quality Management and Lean Operations | 13 | Top Management/HR and "Holistic" Quality and Lean | Saturday, 8:30-10:00a.m. | Laurel A
Quality Management and Lean Operations | 34 | Quality-Related Practices, Including Six Sigma | Saturday, 10:30 a.m.-12:00p.m. | Laurel A
Quality Management and Lean Operations | 57 | Quality Certifications, such as ISO 9001 | Saturday, 1:30-3:00p.m. | Laurel A
Quality Management and Lean Operations | 84 | Quality and Outsourcing | Saturday, 3:30-5:00p.m. | Laurel A
Quality Management and Lean Operations | 164 | Empirical Research in Lean Operations | Sunday, 3:30-5:00p.m. | Laurel A
Quality Management and Lean Operations | 217 | Research Trends in Quality and Lean | Monday, 1:30-3:00p.m. | Kent C
Quality Management and Lean Operations | 240 | Lean Operations | Monday, 3:30-5:00p.m. | Laurel A

Services Management | 14 | Service Recovery and Complaint Handling | Saturday, 8:30-10:00a.m. | Dover A
Services Management | 15 | Teaching Service Innovation Using PCN Analysis | Saturday, 8:30-10:00a.m. | Waterview B
Services Management | 35 | General Topics in Services Management | Saturday, 10:30 a.m.-12:00p.m. | Dover A
Services Management | 58 | Enhancing Service Quality | Saturday, 1:30-3:00p.m. | Dover A
Services Management | 59 | Operational Issues in Managing Services | Saturday, 1:30-3:00p.m. | Dover B
Services Management | 85 | Innovation in Services | Saturday, 3:30-5:00p.m. | Dover A
Services Management | 86 | Knowledge Creation, Knowledge Management and Learning in Service Systems | Saturday, 3:30-5:00p.m. | Dover B
Services Management | 111 | Applications and Impact of Technology in Services | Sunday, 8:30-10:00a.m. | Dover A
Services Management | 112 | Studies in the Airlines Industry | Sunday, 8:30-10:00a.m. | Dover B

Track Sessions at a Glance

Services Management | 140 | Disaster Recovery, and Resilience Social Issues in Service Supply Chains | Sunday, 1:30-3:00p.m. | Dover A
Services Management | 165 | Frontiers in Service Management Research | Sunday, 3:30-5:00p.m. | Dover A
Services Management | 192 | Managing Inventory and Suppliers in Services | Monday, 8:30-10:00a.m. | Dover A
Services Management | 218 | Professional Service Operations Management | Monday, 1:30-3:00p.m. | Dover A
Services Management | 219 | Topics in Buyer-Supplier Relationships | Monday, 1:30-3:00p.m. | Dover B
Services Management | 220 | User Involvement in Services | Monday, 1:30-3:00p.m. | Laurel B
Services Management | 241 | Topics in Service Capacity Design and Allocation | Monday, 3:30-5:00p.m. | Dover A
Services Management | 276 | Topics in Not-for-Profit and Public Sector Service Organizations | Tuesday, 8:00-9:30a.m. | Kent B

Strategic Management and Organizational Behavior/Theory | 16 | Language, Leadership and Negotiation | Saturday, 8:30-10:00a.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 36 | Ethics and Ethical Organizing | Saturday, 10:30 a.m.-12:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 60 | Entrepreneurship and Business Schools | Saturday, 1:30-3:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 87 | Green Business | Saturday, 3:30-5:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 113 | Capitalism and Organizing | Sunday, 8:30-10:00a.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 114 | Stress and Uncertainty | Sunday, 8:30-10:00a.m. | Waterview B
Strategic Management and Organizational Behavior/Theory | 141 | Dynamic Capabilities | Sunday, 1:30-3:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 142 | Knowledge Exchange | Sunday, 1:30-3:00p.m. | Waterview B
Strategic Management and Organizational Behavior/Theory | 166 | Competitive Dynamics, Power and Growth | Sunday, 3:30-5:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 193 | Operating and Deciding Under Pressure | Monday, 8:30-10:00a.m. | Waterview B
Strategic Management and Organizational Behavior/Theory | 194 | Perspectives on NPD and Revenue Sharing | Monday, 8:30-10:00a.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 221 | Perspectives on Productivity, Regulation and Knowledge Management | Monday, 1:30-3:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 242 | Leadership and Innovation | Monday, 3:30-5:00p.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 277 | The Chief Executive Officer | Tuesday, 8:00-9:30a.m. | Waterview A
Strategic Management and Organizational Behavior/Theory | 288 | Operational, Alliance and Exchange Performance | Tuesday, 10:00-11:30a.m. | Waterview A

Strategic Sourcing/Supply Management | 61 | Contextual Adaptations in Sourcing Strategies | Saturday, 1:30-3:00p.m. | GB Salon III
Strategic Sourcing/Supply Management | 88 | Services Sourcing and the Triple Bottom Line | Saturday, 3:30-5:00p.m. | GB Salon III
Strategic Sourcing/Supply Management | 115 | Strategic Issues in Supply Management | Sunday, 8:30-10:00a.m. | GB Salon I
Strategic Sourcing/Supply Management | 143 | Supply Management in Uncertain Environment | Sunday, 1:30-3:00p.m. | GB Salon I
Strategic Sourcing/Supply Management | 167 | Ethics and Environmental Issues in Sourcing | Sunday, 3:30-5:00p.m. | GB Salon I
Strategic Sourcing/Supply Management | 195 | Sourcing Strategies for Managing Risk | Monday, 8:30-10:00a.m. | GB Salon I
Strategic Sourcing/Supply Management | 222 | Global Sourcing Policies for Managing Inventory and Lead Time | Monday, 1:30-3:00p.m. | Waterview B
Strategic Sourcing/Supply Management | 223 | Sourcing Strategies and Practices | Monday, 1:30-3:00p.m. | GB Salon I
Strategic Sourcing/Supply Management | 243 | Research in Sustainable Sourcing and Supply Management: Where are we heading? | Monday, 3:30-5:00p.m. | GB Salon II
Strategic Sourcing/Supply Management | 244 | Sourcing and Inter-Organizational Relationship | Monday, 3:30-5:00p.m. | GB Salon I

Supply Chain Management | 17 | Applications in SCM | Saturday, 8:30-10:00a.m. | GB Salon IV
Supply Chain Management | 18 | Supplier / Buyer Relationship | Saturday, 8:30-10:00a.m. | Dover C
Supply Chain Management | 37 | Emerging Topics in SCM | Saturday, 10:30 a.m.-12:00p.m. | GB Salon IV
Supply Chain Management | 38 | Supply Chain / Information Systems Interaction | Saturday, 10:30 a.m.-12:00p.m. | Dover C
Supply Chain Management | 62 | Global Supply Chain Management | Saturday, 1:30-3:00p.m. | GB Salon IV
Supply Chain Management | 63 | Simulation Models and System Dynamics in SCM | Saturday, 1:30-3:00p.m. | Dover C

Track Sessions at a Glance

- Supply Chain Management | 89 | Competition and Cooperation in Supply Chains | Saturday, 3:30-5:00p.m. | GB Salon IV
- Supply Chain Management | 90 | Supply Chain Coordination | Saturday, 3:30-5:00p.m. | Dover C
- Supply Chain Management | 116 | Pricing and Retail Models in SCM | Sunday, 8:30-10:00a.m. | GB Salon II
- Supply Chain Management | 117 | Production/Manufacturing interactions with SCM | Sunday, 8:30-10:00a.m. | Dover C
- Supply Chain Management | 118 | Sustainable Supply Chains I | Sunday, 8:30-10:00a.m. | GB Salon IV
- Supply Chain Management | 144 | Behavioral Effects on Supply Chain Decisions | Sunday, 1:30-3:00p.m. | GB Salon IV
- Supply Chain Management | 145 | Inventory and Pricing in SCM | Sunday, 1:30-3:00p.m. | GB Salon II
- Supply Chain Management | 146 | Optimization Models in Supply Chain Management | Sunday, 1:30-3:00p.m. | Dover C
- Supply Chain Management | 168 | Inventory Management in SCM | Sunday, 3:30-5:00p.m. | Dover C
- Supply Chain Management | 169 | Inventory Modeling in SCM | Sunday, 3:30-5:00p.m. | GB Salon II
- Supply Chain Management | 196 | Sustainable Supply Chains II | Monday, 8:30-10:00a.m. | GB Salon IV
- Supply Chain Management | 197 | Technological Advances in SCM | Monday, 8:30-10:00a.m. | GB Salon II
- Supply Chain Management | 224 | Innovation in SCM | Monday, 1:30-3:00p.m. | GB Salon IV
- Supply Chain Management | 225 | Transportation and Sustainability in SCM | Monday, 1:30-3:00p.m. | GB Salon II
- Supply Chain Management | 245 | Buyer Supplier Relations | Monday, 3:30-5:00p.m. | Dover C
- Supply Chain Management | 246 | Innovation and Security in SCM | Monday, 3:30-5:00p.m. | GB Salon IV
- Supply Chain Management | 247 | Research Needs in Healthcare, Retail and Defense using Analytics: Practitioner's Perspective | Monday, 3:30-5:00p.m. | Laurel B
- Supply Chain Management | 248 | Supply Management in SCM | Monday, 3:30-5:00p.m. | Waterview B
- Supply Chain Management | 278 | Inter- or Intra-organization Collaboration in Supply Chain | Tuesday, 8:00-9:30a.m. | Dover C
- Supply Chain Management | 279 | Managing Supply Chain Vulnerabilities | Tuesday, 8:00-9:30a.m. | Chasseur
- Supply Chain Management | 280 | Supply Chain Collaboration | Tuesday, 8:00-9:30a.m. | Atlantic
- Supply Chain Management | 289 | Inter- or Intra-organization Collaboration in Supply Chain-II | Tuesday, 10:00-11:30a.m. | Dover C
- Supply Chain Management | 290 | Role of the Supply Chain Professionals | Tuesday, 10:00-11:30a.m. | Kent B
- Supply Chain Management | 291 | SCM in the Non-Profit and Public Sector | Tuesday, 10:00-11:30a.m. | Waterview C
- Supply Chain Management | 292 | Supply Chain Risk Management | Tuesday, 10:00-11:30a.m. | Atlantic
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- Sustainable Operations | 19 | Definitions of Sustainability | Saturday, 8:30-10:00a.m. | Essex A
- Sustainable Operations | 39 | Sustainability and Decision Making | Saturday, 10:30 a.m.-12:00p.m. | Essex B
- Sustainable Operations | 64 | Lean and Operations Perspectives on Sustainability | Saturday, 1:30-3:00p.m. | Essex B
- Sustainable Operations | 119 | Sharing the Wealth: The Interdisciplinary Nature of Sustainability Research | Sunday, 8:30-10:00a.m. | Essex A
- Sustainable Operations | 147 | Measuring Sustainability Performance | Sunday, 1:30-3:00p.m. | Essex C
- Sustainable Operations | 198 | Green Design | Monday, 8:30-10:00a.m. | Essex A
- Sustainable Operations | 226 | Sustainability in Computing and Planning | Monday, 1:30-3:00p.m. | Essex A
- Sustainable Operations | 249 | Sustainability's Effects on Supply Chains | Monday, 3:30-5:00p.m. | Essex A
- Sustainable Operations | 281 | Sustainability in Various Industries | Tuesday, 8:00-9:30a.m. | Essex A
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- New Talent Showcase | 120 | Teamwork Improvement, Quality and Confidential Information Sharing | Sunday, 8:30-10:00a.m. | Laurel A
- New Talent Showcase | 149 | Personality, Perception and Technology Acceptance | Sunday, 1:30-3:00p.m. | Laurel A
- New Talent Showcase | 199 | Data Mining, Integrated Power and Supply Network Design | Monday, 8:30-10:00a.m. | Laurel A
- New Talent Showcase | 227 | Efficiency and Firm Performance | Monday, 1:30-3:00p.m. | Laurel A

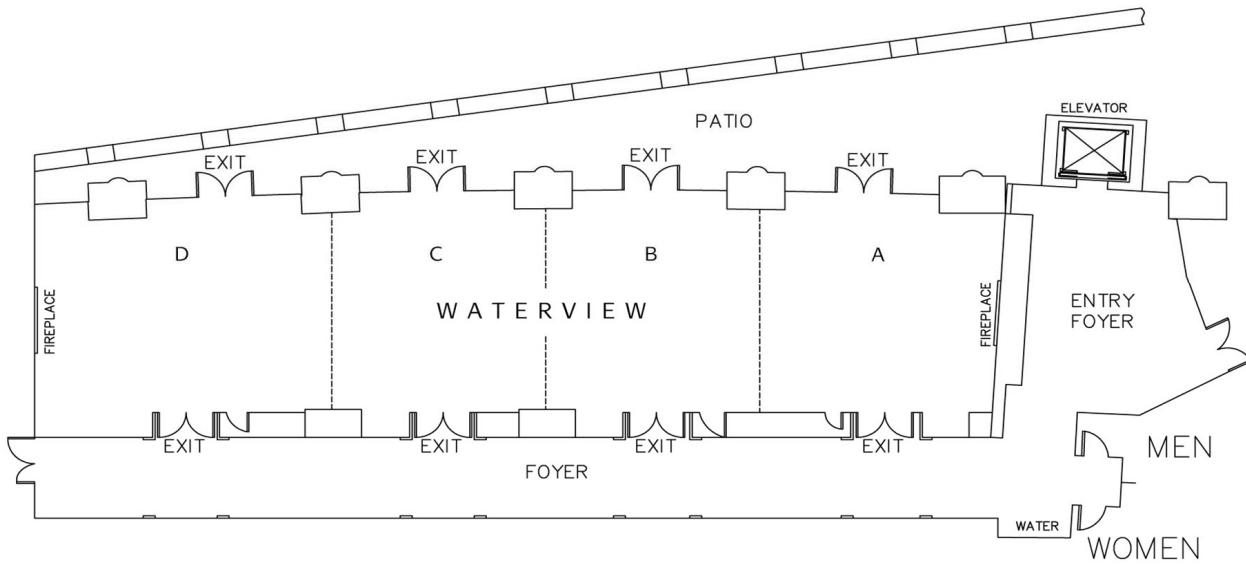
Special Events/Meetings

- Special Events/Meetings | Executive Committee | Thursday, 12:00-5:00p.m. | Falkland
- Special Events/Meetings | Board of Directors | Friday, 8:00 a.m.-6:00p.m. | Waterview A
- Special Events/Meetings | 1 | New Faculty Development Consortium | Saturday, 7:45-10:30a.m. | GB Salon I
- Special Events/Meetings | 2 | Doctoral Student Consortium | Saturday, 8:00-10:30a.m. | GB Salon II
- Special Events/Meetings | 22 | Marketing and Communication Committee | Saturday, 8:30-10:00a.m. | Essex B
- Special Events/Meetings | 43 | DSJ Editor, Senior Editors and Associate Editors | Saturday, 10:30 a.m.-12:00p.m. | HB Salon A
- Special Events/Meetings | 44 | Joint Consortium Session: Insights from Academic Deans | Saturday, 10:45 a.m.-12:00p.m. | GB Salon II
- Special Events/Meetings | 45 | Joint Consortium Luncheon | Saturday, 12:15-1:20p.m. | GB Salon III
- Special Events/Meetings | 46 | Joint Consortium Session: Publishing in Top Journals | Saturday, 1:30-2:45p.m. | GB Salon II
- Special Events/Meetings | 68 | 2013-2014 Northeast Key Officers | Saturday, 1:30-3:00p.m. | Laurel B
- Special Events/Meetings | 69 | Fellows Committee | Saturday, 1:30-3:00p.m. | Essex C
- Special Events/Meetings | 70 | Doctoral Student Consortium II | Saturday, 3:00-5:00p.m. | GB Salon II
- Special Events/Meetings | 71 | New Faculty Development Consortium II | Saturday, 3:00-5:15p.m. | GB Salon I
- Special Events/Meetings | 94 | Finance and Investment Advisory Committee | Saturday, 3:30-5:00p.m. | Essex B
- Special Events/Meetings | 95 | 2013-2014 Asia-Pacific Key Officers | Saturday, 5:00-6:00p.m. | Essex C
- Special Events/Meetings | 96 | New Members Welcome Meeting | Saturday, 5:00-6:00p.m. | Laurel B
- Special Events/Meetings | Joint Consortium Reception | Saturday, 5:15-6:00p.m. | HB Salon B
- Special Events/Meetings | 97 | Welcome Reception | Saturday, 6:00-7:00p.m. | Grand Foyer West
- Special Events/Meetings | 98 | Nondenominational Christian Fellowship Time | Sunday, 7:15-8:00a.m. | Waterview A
- Special Events/Meetings | 99 | Sunday Continental Breakfast | Sunday, 7:45-8:15a.m. | Grand Foyer West
- Special Events/Meetings | 124 | Regional Activities Committee | Sunday, 8:30-10:00a.m. | Essex B
- Special Events/Meetings | 127 | Keynote Speech: Sports Analytics | Sunday, 10:30 a.m.-12:00p.m. | HB Salon A
- Special Events/Meetings | 129 | Fellows Luncheon | Sunday, 12:00-1:00p.m. | HB Salon C-E
- Special Events/Meetings | 153 | Strategic Planning for International Affairs | Sunday, 1:30-3:00p.m. | Laurel B
- Special Events/Meetings | 174 | 2013-2014 Southeast Key Officers | Sunday, 3:30-5:00p.m. | Essex A & B
- Special Events/Meetings | 175 | 2013-2014 Southwest Key Officers | Sunday, 3:30-5:00p.m. | Waterview B
- Special Events/Meetings | 176 | Information Technology Committee | Sunday, 3:30-5:00p.m. | Laurel B
- Special Events/Meetings | 177 | Publication Committee | Sunday, 3:30-5:00p.m. | GB Salon IV
- Special Events/Meetings | 178 | Annual Business Meeting | Sunday, 5:00-6:00p.m. | HB Salon A
- Special Events/Meetings | 180 | Monday Continental Breakfast | Monday, 7:45-8:15a.m. | Grand Foyer West
- Special Events/Meetings | 181 | Alpha Iota Delta: Breakfast | Monday, 8:00-8:30a.m. | Essex C
- Special Events/Meetings | 201 | 2014 Annual Meeting Program Chair's Visionary Meeting | Monday, 8:30-10:00a.m. | Essex B
- Special Events/Meetings | 202 | Alpha Iota Delta Business Meeting | Monday, 8:30-10:00a.m. | Essex C
- Special Events/Meetings | 203 | Beta Gamma Sigma | Monday, 8:30-10:00a.m. | Laurel B
- Special Events/Meetings | 204 | Elwood S. Buffa Doctoral Dissertation Award Competition | Monday, 8:30-10:00a.m. | Bristol
- Special Events/Meetings | 205 | Workshop: How to Leverage Windows 8 in Development in the Classroom? | Monday, 8:30 a.m.-12:00p.m. | GB Salon III
- Special Events/Meetings | 206 | Keynote Speech: Transforming the Data Deluge into Data-Driven Insights: Analytics that Drive Business | Monday, 10:30 a.m.-12:00p.m. | HB Salon A
- Special Events/Meetings | 229 | Member Services Committee | Monday, 1:30-3:00p.m. | Essex B
- Special Events/Meetings | 230 | Microsoft Dreamspark | Monday, 1:30-3:00p.m. | GB Salon III
- Special Events/Meetings | 252 | DSJIE Editor and Associate Editors | Monday, 3:30-5:00p.m. | Essex B
- Special Events/Meetings | 253 | Nominating Committee | Monday, 3:30-5:00p.m. | Kent C
- Special Events/Meetings | 254 | Track Caucus: Accounting and Finance | Monday, 5:00-6:00p.m. | Laurel A
- Special Events/Meetings | 255 | Track Caucus: Decision Analytics | Monday, 5:00-6:00p.m. | Laurel B
- Special Events/Meetings | 256 | Track Caucus: HealthCare Management | Monday, 5:00-6:00p.m. | Laurel C
- Special Events/Meetings | 257 | Track Caucus: Information Systems Management | Monday, 5:00-6:00p.m. | Laurel D

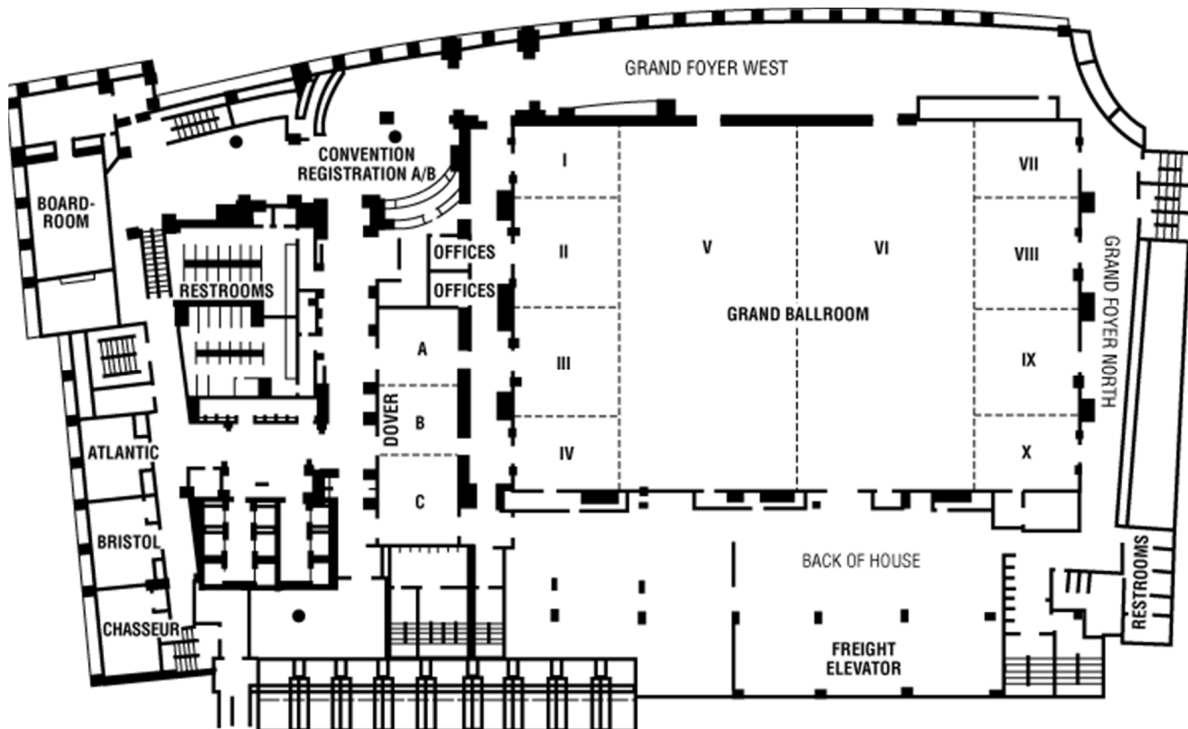
Special Events/Meetings

Special Events/Meetings | 258 | Track Caucus: Innovative Education | Monday, 5:00-6:00p.m. | Kent C
Special Events/Meetings | 259 | Track Caucus: International Business | Monday, 5:00-6:00p.m. | Falkland
Special Events/Meetings | 260 | Track Caucus: Logistics Management | Monday, 5:00-6:00p.m. | Galena
Special Events/Meetings | 261 | Track Caucus: Manufacturing Management | Monday, 5:00-6:00p.m. | Heron
Special Events/Meetings | 262 | Track Caucus: Marketing | Monday, 5:00-6:00p.m. | Iron
Special Events/Meetings | 263 | Track Caucus: Product/Process Innovation | Monday, 5:00-6:00p.m. | James
Special Events/Meetings | 264 | Track Caucus: Quality Management and Lean Operations | Monday, 5:00-6:00p.m. | Atlantic
Special Events/Meetings | 265 | Track Caucus: Services Management | Monday, 5:00-6:00p.m. | Bristol
Special Events/Meetings | 266 | Track Caucus: Strategic Sourcing/Supply Management | Monday, 5:00-6:00p.m. | Chasseur
Special Events/Meetings | 267 | Track Caucus: Supply Chain Management | Monday, 5:00-6:00p.m. | Dover A
Special Events/Meetings | 268 | Track Caucus: Sustainable Operations | Monday, 5:00-6:00p.m. | Dover B
Special Events/Meetings | 269 | President's Reception | Monday, 6:00-7:00p.m. | HB Salon C-E
Special Events/Meetings | 270 | Tuesday Continental Breakfast | Tuesday, 7:30-8:00a.m. | Grand Foyer West
Special Events/Meetings | 282 | 2013-14 Western Key Officers | Tuesday, 8:00-9:30a.m. | Essex B
Special Events/Meetings | 283 | 2013-2014 Midwest Key Officers | Tuesday, 8:00-9:30a.m. | Galena
Special Events/Meetings | 293 | 2013-2014 European Key Officers | Tuesday, 10:00-11:30a.m. | Essex A
Special Events/Meetings | 294 | 2013-2014 Indian-Subcontinent Key Officers | Tuesday, 10:00-11:30a.m. | Heron
Special Events/Meetings | 295 | Decision Line Editor and Feature Editors | Tuesday, 10:00-11:30a.m. | Essex B
Special Events/Meetings | 296 | Program and Meetings Committee | Tuesday, 10:00-11:30a.m. | Iron
Special Events/Meetings | 297 | President's Luncheon | Tuesday, 11:30 a.m.-1:00p.m. | HB Salon C-E

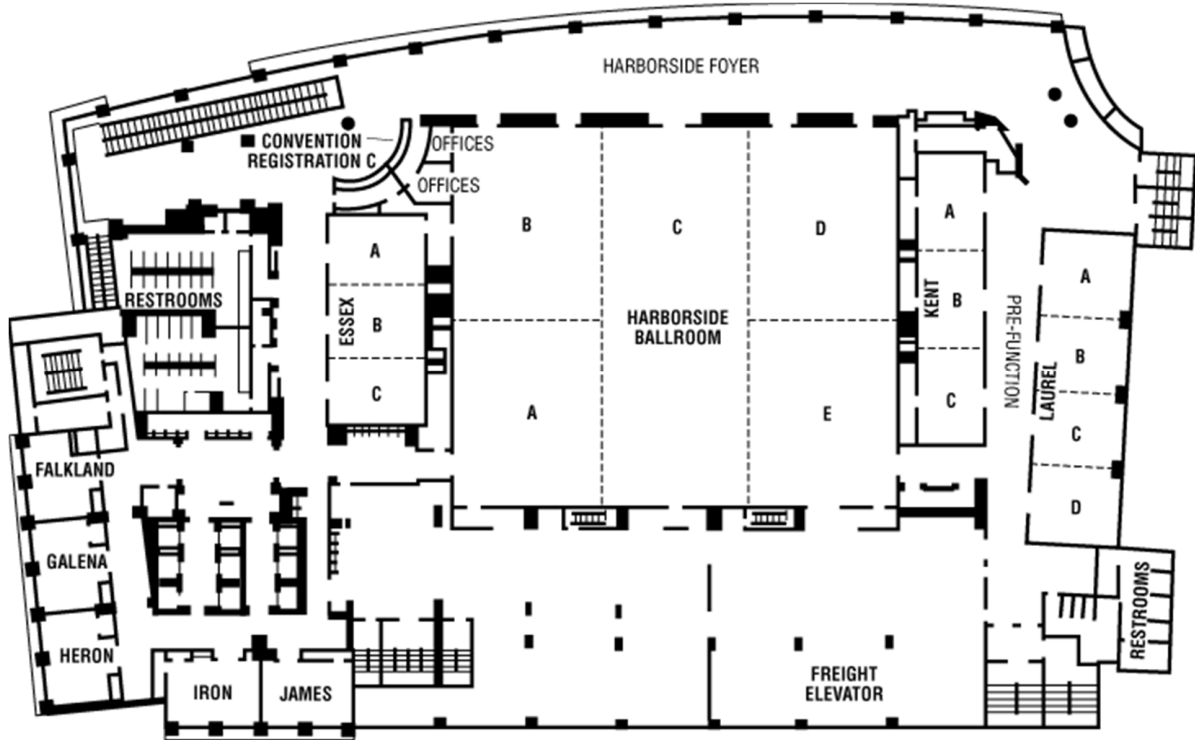
First Floor



Third Floor



Fourth Floor



Notes

VISUALIZATIONS OF PROJECT INTERDEPENDENCIES FOR PORTFOLIO DECISION MAKING: EVALUATION THROUGH DECISION EXPERIMENTS.

Catherine P Killen, University of Technology, Sydney, Australia
Faculty of Engineering and Information Technology
PO Box 123, Broadway NSW 2007, Australia
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ABSTRACT

Decision making is central to an organization's management of its investments across a portfolio of projects. Cognitive fit theory proposes that decision quality will be enhanced when there is alignment between the information emphasized in visual data representations and the important aspects of the decision problem. This study explores the effect of different methods of representing project interdependency data on the resulting decision quality in a simulated project portfolio management decision scenario. The findings, based on a sample of 264 experiments, show that the type of data representation used may influence the quality of the resulting decision and that the use of network mapping displays is correlated with the best results.

Keywords: Project portfolio management; data representations; visualization; network mapping; cognitive fit

INTRODUCTION

Decision making is central to an organization's management of its investments across a portfolio of projects through project portfolio management (PPM). PPM is an organizational capability of growing importance in an increasingly complex project landscape (Levine, 2005; Cicmil *et al.*, 2006; Jonas, 2010). By managing projects from a portfolio level and evaluating all projects and their interrelationships, PPM aims to improve the performance of the project portfolio as a whole. Portfolio decisions are responsible for ensuring resource adequacy, dynamic agility, and strategic alignment using a portfolio-level rather than a project-level perspective (Florice and Ibanescu, 2008; Petit, 2011). However, PPM decisions are subject to limitations in human cognitive capability to analyze a variety of information in limited time. PPM processes are designed to assist such decision making by providing a holistic view of the project portfolio, ensuring that data are available and offering representation methods and tools to facilitate analysis of project data (Cooper *et al.*, 2001; De Reyck *et al.*, 2005; Kester *et al.*, 2011). Organizational success depends on appropriate PPM methods and tools that improve the quality of these portfolio-level decisions.

The interdependencies between projects add to the complexity of PPM decision making and must be considered along with financial, strategic, risk, resource and other factors. Portfolios of complex and interdependent projects are increasingly common and there is an identified need for better tools to understand and manage the relationships between projects. New processes, tools, and techniques are regularly proposed and evaluated in PPM literature and research (Archer and

Ghasemzadeh, 1999; Dickinson *et al.*, 2001; Dawidson, 2006; Kester *et al.*, 2009). However, measuring the effect of a new tool or method is difficult because each organizational environment is different and there are many uncontrollable factors that influence project performance. While research in organizational settings can provide valuable insights, such settings do not provide a reliable and static environment where it is possible generalize findings. Simulated decision challenges in a controlled setting can complement organization based research by testing the effects of changes in a systematic method in an experimental fashion.

This paper draws upon theories of bounded rationality and cognitive fit to explore alternative data representation methods for the management of project interdependencies. The research employs controlled experimentation in a classroom setting to test the ability of three different data representation formats to enhance understanding of project interdependencies to support PPM decision making.

LITERATURE REVIEW

PPM decision making and project interdependencies

PPM is a set of organizational activities that provides a holistic framework for the management of the project portfolio. The literature highlights that PPM is primarily a strategic decision-making process which involves identifying, minimizing and diversifying risk, identifying and responding to changes, and understanding, accepting and making trade-offs (Kester *et al.*, 2011; Levine 2005). PPM decisions require consideration of multiple factors and the ability to envision alternative future consequences of project decisions across a portfolio. Decision making quality has a major influence on project portfolio success (Matheson and Menke, 1994).

Best practice studies indicate that high-performing organizations use carefully compiled executive-level teams, often called portfolio review boards (PRB), to make portfolio decisions (Cooper *et al.*, 2001; Dickinson *et al.*, 2001; Killen *et al.*, 2008). The decision making requires a central view of all projects in the portfolio and the PRB is informed by methods that facilitate group decision making including portfolio maps and other graphical and visual displays (De Maio *et al.*, 1994; Cooper *et al.*, 2001; Mikkola, 2001); however, the maps must be customized for effective portfolio decision making (Phaal *et al.*, 2006). The use of such visual data representations is correlated with better portfolio performance (Cooper *et al.*, 2001; Killen *et al.*, 2008).

PPM decisions consider the portfolio as a whole, but often treat each project as an isolated entity. The presence of interdependencies between projects can cause unpredictable interactions and reactions in the system (Aritua *et al.*, 2009; Perminova *et al.*, 2008; Collyer and Warren, 2009), and it is widely accepted that organizations must be able to understand the dependencies between projects in their portfolio in order to make appropriate project decisions for the best portfolio outcomes (Verma and Sinha, 2002; Blau *et al.*, 2004).

The management of interdependences is acknowledged as an area of weakness for PPM (Elonen and Arto, 2003). Some organizations record interdependency information along with other attributes in a project database, however the ability to use this data for decision making is limited. Interdependencies are sometimes displayed on a dependency matrix grid to inform management and support decision making, however these displays do not readily identify multi-step

dependencies (Dickinson *et al.*, 2001; Danilovic and Browning, 2007). To meet the challenges of PPM, especially as complexity and uncertainty increase, researchers are active in developing and evaluating new decision-making tools (Aritua *et al.*, 2009).

Bounded rationality and PPM decision making

The bulk of PPM literature assumes that decisions are made on a rational basis within a structured PPM process. However, some authors question this assumption and find that other influences on PPM decisions can result in less than rational outcomes (Eskerod *et al.*, 2004; Christiansen and Varnes, 2008). Humans also have a tendency for bias towards excessive optimism; however, a PPM process can address such human shortcomings by improving transparency in the decision-making process (Lovallo and Sibony, 2006). In addition, humans are subject to ‘bounded rationality’ (Simon, 1955), which limits their ability to interpret the large amounts of data required in PPM decision making, and results in decisions that are not always rational. Decisions are often required to be made without complete and accurate information. This and the human cognitive limitations in interpreting the information, and the finite amount of time available to make decisions, contribute to the ‘bounded rationality’ that affects PPM decision making, especially in complex and dynamic environments.

Most PPM decisions involve human judgment, often in an executive review meeting or PRB where each individual’s experience, diversity, and judgment contributes to a powerful team perspective for decision making. However, complex decisions are strongly affected by human cognitive constraints (Foreman and Selly, 2002). Humans are limited in their ability to recognize interdependencies and resultant flow-on effects from their decisions and actions in complex systems. While human capabilities are limited, research suggests that visualization techniques can compensate for limitations in working memories (Tergan and Keller, 2005).

Managers are asked to make decisions based on increasing volumes of information (Shim *et al.*, 2002), and the time available to digest and analyze the information is often limited (Agor, 1986; Dane and Pratt, 2007). Decisions made with inadequate time are likely to be made with limited evaluation of alternatives and exhibit lower decision quality (Ahituv *et al.*, 1998; Janis and Mann, 1977; Svenson and Maule, 1993). For example, time pressure is a factor contributing to budget over-runs in project management environments (Williams, 2005; Cicmil *et al.*, 2006). In this environment of incomplete information, limited cognitive capabilities, and limited time, PPM decisions are often affected by bounded rationality and therefore may not be optimal (Blichfeldt and Eskerod, 2008). PPM processes and tools aim to alleviate one or more of these challenges to improve decisions – for example by filtering and formatting information in a way that aids interpretation in the time available and within human cognitive limits. Many forms of computer-based decision support systems have been suggested, with the aim of streamlining decision making and thus making better use of decision-making time (Shim *et al.*, 2002). However, while many highly computerized solutions have been offered, there is little evidence of the use of such methods in PPM practice.

Cognitive fit and data representation tools

The cognitive fit theory explains how the fit between the method used to represent data and the nature of the decision task affects the quality of the resulting decision (Vessey, 1991). Different types of data representations emphasize different aspects of the data (for example tables usually provide symbolic representation while graphics may display spatial relationships) while the needs of decision-making tasks vary in the information required from the data. The decision maker must create a mental model to analyze the data with respect to the task to arrive at a solution. When the data representation and the decision making task are aligned, this cognitive fit is proposed to enhance decision-making ability by enabling the decision maker to directly apply the interpretation of the data representation to the problem-solving task. However, when the two are not aligned, the decision maker must perform further conversions of the data in order to address the problem, resulting in lower decision accuracy and higher time requirements.

A number of experimental studies provide support for cognitive fit theory. For example, a study of forecasting in an accounting setting demonstrated that alignment between the data and task dimensionality (3D visualizations of multi-dimensional data) improved the quality of the forecast (Dull and Tegarden, 1999). In another study, graphical representations of geographical adjacency and proximity in maps were found to provide increasing benefits as task complexity increased (Smelcer and Carmel, 1997). Cognitive fit is used to explain the relationship between buyer behavior and different web formats that display the same information (Hong, Thong, and Tam, 2004) and an experimental study of knowledge and expertise visualization methods found that decision speed was enhanced when compared to tabular information, but not decision quality (Huang *et al.*, 2006). A fractional factorial experiment showed that graphs provided better fit in a study of bankruptcy predictions; the graphs provided integrative spatial information while preserving the characteristics of the underlying data. The cognitive fit model relies not only on the task and the data representation; the spatial visualization abilities and other individual differences are also at play in the relationship between the task, data representation and quality of the decision (Smelcer and Carmel, 1997; Vessey, 1991).

Visual representations and decision making

The combination of human cognitive skills and visual representations of data that have strong cognitive fit with the decision problem have the potential to greatly enhance PPM decision making. Visual data representations that harness the executive decision makers' experience and judgment will provide particular benefits in the PRB team environment. Visual representations of data are shown to assist with the analysis of complex data (Mikkola, 2001) and help communicate and shape strategic thinking (Warglien and Jacobides, 2010). These visual representations can provide an effective format for representing and communicating information to support strategic decision making by illustrating complex multi-dimensional aspects of decision problems in a simple and powerful manner (Meyer, 1991). Visual information is cognitively processed while preserving spatial orientations and interrelationships. Research has found that graphical data displays can aid in the attention, agreement, and retention of strategic information (Kernbach and Eppler, 2010).

Improvements in computers and software-based tools offer many new methods for collecting and displaying information (Dansereau and Simpson, 2009). Human skills in analysis and pattern

finding combined with computer-generated graphics produce a powerful and flexible cognitive system, taking advantage of the strengths of both humans and computers (Tergan and Keller, 2005).

The power of visualizations to support decision making is only beginning to be exploited, and there is a need for more research in this area (Warglien and Jacobides, 2010). Cognitive fit is important, and visual representations of information must be customized for the task to best facilitate decision making. Some decisions require visualizations that display multiple factors, capture historical events, and reveal complex relationships (Platts and Tan, 2004). Matrix displays have particular strengths in evaluating and sharing information (Bresciani and Eppler, 2010), and can present multiple types of information in '2½-dimensional' displays that are very powerful if well designed (Warglien, 2010).

A wide range of software solutions are available to assist with PPM data management and decision making. These software solutions range from targeted utilities for the creation of specific graphical displays to comprehensive systems that aim to support all aspects of the PPM process. A visual 'dashboard' is often included in PPM solutions, and most support the development of visual data displays such as portfolio maps.

Network maps as a visual PPM tool

While portfolio maps are a form of visual data representation that shows benefits when applied in PPM (Killen *et al.*, 2008; Cooper *et al.*, 2001), they have limitations in that they do not show the relationships between projects. Network maps, on the other hand, visually display relationships between nodes in a network and reveal accumulated network effects (Scott, 2008) and are easily created by software-based tools. Network maps can reveal patterns more clearly than verbal or matrix displays and have been shown to provide benefits for decision making in mathematics, biology and economics (Hanneman and Riddle, 2005). A common form of network mapping, social network analysis (SNA), facilitates organizational decisions through the display of relationships between people or organizations (Cross *et al.*, 2002; Anklam *et al.*, 2005; Scott, 2008).

In complex project portfolios, interdependencies often exist in a web of interactions. Therefore network mapping displays, with their ability to visualize 'webs' of connections between nodes, may have high cognitive fit with the problem of understanding and managing project interdependencies. 'Visual project maps' (VPM) have been proposed as a method to apply network mapping approaches to project portfolios to improve the understanding of project interdependencies (Killen *et al.*, 2009; Killen and Kjaer, 2012). VPM displays each project as a node in the network and uses arrows to identify relationships or interdependencies between nodes. The creation of VPM displays are aided by network mapping software such as NetDraw (Borgatti, 2002) or NodeXL (Hansen *et al.*, 2011). Figure 1 shows an example of a VPM type of display.

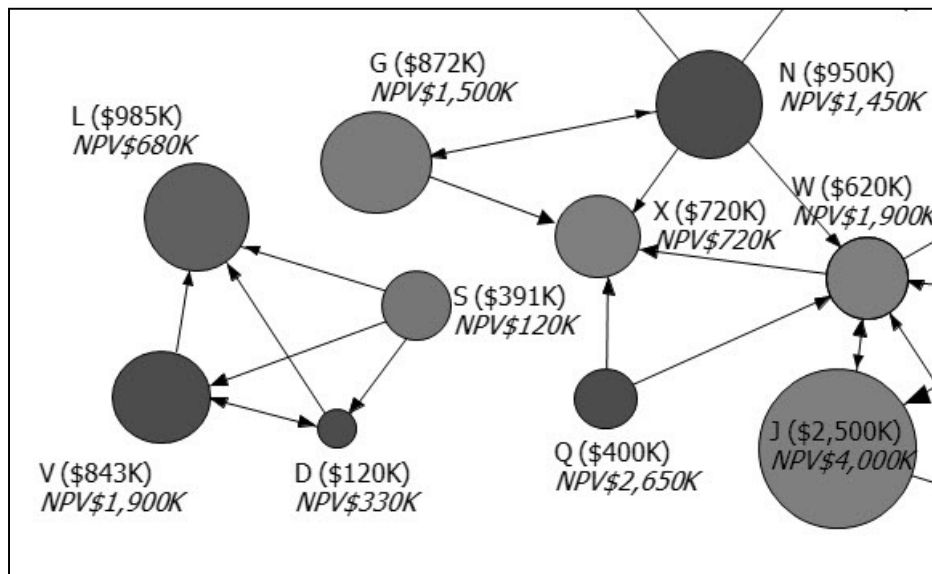


Figure 1: Portion of a visual project map (VPM). Labels provide project name, investment required and NPV. Circle size reflects investment required.

As it is a new tool for the management of interdependencies, VPM has been first tested in a few exploratory studies. VPM aided the analysis of projects, programs and portfolios in a defense setting (Durant-Law, 2012) and showed benefits as a decision making or communication tool for PPM in two organizations (Killen and Kjaer, 2012). These initial tests in organizational settings confirmed the interest and potential application of the method, however further research is needed to isolate the effects of introducing VPM. The experimental study outlined in this paper was designed to provide a better understanding of whether and how VPM can assist with the management of project interdependencies in project portfolios.

RESEARCH HYPOTHESES

The decision-making challenges presented by increasingly complex project portfolios are highlighted in the literature. There is an established need for better methods to evaluate project interdependencies to support PPM decision making. Previous findings that reveal positive correlation between the use of portfolio maps and PPM outcomes illustrate how visual data representation tools can assist with PPM decision making. A new network mapping-based data representation tool, VPM, has been introduced and applied in organizational settings; however it is unknown how VPM and options for representing interdependency data compare in their ability to affect the resulting PPM decisions.

Graphical data displays provide advantages when combined with human cognitive capabilities during decision making (Tergan and Keller, 2005), and these advantages are proposed to be stronger in displays with a higher degree of cognitive fit. Cognitive fit theory suggests that each type of data representation tool will have a different level of cognitive fit with the problem (Vessey, 1991). In this study, three different representations of interdependency data were compared for their ability to improve understanding of project interdependencies and enhance decision quality in complex project portfolios. The methods under investigation were (1) VPM –

a network mapping display, (2) Dependency matrices – a matrix display and (3) Tabular list – a list of dependencies within a column of a spreadsheet or database.

VPM displays, with an ability to directly represent the connections between interdependent projects, and to visually reveal the multi-step dependencies that are not easily seen in the other displays, are proposed to have the highest degree of cognitive fit and therefore to contribute most strongly to decision quality.

Therefore, the first hypotheses addressed in this study are:

H1: The type of tool used to evaluate project interdependencies will be correlated with the quality of the resulting PPM decisions in complex project portfolios.

H1(a): VPM displays will contribute to better quality PPM decisions than the other tools in complex project portfolios.

Time pressure is another challenge highlighted in the literature; time pressure can have detrimental effects on decision-making ability (Janis and Mann, 1977; Svenson and Maule, 1993; Ahituv *et al.*, 1998). As time pressures are often unavoidable, it follows that tools that reduce the perception of time pressure or the negative effects of time pressure will enhance PPM decision making. Graphical data representations can allow data to be cognitively processed while preserving spatial orientations and interrelationships (Meyer, 1991) and therefore may require less data conversion to evaluate interrelationships. It is proposed that the different visual tools possess different degrees of cognitive fit with the task and will provide different levels of time saving benefits in the analysis of interdependencies. VPM displays are proposed to have the highest degree of cognitive fit and to alleviate time pressure better than the other tools. If users are more likely to feel they have enough time to make a decision with a particular tool, then that tool is more likely to provide benefits in less time, reduce the negative effects of time pressures, and lead to better decisions. The second and third hypotheses are:

H2: The type of tool used to evaluate project interdependencies will be correlated with the perception of the adequacy of the time allocated to the decision task.

H2(a): Users of VPM displays will report higher levels of time adequacy than users of other tools.

H3: Perception of time adequacy positively relates to the quality of the resulting decision.

A higher degree of cognitive fit should enhance the power of human cognitive capabilities to accurately recognize the interdependency relationships in the project portfolio. VPM displays are proposed to have the highest level of cognitive fit with the interdependency evaluation task, and should therefore result in better interdependency understanding. Therefore the fourth set of hypotheses is:

H4: The type of tool used to evaluate project interdependencies will be correlated with the level of understanding of the interdependencies in the portfolio.

H4(a): Users of VPM displays will report higher levels of understanding of the interdependencies in the portfolio.

Improved understanding of the interdependencies in the portfolio is desirable because it should lead to better decisions. A system with better cognitive fit that enhances human cognitive capabilities to understand interdependencies is only of value if that understanding is translated into better decisions. We propose that the quality of the decision will be related to the level of understanding of project interdependencies. Therefore the fifth hypothesis is:

H5: The level of understanding of project interdependencies is positively related to the quality of the decision.

Figure 2 displays the five hypothesized relationships between the type of tool used to visualize project interdependencies and the resulting decision quality.

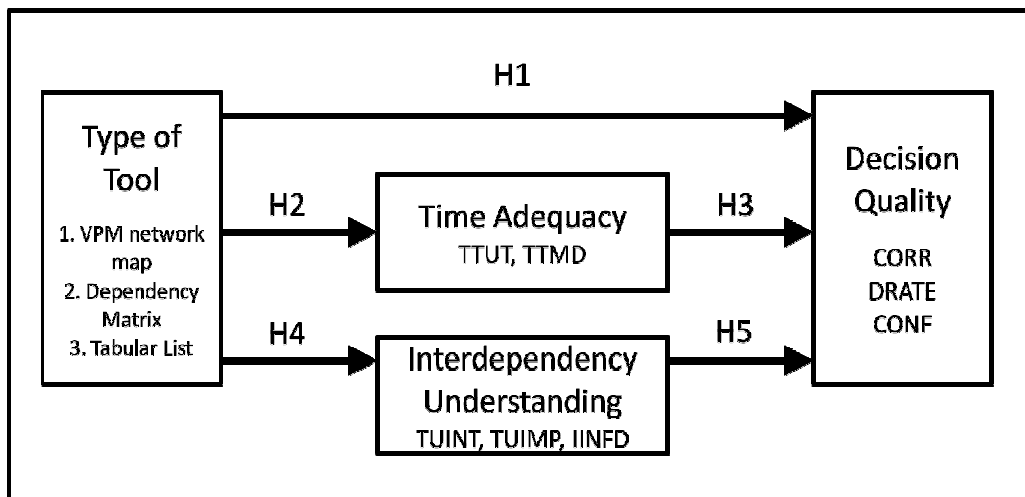


Figure 2: Conceptual model linking the type of tool, perception of adequacy of time, level of interdependency understanding and decision quality.

RESEARCH METHOD

Methodology

A simulated decision task in a controlled classroom setting was used to test the five hypotheses. Although experimental research is common in fields like psychology, economics, or marketing, it is not common in project management or PPM research and the research reported in this paper represents an exploratory application of experimental research in such settings. The few related studies reported in the literature include experimental approaches to simulate resource allocation and sharing decisions in a project environment (Bendoly and Swink, 2007) and to understand decision-making processes and learning effects in the project and portfolio management domain (Arlt, 2011).

Experimentation was selected to complement organization-based research in this study by providing a reliable and controllable environment where the effects of changes can be measured. The experimentation in the current study was designed to balance the principles of realism and simplicity as summarized by Grossklags (2007). A degree of realism was included by proposing a plausible scenario based in a business environment. Simplifying the scenario enabled the participants to focus on the central task, and the controlled setting removed many of the confounding factors that would impact research in an organizational setting.

Experimental data displays

The experiment evaluated and compared the use of different methods of presenting project interdependency data. Three different types of data displays were developed for this study; VPM (the network mapping display), a Dependency Matrix, and a Tabular List. Each of the displays contains the same information, and each has been color coded to highlight the strategic importance of the projects in the portfolio. A rainbow spectrum was employed where red and orange were used to highlight highly strategically important projects, and green and blue were used for projects that are less important strategically. In addition to strategic importance and dependency data, the scenario also included financial information (investment and projected return on investment).

The Tabular List and the Dependency Matrix displays were created based on approaches commonly used in industry to represent project interdependencies. The Tabular List presents project interdependencies in a single column as part of a spreadsheet. The Dependency Matrix display provides a deeper level of detail by highlighting dependency relationships in the cell corresponding to the pair of interdependent projects (in the row and column).

The newly proposed method, VPM, visualizes project interdependencies based on a network mapping approach. An increasing range of network mapping tools facilitate the creation of such displays, making it practical to consider the introduction of such displays to support PPM decisions. The VPM display (as per the sample in Figure 1) is proposed to have the highest level of cognitive fit with the interdependency analysis problem, as each interdependent set of projects is directly connected by an arrow, and as the multi-level interdependencies are also easy to visualize.

The experiment reported below was designed to reveal the potential influence of the type of data representation on the resulting decision. Visual displays were created based on identical project interdependency data in each of these three formats and randomly assigned to research participants as detailed below.

Research design and experimental session detail

Postgraduate students participated in this study as part of a course in technology management. Students are often used as research subjects in experimental research and can provide relevant input when they have an appropriate background (Arlt, 2011; Bendoly and Swink, 2007; Dull and Tegarden, 1999). The student participants in this study have completed an engineering or technical undergraduate degree and are already familiar with project management concepts which aided their suitability as research participants. However, it must be acknowledged that the use of students may introduce bias as there may be a lower degree of diversity among the group and

common source bias may result, and they do not usually possess the same level of experience and maturity as practicing managers involved with PPM decisions. Participation in the research provided advantages to the students as the topic is relevant in industry and served to augment and extend their education. As this research involved students, the university ethics clearance was obtained and the research was designed so that participation was voluntary and confidential.

The research design was pilot tested twice, first with seven participants and then with twelve. Following feedback from the pilot testing, the presentation of project data and the visual data displays were adjusted and the procedure for the warm-up task was refined. The pilot testing was also designed to capture results in five-minute increments to help determine the optimal time limit for the experiment, a ‘trial and error’ approach commonly taken in such research (Svenson and Maule, 1993). The pilot testing indicated that 15 minutes was about the right amount of time – enough for most students to absorb the data and make a decision but within a tight enough timeframe to highlight the effect of time pressure.

The experiment was embedded in an 80-minute educational session on the topic of PPM and project interdependency management. At the end of the experiment students were asked to fill out a short survey that collected data on the decisions made and on the participants’ perceptions of time adequacy, confidence with the decision and degree of understanding of the project interdependencies. The decision scenario was developed based on a realistic challenge – it asked students to reduce the budget by ten per cent by selecting one or more projects to cancel (remove from the portfolio). The scenario was complex due to the high number of interdependencies between projects in the portfolio.

During the class session, students were randomly assigned one of the three tools for their decision task, and were provided with a set of materials for the task using their assigned tool. A warm-up task conducted before the main decision task helped students learn about the use of their assigned tool and aimed to reduce the learning effects inherent in the experiment by allowing students to move up on the learning curve. During the main decision task, students evaluated identical data on the 26 projects in a generic project portfolio. The following information was provided for each project: investment and net present value projections, a rating for degree of strategic fit, and information on project interdependencies in one of three data display formats. For simplicity, all project interdependencies were assumed to be equal; varying types and strengths of relationships were not considered. Students were given 15 minutes to complete the decision task. In this time, they were required to review the information provided and decide which project or projects to cancel to trim the portfolio budget by ten per cent. During the decision process, students were asked to balance the following considerations with equal weighting: the interdependencies between projects and any flow-on effects from their decisions to cancel projects; the impact on strategic fit; and the return on investment. Although simplified for the purposes of this experiment, this type of scenario where multiple types of data must be balanced reflects the challenges faced by PPM decision makers.

Survey and item development

The research participants recorded their decision and provided responses for several items in a short survey immediately following the 15 minute decision experiment. The eight items that were designed to test the hypotheses are listed in Table A1 in Appendix A. The items CORR and DRATE were rated based on each participant's decision. The remaining items employed anchored 5-point Likert scales to collect perception-based responses from the participants.

Three measures of decision quality were used to test Hypothesis 1 and determine whether the type of tool used to evaluate project interdependencies is correlated with the quality of the resulting PPM decisions. Based on the decision entered by the participant, a binary rating (CORR) was created with a value of 1 for the correct decision and 0 for any other decision, and another rating (DRATE) was rated on a scale of 1–5 based on how well the decision balances the required criteria and represents an optimal decision, with 5 representing the optimal decision and 1 the least optimal or most nonsensical decision. The rating acknowledged the gradation in decision quality, but required the use of judgment that could introduce bias. To reduce this bias, two researchers participated in a blind rating process (with no knowledge of the tool used or class session of the participant) and then discussed their decisions and agreed on the final ratings for DRATE. The third measure of decision quality is a perception-based item (CONF) that measures participants' confidence in their decision. Perception-based responses are often used in survey research and are accepted as reliable indicators of reality. These three decision-quality ratings were correlated with tool type to address H1.

Hypothesis 2 proposed that the type of tool used to evaluate project interdependencies will be correlated with the perception of the adequacy of the time allocated to the decision task, and Hypothesis 3 proposed that perception of time adequacy positively relates to the quality of the resulting decision. To test H2 and H3, two items on the research participants' perceptions of time adequacy for understanding the tool (TTUT) and to make the decision (TTMD) were correlated with decision quality measures and tool type.

Hypothesis 4 suggests that the type of tool used will be correlated with the level of understanding of the interdependencies. Three final items assessed whether the tool used was instrumental in the understanding of project interdependencies and portfolio effects of decisions (TUINT and TUIMP), and whether the interdependency information influenced the decision made (IINFD). Findings from these items are correlated tool type to address H4.

Hypothesis 5 proposes that the level of understanding of project interdependencies is positively related to the quality of the decision. The items TUINT, TUIMP and IINFD are correlated with decision quality measures to test H5.

Data collection and analysis

The experimentation was conducted in seven postgraduate technology management classes during 2011 and 2012 and resulted in 264 valid survey responses from 271 students. Responses were considered invalid if participants did not identify which tool they used during the experiment or selected more than one tool; these invalid responses were ignored during the data analysis. The valid responses represented a random allocation of tools across the seven class sections; 91 participants used a VPM display, 87 used the Dependency matrix and 86 used a

Tabular representation. Although the experiment was designed to allocate the tools equally across the sample, the numbers are slightly different due to the use of seven class sections where class numbers are not always divisible by three and the removal of some invalid surveys.

Mean and standard deviations for the survey items are presented in Table A1 in Appendix A.

The student's t-test for independent samples (referred to as the t-test) was used to evaluate responses between groups of respondents based on tool type used during the experiment. Groupings were set up for users (1) and non-users (0) for each tool. Levene's test for equality of variance was used to determine the applicability to the 'equal variance assumed' or the 'equal variance not assumed' t-test values (Collis and Hussey, 2003; Garson, 2012). The level of significance of the differences in means based on these groupings is identified in figures 3, 4 and 5 using the symbol * for findings that are significant at 0.10 or better.

The student's t-test was also used to test for any significant differences in responses based on the class session. Independent sample t- tests were conducted between pairs representing all combinations of the seven classes. No significant differences were found between item responses based on the class session attended.

Bivariate Pearson correlations were used to test correlation between the 5-point scale items. Tests for normal distribution revealed acceptable kurtosis of the data; however, data for a few of the items were negatively skewed, and so nonparametric analyses were also conducted using Kendall's tau and Spearman test. These tests confirmed the significant relationships identified using Pearson's Chi squared tests with only minor differences between the Pearson results. Therefore, for simplicity the data have been reported using the Pearson format. All statistical results represent two-tailed analysis. Significance levels are reported for each correlation.

FINDINGS AND DISCUSSION

All but one of the primary hypotheses identified on the conceptual model in Figure 2 were supported by the findings. The only exception was that no significant difference was found between perceptions of time adequacy and tool use to support Hypothesis 2. The findings related to each hypothesis are detailed below.

Hypothesis 1: The three measures of decision quality were used to determine whether tool type is related to decision quality. Overall, 17 per cent of respondents arrived at the correct and optimal decision (CORR = 1) during the decision task. As shown in Figure 3, the percentage of research participants that made the optimal decision was highest for the group that used the network mapping VPM tool, with 28.6 percent of the participants achieving an optimal decision in the time allowed. Just over ten and eleven percent of the decisions made using the other tools, the dependency matrix and the Tabular list were optimal.

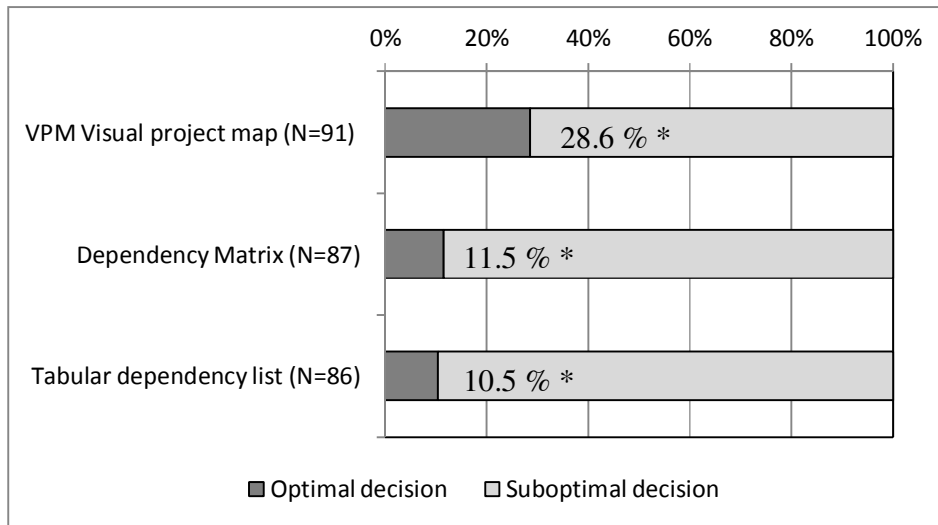


Figure 3: Percentage of optimal decisions (CORR=1) per tool type

(* = indicates 0.10 or better significance of the difference between use and non-use of a tool)

An alternative view of the relationship between tool type and decision quality was developed using a rated degree of decision quality that acknowledges the continuum between ‘best’ and ‘worst’ decisions. Overall, the mean value for DRATE (rated degree of decision quality) was 2.80 with a standard deviation of 1.475. Figure 4 illustrates the mean values for DRATE for groups using each tool. Differences between each tool are significant and the use of the VPM tool resulted in the highest values for DRATE, with a mean improvement in the decision rating of 0.759 compared with users that do not use VPM (sig 0.000).

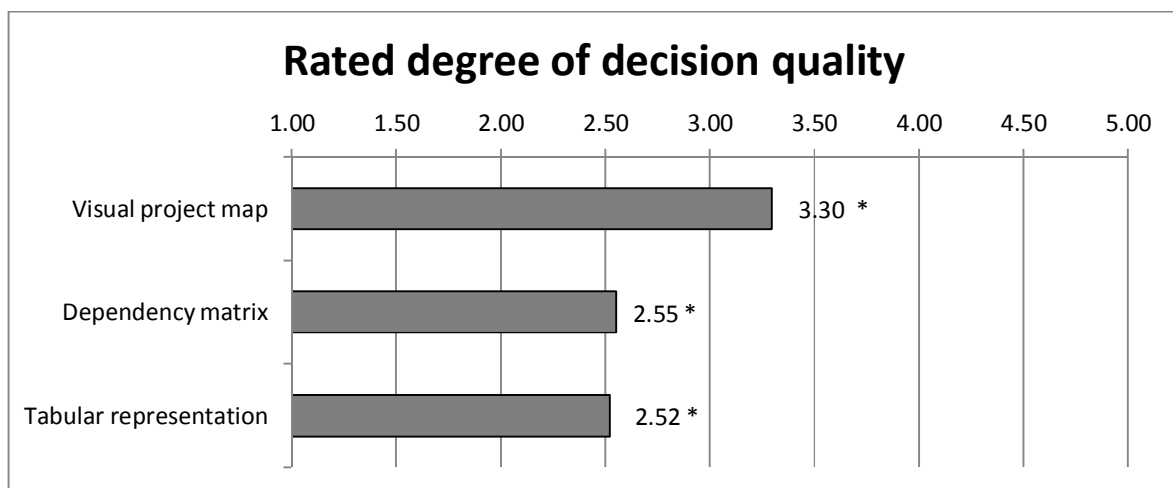


Figure 4: mean rating for decision quality per tool type

(* indicates 0.10 or better significance of the difference between use and non-use of a tool).

These first two measures of the quality of the decision, CORR and DRATE are highly correlated. The mean value of DRATE for respondents where CORR=0 (not the optimal decision) is 2.39 whereas the mean value for DRATE when CORR=1 is 5.0 (mean difference of 2.61, sig 0.000).

The final measure of decision quality, CONF (participants' level of confidence in their decision) did not show any significant differences that corresponded to the use of one of the tools. However, the level of confidence correlated very significantly with the rated decision quality (DRATE) (Pearson 0.322, sig .000).

Overall, these findings support H1 and H1(a). The type of tool used to evaluate project interdependencies correlated with differing levels of decision quality as measured by CORR and DRATE, and the use of VPM displays corresponded with the best decision quality results as hypothesized.

Hypothesis 2: H2 proposed that the type of tool used to evaluate project interdependencies will be correlated with the perception of the adequacy of the time allocated to the decision task. Comparison of the perceptions of time adequacy with type of tool used did not reveal any relationships strong enough to statistically support H2 or H2(a).

Hypothesis 3: H3 proposed that perception of time adequacy will positively relate to the quality of the resulting decision. As shown in Table B1 in Appendix B, decision quality correlated strongly with perceptions that time was adequate. At the 99 per cent confidence level, respondents that felt they had enough time to understand the tool used (TTUT) and to make decisions (TTMD), made significantly better decisions, and had higher confidence in their decisions.

Hypothesis 4: H4 proposed that the type of tool used to evaluate project interdependencies will be correlated with the level of understanding of the interdependencies in the portfolio. Figure 5 compares the interdependency understanding items based on the type of tool used and provides strong support showing significant differences between the users of each type of tools for the ability of the tool to enable understanding of interdependencies, TUINT, and the ability to enable understanding of impact on other projects, TUIMP. These two measures provide support for H4(a) as they show highest mean responses for VPM users, followed by dependency matrix users, with the users of the tabular lists reporting the lowest levels of attention and understanding.

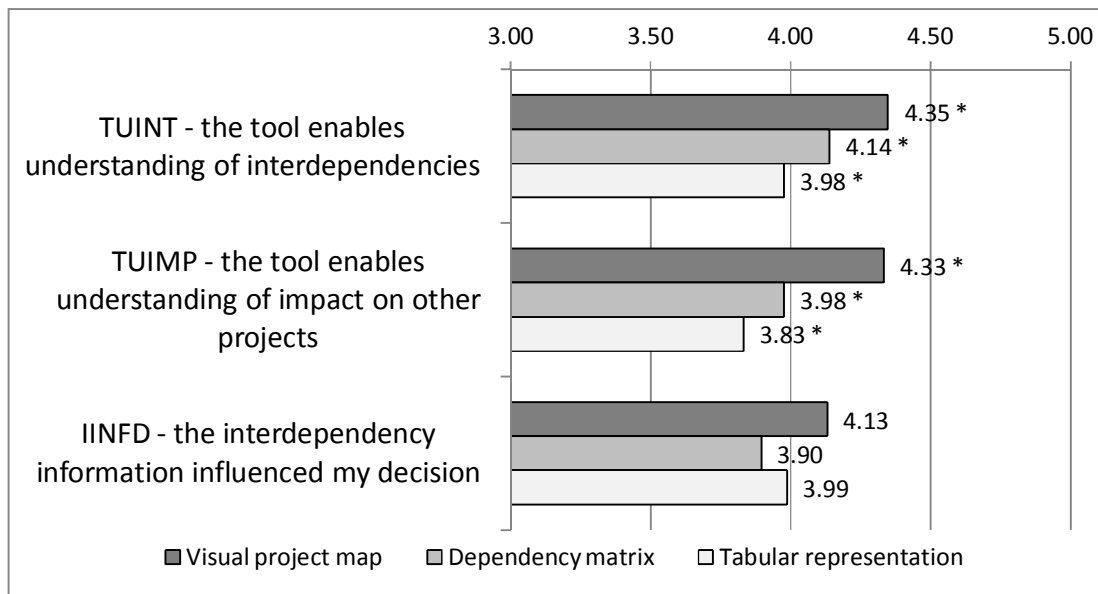


Figure 5: Mean responses on interdependency understanding and analysis by tool type (* indicates significance of 0.10 or better for differences between use and non-use of a tool).

Overall, these findings provide strong support for H4 and H4(a), indicating that the level of understanding of the interdependencies differs significantly between the different tools and is highest for users of VPM displays. However, although there are significant differences between each of the tools related to the levels of understanding of interdependencies and their impact on other projects as shown in Figure 5, there are no significant differences between the levels that the interdependency information influenced decisions, IINFD. This may explain the weaker decision quality results for the users of dependency matrices and tabular lists; when a weaker understanding of project interdependencies is used to influence decisions it will negatively affect the decision quality.

Hypothesis 5: Finally, as shown in Table B1 in Appendix B, all three measures of the understanding and analysis of interdependencies (TUINT, TUIMP and IINFD) show significant correlations with the quality of decisions as measured by DRATE, the decision quality rating (significance between 0.000 and 0.033), and the degree of confidence in the decision, CONF (at significance 0.000) providing strong support for H5.

SUMMARY AND CONCLUSION

An experiment-based study explored three different methods of representing project interdependency data and their relationships with decision quality in a simulated PPM decision scenario. The research proposed correlations between the use of different data representations and the level of understanding of project interdependencies and the resulting decision quality. VPM displays were proposed to have strongest correlations as they provide a direct visual representation of links between projects and of the ‘web’ of interdependencies in a complex portfolio.

The findings, based on a sample of 264 experiments, support and extend research that demonstrates the benefits of graphical data displays when compared with numerical and text-based information. The type of tool used to represent project interdependencies is correlated with differing levels of PPM decision quality (in support of H1). The use of VPM, the newly proposed network mapping approach, is correlated with the highest levels of decision quality indicating that the cognitive fit between the representation and the task may be strongest and that VPM has the potential to improve the quality of PPM decision making for complex project portfolios.

The importance of reducing time pressure in decision making is highlighted by the strong correlation between adequacy of time and improved decision quality (in support of H3), however no statistical difference was found in the perception of time adequacy between users of different tools (H2 was not supported).

The findings confirmed significant differences between tool type and the level of interdependency understanding and showed that users of VPM reported the highest levels of understanding (in support of H4). These findings provide further evidence that the VPM displays may have the strongest cognitive fit with the task of understanding interdependencies. Finally, the research reveals a very strong relationship between the level of understanding of the interdependencies and the decision quality (in support of H5). These findings show that the use of VPM is most strongly correlated with high levels of understanding of project interdependencies and of the flow-on effects of project decisions across the portfolio, and suggest that this understanding may contribute to higher decision quality.

Limitations and implications for future research: The experimental design outlined in this study illustrates how an experiment-based study can be useful in PM and PPM research, especially as a complement to organization-based research. There are limitations inherent in controlled experimentation that should be kept in mind, for example the results may be biased due to the design of the experiment or the fact that the use of students may not represent managerial decision making. In addition, the simplification of the scenario may skew the results and it is not known whether the inclusion of additional factors such as risk or project sponsorship levels would affect the findings. In addition, the management of interdependencies is more complex than illustrated in the scenario, and the method should be tested with multiple types or strengths of dependencies. Finally this research measured the decisions made by individuals and this may not accurately reflect group decision making which is central to PPM. Future experiments could test a different combination of factors and/or incorporate group decisions, and should aim to triangulate findings with organization-based research for improved validity and reliability.

Two aspects of the findings raise specific questions and suggest a need for further testing. First although the study showed a clear relationship between time and decision quality, none of the tools provided significant benefits through increased perceptions of time adequacy. Therefore more research is required to determine whether and how data representation methods can alleviate the time pressure and how they can be designed to efficiently enlist human cognitive capabilities in processing visual information. In addition, the findings suggest that the degree to which the interdependency information was used to influence the decision was not significantly affected by the differences between the levels of understanding reported. This misalignment could explain some of the lower quality decision outcomes, and could be investigated further to

better understand the link between the level of understanding and the degree of application of that understanding to the problem.

Previous research on VPM conducted in organizational settings shows that organizational culture is an important factor in promoting information sharing and communication to support decision-making processes and tools (Killen and Kjaer, 2012). This experiment-based study did not explore such factors and although it was created to reflect decision challenges in organizations, such an experiment is not sufficient to draw conclusions about professional practice. However, as a complement to organization-based research, the experimental study has provided increased confidence in the findings through triangulation of the results. While the organizational study provided real-life experience and feedback on the use of VPM, due to the complexity of organizational environments it was not able to isolate the influence of VPM or to directly compare it with other methods. The research reported in this paper compensates for these limitations by using a controlled experimental setting where only one variable is adjusted (the type of data representation) and by analyzing and comparing the resulting decisions. The findings from the experimentation reinforce the findings from the organizational research; both show benefits from the use of VPM in improving understanding of project interdependencies. Experiment-based studies are not common in PM and PPM research, but show the potential to complement and augment organization-based studies. Researchers should consider extending and refining experiment-based approaches to enhance PM and PPM studies in the future.

Implications for management: The findings of this study highlight the importance of fit between the methods or tools employed and the problem at hand, mirroring findings from PPM research that demonstrate the need to tailor methods and tools to each situation. The use of visual data representations is supported, with the caveat that management should carefully consider the types of information required to support decisions and ensure that there is a good cognitive fit with the aspects of the data emphasized by visual data representations. With respect to the management of project interdependencies, the findings suggest that management should investigate whether visual displays, VPM in particular, can provide benefits in their organizations. The research supports the design and/or selection of software tools that create visual data displays to aid PPM decision making, especially highlighting the need for tools to manage interdependencies. In addition, the strong relationship between perceptions of time adequacy and improved decision quality supports efforts to reduce time pressure in decision environments. Managers should bear in mind that these results are based on a simulated decision task in a classroom setting that does not represent the full complexity of an organizational decision.

In conclusion, a controlled decision experiment has highlighted the influence of different data representations on PPM decisions. The study complements earlier organization-based research and provides a practical example of experimentation in project and portfolio management research. Network mapping data visualizations are found to be associated with higher levels of understanding of project interdependencies and better decision quality than the tabular or matrix-based data representation methods indicating that network mapping displays may have better cognitive fit with the task. These findings highlight the value of visual data representations, illustrate the value of designing data representations that are fit for the decision task, and suggest that network mapping data representations may have the potential to improve the quality of decisions in the management of complex project portfolios.

APPENDIX A

Table A1: Rated variables and survey items with descriptive statistics

Rating Label	Explanation of rated variable	Mean	Std. Deviation
CORR	Binary rating, 1 for correct or optimal decision, 0 for any other decision	0.17	0.377
DRATE	Rated decision on 5 point scale for the statement "The decision made balances the required criteria and represents an optimal decision"	2.80	1.475
Item Label	Item statement for 5 point scale Likert response	Mean	Std. Deviation
CONF	I am confident I have selected the best projects to eliminate	3.66	1.019
TTUT	Before the main task, I had enough time to understand the interdependency evaluation tool I was assigned	4.25	1.026
TTMD	I felt I had enough time to make this decision	3.77	1.182
TUINT	The tool that I used enabled me to understand the interdependencies between projects	4.16	.901
TUIMP	The tool I used enabled me to understand the impact of my decision on other projects in the portfolio	4.05	.955
IINFD	The interdependency information influenced my decision	4.01	1.072

Participants were presented with item scales anchored at the end- and mid-points for each of the items listed in Table A1. The following example illustrates the style of anchoring used in the data collection survey.

Item CONF: "I am confident I have selected the best projects to eliminate"

1	2	3	4	5
No, I am not at all confident I have selected the best projects		I think I probably selected an appropriate set of projects		Yes, I am very confident that the projects I selected are the best ones to eliminate

APPENDIX B

Table B1 outlines the correlations between items and the decision rating DRATE and the item CONF.

Table B1: Pearson correlations between decision quality measures and other items

	DRATE	CONF
TTUT	0.187 (sig 0.002)	0.323 (sig 0.000)
TTMD	0.224 (sig 0.000)	0.617 (sig 0.000)
TUINT	0.133 (sig 0.033)	0.288 (sig 0.000)
TUIMP	0.185 (sig 0.003)	0.445 (sig 0.000)
IINFD	0.226 (sig 0.000)	0.333 (sig 0.000)

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