A Scholarly Magazine of the Decision Sciences Institute Vol. 50, No. 2 MARCH 2019

DECISION LINE

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Tradition dictates that my final communique reports on accomplishments during my term as your DSI President. Let me say unequivocally that these are our collective accomplishments. Together, we have: >> More

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DECISION LINE

DECISION LINE is published five times a year by the Decision Sciences Institute to provide a medium of communication and a forum for expression by its members, and to provide for dialogue among academic and practitioner members in the discipline. For more information about the Institute, please call 713-743-4815.

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Website: Decision Line feature articles and more information on the Decision Sciences Institute can be found on the DSI website at www.decisionsciences.org

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ISSUE MONTH	DEADLINES FOR AUTHORS
January issue	December 10th (prior year)
March issue	February 10th
May	April 10th
July issue	June 10th
October issue	September 10th

VISION STATEMENT

Decision Sciences Institute will be recognized globally as a scholarly professional association that creates, develops, fosters and disseminates knowledge to improve managerial decisions.

MISSION STATEMENT

Decision Sciences Institute provides forums to create, disseminate and use knowledge to improve managerial decision making involving systems and people.

PRESIDENT'S MESSAGE

Johnny Rungtusanatham
2018-2019 DSI President
rungtusanatham.1@osu.edu

Dear DSI Colleagues:

I write, as my term as President of DSI nears conclusion (April 30, 2019), for several reasons. As usual, I intend to keep my communiqué "short and, hopefully, sweet."

Tradition dictates that my final communiqué reports on accomplishments during my term as your DSI President. Let me say unequivocally that these are our collective accomplishments. I simply planted some seeds, worked with the DSI Board of Directors to remove obstacles and provide support, and am now reporting. Together, and for example, we have:

ANNUAL DSI CONFERENCE

- Reaffirmed a **three-pillar structure** for the annual DSI conference to include research, pedagogical research, and professional development.
- Added a professional development **"plant tour"** to the programming for the annual DSI conference.
- Implemented a **conference app** to complement the traditional paper version of the annual DSI conference program.
- Launched a new competitive session at the annual DSI conference to highlight and recognize **regional best paper presentations**.
- Continued to host a **DSI-regions open forum** at the annual DSI conference for mutual exchange of ideas between DSI and regions and among regions.

DSI

- Adopted a new **Bylaws** document to replace the archaic Constitution and the voluminous Bylaws documents.
- Removed the confounding of international entities affiliated with DSI and US-based regions of DSI by relabeling international entities as **Chapters** (a temporary label in place until international chapters adopt a new document governing their relationship with DSI).
- Drafted and shared a new "strawman" **Charter** document for US-based regions to adapt and adopt that protects the 501(c)(3) non-profit status of DSI.
- Initiated discussions with international chapters on **three options** to properly structure the relationship between DSI and international chapters that protects the 501(c)(3) non-profit status of DSI.
- Approved a new tagline that brands and recognizes DSI as a community of **Scholars, Educators, and Problem-Solvers**.
- Approved a new **DSI logo** to serve as the basis for regional logos to be implemented in the coming year.
- Launched and awarded a new honor to recognize DSI members for distinction in the educating of others – the **Lifetime Distinguished Educator Award**.
- Revised and approved for the soon-to-be-approved new **Policies and Procedures**, for the following committees: Nominating, Fellows, Dennis E. Grawoig Distinguished Service Award, and Lifetime Distinguished Educator Award.
- Approved revised **financial guidelines** governing the handling of money matters by regions and between DSI and regions.

Details about why, how, and what for these accomplishments are shared in my previous communiqués

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FROM THE EDITOR

Johnny Rungtusanatham, outgoing DSI president, has written his last letter to you explaining his and the board's accomplishments during his tenure as the President. In his letter he touches on highlights of DSI accomplishment and divides it into two broad categories of changes to our annual conference and then DSI in general. Several changes have been introduced to the annual conference, for example, developing the Conference App, DSI-Regions Open Summit, Regional Best Paper Presentation, and Plant Tour. At the DSI level, many important changes were incorporated in DSI system from adopting new Bylaws, to introducing the three pillars of Scholars, Educators, and Problem Solvers, to a adding a new recognition (Lifetime Distinguished Educator Award), and a new DSI Logo among other changes.

The DSI Executive Director, Vivian Landrum, provides two sections on the election of the new officers for DSI and then a recap of the board meeting. The election for the new DSI Officers have been completed and now we have a new group of elected individuals who have been involved with the organization for many years and we are sure they will move DSI forward to higher plateau. One important report for classifying our membership and membership fee as it relates to each category. Please read this segment to learn more about this new membership fee arrangement.

Kevin Linderman provides an overview of the 2019 Annual Conference (50th anniversary of our organization). Please read this section as it provides a list of all tracks and consortia and much more. I encourage you all to participate and join us in New Orleans. This conference in very special as we will be celebrating the 50th year of DSI. There are many quality sessions being prepared and very interesting events are being planned. The conference is set for November 23 to November 25, 2109 in New Orleans Marriott. Please note the following important deadlines if you plan to participate in this year's conference and celebrate the 50th birthday: a) Full papers due by May 15th, b) Abstracts are due by May 30th, c) Panel Proposals are due by May 30th, d) Workshop Proposal: May 30th, and e) Award Competition due by May 30th. Additional sections are devoted to this year's conference highlighting various events that is being planned for the 50th anniversary.

This issue of the Decision Line contains several articles that cover a variety of interesting topics of interest to our readership. James Michael presents his paper

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Maling Ebrahimpour is the Dean and Professor of Supply Chain in the College of Business Administration at The University of Rhode Island. He is an active researcher and has authored or coauthored over 100 articles that have been published in scientific journals and proceedings. Most of his work focuses on various issues of quality in both service and manufacturing companies. He received his PhD in business administration from University of Nebraska-Lincoln and has served on the editorial review board of several journals, including Journal of Quality Management, Journal of Operations Management, and International Journal of Production Research.
mebrahimpour@uri.edu

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and in the regular reports from our Executive Director, Vivian Landrum. These communiqués and reports are archived and can be found in previous Decision Line issues.

I am honored to have had your trust and to serve as your President. However, without an effective DSI Board of Directors, your trust in me would have been in vain. As such, I want to take this opportunity to recognize the various members of the DSI Board, especially those whose term is also ending on April 30, 2019:

- Jeet Gupta, University of Alabama at Hunstville, Immediate Past President
- Jan Hartley, Bowling Green State University, President-Elect and incoming DSI President
- Anand Nair, Michigan State University, Secretary
- Sri Talluri, Michigan State University, VP Marketing
- Natalie Simpson, State University of New York at Buffalo, VP Information Systems
- Jennifer Blackhurst, University of Iowa
- Ravi Kumar Jain, Symbiosis Institute of Business Management - India

These individuals, and those who are continuing on the Board, have set a high standard on how to work together in our digital environment. They have been recipients of numerous emails and phone calls about DSI matters. None have complained and all have been gracious to hear me out whenever I made contact. Thank you. I am in your debt.

Elections to replace these individuals on the DSI Board has concluded. To those elected, congratulations. Please read my previous paragraphs to understand the important role that you have agreed to take on and the impact that you will have as you work with Jan Hartley, the incoming DSI President. To those of you who were nominated but not elected, please do not be disheartened. I had, myself, previously run unsuccessfully for Treasurer, but continued to be of service to DSI. This is my sincere advice to you as well. Continue to volunteer in a capacity that reflects your expertise and passion and you will succeed.

As I assume the role of Immediate Past President on May 1, rest assured that I will take a cue from many of our past DSI Presidents. I will provide advice if and when solicited, I will execute my responsibilities given but not sought by me, and, when doing so, I will always do so with the welfare of DSI and its members as Priority #1.

Sincerely,
Johnny Rungtusanatham
2018-2019 President, Decision Sciences Institute

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titled Back Sawn and Data Conservation: The Potential Challenges faced by Organizations. From the bookshelf you read a review of a book titled "Balancing Green: When to Embrace Sustainability and in a Business (And When Not To)," authored by Yossi Sheffi. This review is done by our new feature editor, Mehmet Yalcine. Another article titled "Game Theory Revisited: Searching for Answers About Collaboration on Software Development Projects," authors Ken Kendall and July Kendall discuss in details their unexpected findings. Danny Samson, in his article titled "Operations Management Research: A world of Opportunity," informs readers that there are still much research to be done in this area. He states that there is no shortage of problems that are worthy of research that should lead to solutions to many unsolved issues in this area.

The following sections inform our readers of various regional conferences and activities and accomplishments by our members. In addition, nominations are being accepted now for the Carol J. Latta Memorial Award for Outstanding Early Career Scholar. Eligibility criteria, deadline and submission information are offered. Please nominate any DSI member who is in the early stages of their profession and is already an active member of DSI. Deadline for nomination is August 31, 2019. The rest of the issue is devoted to the regional news including call for paper, announcements from the region and regional conference recap.

I encourage you, our reader, to share your opinions, ideas with us by writing and sending it to me at mebrahimpour@uri.edu.

I am looking forward to reading your articles for inclusion in Decision Line.

Maling Ebrahimpour, PhD
Editor
College of Business
The University of Rhode Island

REMINDER REGARDING DSI MEMBER MANAGEMENT SYSTEM LOGIN

Current and past DSI members who are trying to log into their DSI accounts will not be able to use their old user names and passwords the first time an attempt is made to log into the new GrowthZone system. Security protocol does not allow the transfer of passwords from one system to another. Thus accounts must be activated before they can be accessed.

Any DSI member, current or expired, who is trying to register for the upcoming November conference, will need to activate their DSI account first. To do this, click on Member Login on the DSI website home page. Do not enter a user name or password - instead click on "Create an Account" found under the Sign In button. Follow the prompts. An email will be sent to you to finish the steps. The email address must match what is in the DSI account. Once the account is activated, normal email login procedures will apply.

Any member more than 120 days past due may need to JOIN DSI again. Once current, past records will be merged with the new record to ensure past history is maintained.

Questions? Contact the Home Office at 713-743-4815 or email info@decisionsciences.org.

DSI ELECTION RESULTS

By Vivian Landrum, Executive Director

Each year, the Decision Sciences Institute holds Board Member elections following an open recommendation and nomination process. Once the nominations are received, the Nominating committee faces a challenging task of condensing the slate to just two to three candidates per position.

After a 30-day voting time frame via SimplyVoting, our secure email voting system, the DSI membership made their decision as to who would serve on the 2019-2020 Board and lead the Institute into a new decade. With 1329 electors (voting-eligible members), 52% participated in the election. Our thanks to those who volunteered to commit themselves to a higher level of participation by agreeing to run, and to those who participated in the election process. Board members of DSI serve a two year term, while the President-Elect serves a one year term before serving as President. Please join me in welcoming the following to the DSI 2019-2020 Board of Directors:

President-Elect
Vijay Kannan, Utah State University

Secretary
Anthony Ross, University Wisconsin-Milwaukee

VP–Americas Division
Peggy Daniels Lee, Indiana Uinversity

VP–Asia Pacific Division
E.B. Khedkar, Ajeenkya DY Patil University

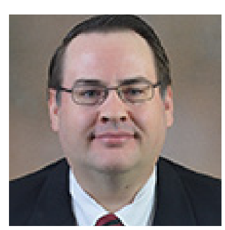
VP Marketing
David Dobrzykowski, Bowling Green State University

VP Publications
Shawnee Vickery, Michigan State University

They will join the current Board members continuing on for one more year:

President as of May 1, 2019
Janet Hartley, Bowling Green State University

Immediate Past President
M. Johnny Rungtusanatham, The Ohio State University



VP of Finance
Alan Mackelprang, Georgia Southern University

Vivian Landrum
DSI Executive Director
vlandrum@bauer.uh.edu

DSI ELECTION RESULTS

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VP Conferences

Wendy Tate, University of Tennessee – Knoxville

VP Member Services

Shanan Gibson, Texas A&M University – Commerce

VP European Division

Carmela Di Mauro, Università di Catania

VP Professional Development

Sriram Narayanan, Michigan State University

DSI BOARD MEETING RECAP

By Vivian Landrum, Executive Director

The last meeting of the DSI 2018-19 Board of Directors took place at the University of Houston on February 9 & 10, 2019. President Rungtusanatham banged the DSI gavel for his final time, and called the meeting to order.

After Roll Call, the November 19 Board Minutes were approved. VP of Finance Mackelprang presented the Statement of Financial Position and Budget vs. Actuals YTD. It was noted the 2018 conference yielded a net profit, which is essential as this income helps to offset the operational expenses as membership income alone does not. Investments, overseen by a financial manager, sustained a small loss, to be expected with the current market conditions.

Executive Director Landrum updated the Board on Home Office activities, including the official start on December 3 of new hire, Maria Hunt as Accounts Manager. The FY 2017-18 audit began with the firm of Blazek & Vetterling on Feb. 11. This is the same firm who performed the prior year's audit. A new, three year Memorandum of Understanding was signed with Pearson, strengthening that strategic partnership.

Maria Hunt
Accounts Manager

All standing, ad hoc and other committee reports were accepted, reviewed and discussed. Recommendations from the committees were noted and will be shared with new committees to be formed under the new administration to begin May 1.

Due to the new Bylaws enacted in July of 2018, the continuing initiative of drafting new Policies and Procedures continues to progress. A final copy should be completed before the end of June. A Guidelines for Regional Financial Accounting was approved and included a provision that would allow regions to hold a local bank account, provided the Executive Director is a signatory on the account and has full viewing rights. This will satisfy the DSI auditors and attorney, as well as the IRS.

Also as a result of the new Bylaws, a new relationship must be formally established between DSI and its regions/divisions. As the original Constitution is no longer valid, the regional Constitutions are obsolete. It was felt the creation of regional charters would best define and structure this relationship in a short, concise manner, while allowing for regional flexibility. Regions in the Americas division are working with their Boards to adopt a Charter to be approved/granted by the DSI Board. U.S. regions need to have their Charters approved by the end of this fiscal year.

Vivian Landrum
DSI Executive Director
vlandrum@bauer.uh.edu

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Because of international rules and regulations, international regions cannot follow the same template as U.S. regions. Thus the DSI Board is working with those Boards to define a structural relationship that considers both the goals and constraints of each.

DSI membership fees have not increased since 2009, nor has the assignment of country to categories been revised. The Board unanimously approved an increase to each membership fee category as well as a realignment of country to category based on the 2017 World Bank indicators for GDP and PPP. The new membership rates, to be effective July 1 will be:

	Category A	**Category B**	**Category C**
Regular	$175	$90	$45
Emeritus	$90	$45	$25

In addition, while students will continue to be offered free memberships, it was noted they do consume much of the Home Office staff time, as those that join DSI as Students, are verified as true PH.D. students. In addition, with their free memberships, they cannot be invoiced and thus are not tracking their memberships. Thus they JOIN again – several times. This creates a challenge with memberships as each new membership is added to their existing membership, inflating the membership count. To resolve these issues, a one-time Student Verification Fee, in the amounts of $20 for Category A, $10 for Category B and $5 for Category C, will be applied during the Join process effective July 1, 2019. Student memberships will be valid for a period of two-years, after which the Student will need to rejoin if they still qualify.

The new DSI logo, voted upon by the members at the 2018 Annual Conference, was officially adopted and is now being utilized. Redesign of the regional logos to include the tag line is now being drafted.

DECISION SCIENCES INSTITUTE

Scholars • Educators • Problem Solvers

2019 PROGRAM CHAIR'S MESSAGE

By Kevin Linderman

DSI 2019 ANNUAL CONFERENCE

TRANSFORMING DECISION SCIENCE THROUGH EMERGENT TECHNOLOGIES

NOVEMBER 23 – 25, 2019
NEW ORLEANS MARRIOTT
NEW ORLEANS, LA

CELEBRATING 50 YEARS OF SERVICE

Welcome to New Orleans, LA, for the 2019 Decision Sciences Institute Annual Conference! The conference dates are November 23 - 25, 2019. The theme for this conference is *Transforming Decision Science Through Emergent Technologies*. This theme explores future technologies and how they will fundamentally change decision science. We will revisit historical trends in decision sciences over the past fifty years, and look at the challenges and opportunities in the years to come. We will also look to the future and examine how emerging technologies like Internet of Things, Artificial Intelligence, Augmented Reality, and Blockchain will fundamentally shape decision sciences. Along these lines we will also have professional development workshops that focus on *Predictive Analytics & Machine Leaning* and *Complex Adaptive Systems* and tracks that focus on *Past Present Future of Decision Sciences*, *Industry 4.0*, *Big Data Applications,* and *Social Media*.

Kevin Linderman
Curtis L. Carlson Professor in Supply Chain and Operations
University of Minnesota
Linde037@umn.edu

The conference is organized around three pillars – research, teaching and professional development. It offers a broad array of sessions that deal with each of these pillars, and engages participants on multiple dimensions and interest areas. A number of different consortia will also cater to the interests of participants at different stages of their career development from early PhD students to mid-career faculty. In addition, special interest groups will dig deep into issues related to *Data, Analytics and Statistics Instruction* and *Project Management*. The conference will also provide a venue to recognize excellence, this includes Best Paper Awards, Best Teaching Case Studies Awards, the Elwood S. Buffa Doctoral Dissertation Award, Instructional Innovation Award Competition, and the Best Regional Paper Award. We look forward to your participation in the conference!

CALL FOR PAPERS DEADLINES

We invite you to submit full papers, abstracts and panel proposals focusing on developing new knowledge across all functional areas of business and curriculum. Papers in these tracks are ideally positioned for publication consideration by Decision Sciences Journal and the Decision Sciences Journal of Innovative Education, plus other high impact business journals and business education journals. Panels in the below tracks focus on identifying emerging research topics, identifying leading edge issues, topics and methodologies.

The deadline for submission of full papers and abstracts is fast approaching.

Full Paper Deadline: May 15, 2019

Abstract Deadline: May 30, 2019

Panel Proposal Deadline: May 30, 2019

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Workshop Proposal Deadline: May 30, 2019

Award Competition Deadline: May 30, 2019

Ex Ordo is hosting our conference management system. Please visit our conference website for submission instructions.

RESEARCH AND TEACHING TRACKS

Accounting

Salem Lotfi Boumediene, Montana State University Billings

Big Data Applications

Hung-Chung Su, University of Michigan-Dearborn

Business Analytics

Asil Oztekin. University of Massachusetts Lowell
Ujjal Mukherjee, University of Illinois

Cyber Security and System Resilience

Ravi Behara, Florida Atlantic University
Derrick Huang, Florida Atlantic University

Curriculum and Assessment

Kaushik Sengupta, Hofstra University

Decision Sciences in Practice

Andrea Prud'homme, The Ohio State University
Steven Dickstein, The Ohio State University

Digitization and Industry 4.0

Dmitry Ivanov, Berlin School of Economics and Law
Tobias Schoenher, Michigan State University

Finance and Economics

Salil Sarkar, University of Texas at Arlington

Healthcare Management

Claire Senot, Tulane University
Davood Golmohammadi, University of Massachusetts Boston

Information Systems and Technology

Emre Demirezen, University of Florida
Samayita Guha, Temple University

Innovation and New Product Development

Debasish Mallick, University of St. Thomas

Innovative Teaching

Ardavan Asef-Vaziri, California State University, Northridge

Logistics and Transportation Management

Hakan Yildiz , Wayne State University

Managing Risk in Supply Chains

Mikaella Polyviou, Arizona State University

Manufacturing and Production Management

Manjo Vanajakumari, University of North Carolina, Willmington
Sandun Perera, University of Michigan-Flint

Marketing and Consumer Behavior

Natasa Christodoulidou, California State University, Northridge
Ramkumar Janakiraman, University of Southern Carolina

Operations and Supply Chain Management in Emerging Economies

Arash Azadegan, Rutgers University
Xun Xu, California State University, Stanislaus

Organizational Behavior and Human Resource Management

Stephanie Eckerd, Indiana University

Past Present Future of Decision Sciences

Asoke Dey, The University of Akron

Procurement and Sourcing in Supply Management

Keith Skowronski, University of Southern Carolina
Stephan Wagner, Swiss Federal Institute of Technology in Zurich

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Project Management

Gary Klein, University of Colorado, Colorado Springs
Qiannong (Chan) Gu, Ball State University
Sheila Smith, Ball State University

Quality Management and Lean Operations

Adrian Choo, Michigan State University

Service Systems and Operations

Mike Dixon, Utah State University
David Ding, Rutgers University

Social Media

Naveen Kumar, Memphis University
Liangfei Qiu, University of Florida

Strategic Management

Manjula Salimath, University of North Texas

Supply Chain Management

Jan Olhager, Lund University
John Bell, University of Tennessee, Knoxville

Sustainability, CSR, and Humanitarian Operations

Suvrat Dhanorkar, Penn State University

PROFESSIONAL DEVELOPMENT WORKSHOPS

Behavioral Research and Experimentation in Operations Management

Travis Tokar, Texas Christian University

Crafting a Journal Submission that Makes a Theoretical Contribution

Wendy Tate, University of Tennessee, Knoxville

Dealing with Endogeneity

David Peng, University of Houston

Dealing with Messy Data

Hyunwoo Park, The Ohio State University

Effective Course Design for the Gen Z

Karen Eboch, Bowling Green State University

How to Review a Paper

Alan Mackelprang, Georgia Southern University

Mediation and Moderation Analysis

David Dobrzykowski, Bowling Green State University

Meet the Editors of DSI Journals

Mark Ferguson, Bowling Green State University
Cheri Speier-Pero, Michigan State University

Meet the Editors of Non-DSI Journals

Constantin Blome, University of Sussex
Tyson Browning, Texas Christian University
Suzanne De Treville, University of Lausanne
Barbara Flynn, Indiana University –Indianapolis
Thomas Goldsby, The Ohio State University
Subodha Kumar, Temple University
Morgan Swink, Texas Christian University
Wendy Tate, University of Tennessee, Knoxville

Complex Adaptive Systems

David Novak, University of Vermont

Paper Development Workshop

Joy Field, Boston College

Paradigms for Parity in Advancing Women Leadership in Supply Chain and Operations Management

Funda Sahin, University of Houston

Predictive Analytics and Machine Learning

Ujjal Kumar, University of Illinois

Publishing in DSJIE Workshop

Matt Drake, Duquesne University

Teaching in the Global Context

Vijay Kannan, Utah State University

Teaching Online

Rebecca Duray, University of Colorado, Colorado Springs

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CONSORTIA

Post-Proposal PhD Consortium

Yan Dong, University of South Carolina

Pre-Proposal PhD Consortium

Cindy Wallin, Brigham Young University

New Faculty Development Consortium

Yi-Su Chen, University of Michigan

Mid-Career Faculty Development Consortium

Amit Eynan, Richmond University

SPECIAL INTEREST GROUPS

Data, Analytics and Statistics Instruction (DASI)

Robert Andrews, Virginia Commonwealth University
Kellie Keeling, University of Denver

Project Management

Gary Klein, University of Colorado, Colorado Springs

AWARDS COMPETITIONS

Best Paper Awards

Effie Stavrulaki, Bentley University

Best Teaching Case Studies Awards

Dongli Zhang, Fordham University

Elwood S. Buffa Doctoral Dissertation Award

Nicki Golrezaei, Massachusetts Institute of Technology

Instructional Innovation Award Competition

Kaushik Sengupta, Hofstra University
Ardavan Asef-Vaziri, California State University

Best Regional Paper Award

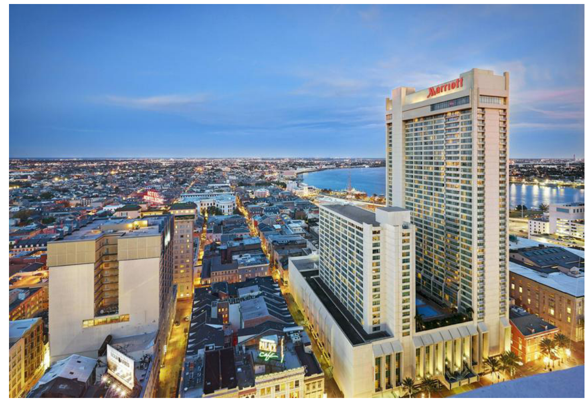
Joy Field, Boston College
Khaled Alshare, University of Qatar

PMI Case Writing Competition

Gary Klein, University of Colorado - Colorado Springs
To contact any member of the Program Team, go to the conference website.

50TH ANNIVERSARY CELEBRATION – GENERAL INFORMATION

Join DSI, as we celebrate 50 years of service to academicians and practitioners interested in the application of quantitative and behavioral methods to the problems of society. This celebration will occur during our 2019 Annual Conference taking place November 23 – 25, 2019 at the New Orleans Marriott – the city where our first annual conference was held. To commemorate this special occasion, DSI has several exciting events planned. Attendees will take a walk down memory lane at our "Historical Walking Tour." At the exhibit, members will relive the last five decades of DSI via memorable photographs, nostalgic videos, vintage Decision Line Issues, and other memorabilia. An expanded Saturday Welcome Reception will be held at the renowned Mardi Gras Float Den, where attendees will receive an exclusive behind the scenes look at the huge, colorful floats and larger-than-life props. The tour will end at the river's edge with a cocktail reception in the Plaza. The Sunday Dinner Banquet will feature special Institute recognitions and conclude with local musicians, inviting guests to linger after the meal to enjoy the music and take to the dance floor. The closing day luncheon will include conference awards. DSI turning 50 is a monumental occasion and we plan to make it an unforgettable event.



HOST HOTEL- NEW ORLEANS MARRIOT

The 50th Annual conference will be held at the New Orleans Marriot, located at 555 Canal Street. The New Orleans Marriot dedicates more than 80,000 square feet for business events, comprised of ballrooms and meeting rooms. The award winning hotel is the only hotel that has meeting rooms 37 floors above all other hotel meeting facilities. A handful of meeting rooms are designed to allow Guests to experience spectacular views of the Mardi Gras city while attending presentations.

Overlooking the Mississippi River, the hotel is the seventh tallest building in New Orleans. Guests can immerse themselves in the nightlife of the Big Easy with convenient access to the best restaurants, live music and entertainment. The host hotel is just steps away from the legendary French Quarter and other historical landmarks including Jackson Square Garden and St. Louis Cathedral.

THINGS TO DO IN NEW ORLEANS

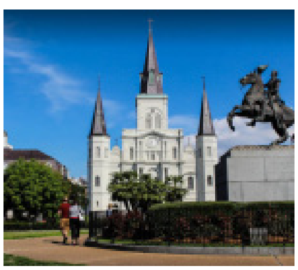
Jackson Square
Located at the heart of New Orleans, Jackson Square is a popular destination for tourists and

CONT. FROM PG. 14

locals. Named after Andrew Jackson, a bronze statue of the past president mounted on a horse can be found in the center of the square. Surrounded by historic buildings, visitors can explore retail shops, galleries, museums, restaurants, and even ride carriages around the quarter. This famous landmark is littered with artists, musicians, and street performers who will keep you entertained as well as create beautiful artwork for you. While there, be sure to head to Café Du Monde to try the city's most delectable beignets.

St. Louis Cathedral

Overlooking Jackson Square, the St. Louis Cathedral is a prominent part of New Orleans. This classical landmark is located between the equally historical Cabildo and Presbytere. The magnificent architecture and beautiful interior attracts locals and tourists from around the world. Visitors can experience the breathtaking interior as well as its timeless murals, sculptures, and stained glass windows through self-guided tours. Don't forget to make a stop at the Cabildo and Presbytere to experience and learn about the traditions of Mardi Gras.



Maison Bourbon Jazz Club

Experience New Orleans' authentic jazz at Maison Bourbon Jazz Club. Just 0.5 miles from the hotel, the famous jazz club is one of only two jazz clubs existing on Bourbon Street. Grammy award winner Harry Connick Jr. and other notable Jazz musicians served their apprenticeships here. The relaxing ambience allows guests to unwind and enjoy drinks while listening to live bands perform classic jazz music.

Lafitte's Blacksmith Shop

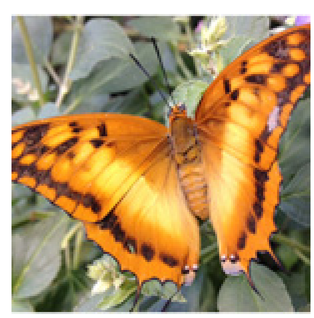
Step into one of New Orleans' oldest buildings, Lafitte's Blacksmith Shop. Built sometime before 1772, the building survived the two greatest fires of the 19th century. The tavern used to be operated by the infamous privateer, Jean Lafitte, who was named co-hero along with Andrew Jackson in the Battle of New Orleans. Today, visitors are treated to live music from pianists and great drinks.

Aquarium of the Americas

Dive into the underwater world at the Aquarium of Americas. Touch a sting ray, feed a parakeet, and observe giant sharks and rays in 400,000 gallons of water at this Gulf of Mexico Exhibit. While there, be sure to visit the popular penguin and sea otter exhibits.

Audubon Insectarium

Voted "A top museum for you and your kids" by CNN.com, the Audubon Insectarium is a great place to explore and learn about insects and why they are the building blocks of all life. Visitors will have the opportunity to be shrunk to bug size and wander through a mysterious Louisiana swamp. Kids love to join the active audience of an awards show for bugs, by bugs; and adults will be captivated by thousands of butterflies in the Asian garden.



2019 INSTRUCTIONAL CASE WRITING COMPETITION

DSI ANNUAL MEETING 2019

CALL FOR INSTRUCTIONAL CASES

PMI is pleased to announce its **2019 CASE WRITING COMPETITION**

Goal of the competition: PMI has a strong commitment to advancing project management curricula for both undergraduate and graduate programs. To that end, this competition aims to generate teachable cases and instructors' guides relevant to managing projects for use in the ongoing improvement of project management courses in business, engineering, and IT.

Project Management—Creating Value for Stakeholders

The project manager's role is multi-dimensional, focused on the application of knowledge, skills and techniques to execute projects effectively and efficiently. On the technical, strategic, or behavior dimension, project management is an organizational force, geared toward improved outcomes for project stakeholders. Specialized knowledge and skills, together with a distinct focus guide the actions of temporary teams on projects large and small. Your case entry may consider the use of project management as an organizational force in any context (e.g., disaster relief, international development, NGOs, various industries, etc.) Cases may look to instruction in technical approaches (e.g. planning, budgeting, controlling, etc.), behavioral issues (e.g., communications, leadership, teams, etc.), or strategic concerns (e.g. legal, ethics and professionalism, governance, etc.).

The winner of the competition will be awarded a cash prize of $1000. 1st place and runners-up authors will receive an annual membership in the Project Management Institute. All quality submissions will be invited to publish on the PMJ instructional website, though publication is not an obligation.

Prizes will be awarded at the 2019 Annual DSI Meeting in New Orleans. Submission deadline is May 30, 2019. Submissions are made through the 2019 Annual Meeting Conference management System. Questions may be addressed to either coordinator, Gary Klein (gklein@uccs.edu) or Heather Ramsey (Heather.Ramsey@pmi.org).

Case Elements:

Cases must be based either on secondary sources (publicly available data and documentation, including news articles, court materials, YouTube videos, and others) or on primary (field) research. If based on primary research, include a release from the company or organization (see sample below) or be fully anonymized. If based on secondary research, no release is needed. Fictionalized or composite cases do not qualify. The case must include the following components, although sections should not use these generic sub-headings.

- Hook
- Company history

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- Industry background
- Fully developed characters
- Complete description of the situation/ problem
- Additional information as relevant
- Exhibits or appendices
- References, if relevant
- An instructor's guide, to include:
  - Abstract (150 word maximum)
  - Intended audience/placement/course
  - Learning objectives
  - List of discussion questions
  - Recommended teaching strategies
  - Answers to discussion questions
  - References, if relevant

Judging Criteria:

Cases and Instructor's Guides will be judged by a team of expert case referees, selected for their demonstrated skill in case writing and evaluation, as well as their interest in and familiarity with managing projects. As this is a double blind review process, judges' names will not be publicized prior to the announcement of the winning cases. Submissions will be evaluated in a two-stage process as follows:

Stage 1: Cases and IMs will be checked for adherence to all submission criteria and quality of English writing.
Stage 2: Judges will evaluate and rank cases based on the following criteria:

Currency or relevance of content

Quality (depth) of research

Potential usefulness in the classroom (engaging and readable)

Clarity of learning objectives

Completeness and quality of discussion quality and answers

Contribution to the field as instructional value

Important Dates:

05/30/2019 Case Submission Deadline
09/01/2019 Notice to Award Finalists
09/13/2019 Conference Registration Deadline

Suvhashish Samaddar
Feature Editor
Georgia State University

BLACK SWANS AND DATA CONSERVATION:

THE POTENTIAL CHALLENGES FACED BY ORGANIZATIONS

James M. Michael, MSc, BS, BA

Chief Operating Officer, Energine Inc., Atlanta, Georgia, USA

March 7, 2019

The term black swan was popularized by Nassim Nicholas Taleb is his 2007 book *The Black Swan* and refers to a class of events that are extremely low probability in occurrence, have a high impact, and which are often rationalized after they occur to make them explainable and predictable [Taleb, 2007]. In the day-to-day world of IT, risk assessments tend to focus on business continuity and mitigation of potential disruptions ranging from hard drive failures, network and power outages to destruction from tornadoes, earthquakes, and hurricanes. Data is protected using various replication schemes such as tape and cloud backups, failover facilities, and redundant database implementations. In large part the primary effort is on maintaining low transaction latency, such as automated failover to a backup site. Few organizations give a great deal of thought to preservation of data over extremely long time horizons, or *data conservation*. A time horizon in this sense is a time period over which one expects to be able to have access to the data being conserved. In most IT risk assessments extremely low probability, high impact events are not considered within the realm of risks capable of being mitigated or financially justified. However, organizations should take a serious look at their historical and other data that has been acquired at great cost, as well as data that is key to their analytic processes to determine whether there are data sets whose value is of such significance to justify their long term preservation under such worst case scenarios.

Data conservation involves meeting three key challenges:

1. Media stability - The media on which the data resides must be readable over the time horizon under consideration.
2. Technical obsolescence - The technology to access the data must be available when the data is needed.
3. Data migration - The data archive must be maintained in a way that any required data migration is assured to occur, such as when media reaches a design life limit.

When black swan class events enter the equation we may need to give special consideration to the impact of such events on the ability to meet these three criteria. By definition we do not know the cause of such events beforehand, but we can consider the extremes in terms of physical processes such as heat, shock, radiation, flooding, and electromagnetic energy. An event might involve any combination of these. There is also a continuum of impact that might serve as a practical limit on our data conservation efforts, such as a major meteor impact that has such an impact as to result in a worldwide conflagration. Such humanity ending events are often referenced as reasons not to consider mitigating the risk of major catastrophes, however a realistic and serious assessment might find justification in doing so.

A typical IT failover scenario involves multiple data centers located in geographically separate locations, each featuring power and network redundancy. Modern implementations may involve cloud based

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deployments, however a cloud ultimately resolves to one or more data centers. Reliance by organizations on third party cloud infrastructure implies some loss of control over where data is maintained and thus over exposure to specific candidate events. Let us examine some potential events in order to illustrate the implications of decisions regarding location and technology choices.

ELECTROMAGNETIC PULSE (EMP)

An EMP event might be associated with detonation of a high altitude nuclear device over a target. Recent geopolitical developments make this an increasingly real threat. The electromagnetic energy associated with such an event has the capability to induce widespread destruction of electronics over millions of square miles. Heat, shock, and radiation may also result from the event, however the impact of this would occur over a much smaller region. Another form of EMP is an intentional EMP (IEMP) event resulting from use of a small EMP emitting weapon. In this case the impact is highly localized and there is no associated heat, shock, or radiation involved.

Former CIA Director James Woolsey said this about the threat of EMP [Fabish, 2014]:

"…an electromagnetic pulse, or EMP, is the most significant threat to the U.S. and our allies in the world. Our food and water supplies, communications, banking, hospitals, law enforcement, etc., all depend on the electric grid. Yet until recently little attention has been paid to the ease of generating EMPs by detonating a nuclear weapon in orbit above the U.S., and thus bringing our civilization to a cold, dark halt."

SOLAR CORONAL MASS EJECTION (CME)

We are overdue for a major geomagnetic storm resulting from solar activity. The last such event occurred in 1859. Known as the Carrington Event, it disrupted the only telecommunications system of the time, the telegraph. Solar storms result in overloading of the power grid which can destroy transformers. Many of the transformers in the USA electrical grid and elsewhere are very large, expensive components that may take years to replace. During the surge accompanying the solar storm electronics attached to the grid may be destroyed. Computers, hard drives, memory devices, and other equipment are all at risk.

Although the primary impact of a CME type event may appear to be electromagnetic in nature, it is the correlation of the CME with secondary effects which may in the final analysis be categorized as a black swan. For instance, widespread fires may result from transformer explosions and control of those fires prevented by loss of water pressure, traffic disruptions, and similar impediments. It should be assumed that CME effects should be felt globally.

LARGE SCALE TSUNAMI AND MEGATSUNAMI

A tsunami is a fast moving ocean wave capable of widespread destruction. They usually result from geologic events such as earthquakes, volcanoes, and landslides, but may also be induced by meteor impacts and nuclear devices. Although many tsunami risks are known, there are deficiencies in our knowledge of undersea geology so the full tsunami risk is unknown. Similar to the CME, the secondary effects of a large tsunami may be the black swan. In 1958, an earthquake in Alaska resulted in a megatsunami with a height of 1720 feet [Geology.com].

METEOR IMPACT

Each year new asteroids are added to the database of potentially Earth impacting bodies. Meteor impacts represent a serious threat to humanity. A strike near the Yucatan peninsula is credited with wiping out the dinosaurs. The humanity ending class of events aside, meteor impacts represent a range of threats from tsunamis to devastation on a large scale from impact, shock waves, and fire.

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RUNAWAY AI PROCESS

As progress is made in the realm of artificial intelligence we should begin paying attention to the impact that a self-replicating process may infiltrate computing and control systems worldwide. This might result in destruction or alteration of data, systems, and programs. Consider the impact of an AI process which alters the systems that control access to medical, nuclear, defense, energy, and industrial processes and facilities.

BLACK SWAN RISK MITIGATION

Can we mitigate the risk of all black swan events? It is unlikely that we could protect our data from every conceivable event, however if we consider the geographic range of the physical effects that we might encounter we should be able to formulate a strategy that provides a high likelihood of survival of our most important data.

It would appear that the most widespread events that we would plan for on an extremely long time horizon would be electromagnetic in nature with potentially widespread secondary effects caused by or coincident with the initial event. There is a long list of such secondary effects, however we can use broad classifications based on the physical manifestation of those effects such as fire, shock, etc. Destruction of media at a single location should be assumed, therefore we should store the data in at least two geographically separate locations. To avoid regional events the locations should be regionally separate. Further refinement may be attained by selection of locations having orthogonal risk exposure to regional impacts. For instance, a location susceptible to impact by a megatsunami might have a secondary site at a location unlikely to be affected by such a flooding event.

As the changing climate has demonstrated the potential for widespread fires, regional exposure to fire as a result of an event such as CME or EMP is a very real possibility. Primary and secondary site locations as well as facility selection or construction should take such risk into account.

DATA MIGRATION AND BLACK SWAN AFTERMATH

Data survival during primary and secondary events is only one part of a data continuity strategy. As noted previously, one key element of data conservation is the migration of data to new media when necessary. In many cases this simply means moving data from legacy storage as the technology evolves. However in the period following a catastrophic event successful data migration may become impossible due to any number of factors such as lack of personnel, failure to preserve the operational requirements of the storage system, lack of electrical power, and similar conditions. Secondly, environmental risks to media might occur to which the media might normally not be subject, and those conditions might serve to accelerate degradation of the media. Choice of media then should take such migration requirements and risks into consideration. In terms of technology evolution risk, the time span over which a recovery might be expected to occur would appear to imply a low exposure in this regard. For instance, M-Disc is a DVD media with a lifetime of 100 or more years. The technology evolution risk is decline in use and availability of DVD drives over this time horizon. However, given a recovery time span of five years one would expect be able to successfully access M-Disc based data. Although the small data capacity of M-Disc might make it unsuitable for large projects it might be a solution for some implementations.

DATA CENTER DESIGN FOR BLACK SWANS

Most data centers are designed with the objectives of operational stability and business continuity in mind. Data centers are designed according to a tiered system. The numbered tiers 1 through 4 representing increasing levels of redundancy and designed minimum downtime. The most stringent classification is Tier 4, signifying fully redundant systems with no single points of failure [Carroll, 2018]. Power, network, and cooling systems are fully redundant and fault tolerant. That being the case, it is noteworthy that few Tier 4 data centers feature EMP shielding. Tornadoes

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and similar catastrophic events that result in loss of the data center must be handled via failover to other data centers.

Shielding for EMP events is almost nonexistent for data centers serving most organizations and is primarily employed in military, power company, and similar industrial sites for which exposure is mitigated for national security reasons. Specifications for design of shielded facilities is given in Department of Defense Interface Standard MIL-STD-188-125-1, *High-Altitude Electromagnetic Pulse (HEMP) Protection For Ground-Based C^{4}I Facilities Performing Critical, Time-Urgent Missions, Part 1 Fixed Facilities* [Department of Defense, 1998]. This specification provides the requirements that must be met by HEMP hardened facilities as well as the testing requirements for these facilities. Although the design is targeted toward centers used for time urgent networks, it should provide acceptable criteria for design of a facility for data conservation.

Fire suppression systems are common inside data centers and are implemented in accordance with the National Fire Protection Association Standard NFPA 75 for the Fire Protection of Information Technology Equipment. The focus of fire prevention and suppression is internal and directed toward cooling, data, power, and other sources within the center. Low probability high impact events such as might be associated with black swan type events are rarely included in the analysis. Considerations given to external exposure to fire, such as proximity to other structures, fire resistant building construction, and similar criteria is likely to range from minimal to moderate. With the increasing regional risk of fire associated with climate related disasters, increasing consideration for external risks might exist.

ANALOG DATA ARCHIVING

Those seeking solutions for conservation of data might also look to the standards employed by archivists of analog materials. The preservation of paper based records through the use of microfilm has been a standard practice for many years. Microfilm is rated according to its expected lifetime under specific processing and storage conditions. LE-100 and LE-500 are classifications for 100 year and 500 year life expectancies, respectively. [Kodak, 2002] Current technology permits writing computer based documents directly to microfilm. Some additional work has taken place in the archiving of digital data to microfilm and this may be a promising additional means of conserving important data over extremely long time horizons. Microfilm may also prove of benefit for archiving analog representations of digital data such as spreadsheets.

SUMMARY

As organizations become increasingly dependent on data sets for AI and machine learning based analysis and decision making, it may be time to rethink long held notions regarding mitigation of low probability events, particularly where it pertains to retention of irreplacable data. Consideration should also be given to locations of backup facilities in light of increasing probability of regional disaster scenarios. Where the long term retention of data in digital form may prove too costly, microfilm may provide a suitable alternative.

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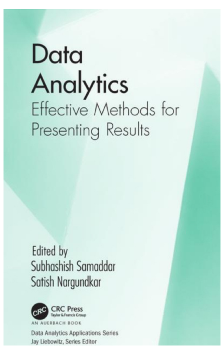
NEWLY RELEASED BOOK ON HOW TO PRESENT TO ANALYTICS RESULTS

by DSI Members Subhashish Samaddar and Satish Nargundkar

A newly released book on how to present analytics results by DSI members Subhashish Samaddar and Satish Nargundkar. They presented workshops on this topic at DSI National Conferences 2017 and 2018.



SUMMARY

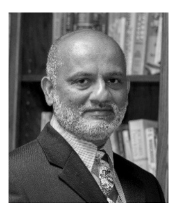
If you are a manager who receives the results of any data analyst's work to help with your decision-making, this book is for you. Anyone playing a role in the field of analytics can benefit from this book as well.

In the two decades the editors of this book spent teaching and consulting in the field of analytics, they noticed a critical shortcoming in the communication abilities of many analytics professionals. Specifically, analysts have difficulty in articulating in business terms what their analyses showed and what actionable recommendations were made. When analysts made presentations, they tended to lapse into the technicalities of mathematical procedures, rather than focusing on the strategic and tactical impact and meaning of their work. As analytics has become more mainstream and widespread in organizations, this problem has grown more acute.

Data Analytics: Effective Methods for Presenting Results tackles this issue. The editors have used their experience as presenters and audience members who have become lost during presentation. Over the years, they experimented with different ways of presenting analytics work to make a more compelling case to top managers. They have discovered tried and true methods for improving presentations, which they share. The book also presents insights from other analysts and managers who share their own experiences. It is truly a collection of experiences and insight from academics and professionals involved with analytics.

The book is not a primer on how to draw the most beautiful charts and graphs or about how to perform any specific kind of analysis. Rather, it shares the experiences of professionals in various industries about how they present their analytics results effectively. They tell their stories on how to win over audiences. The book spans multiple functional areas within a business, and in some cases, it discusses how to adapt presentations to the needs of audiences at different levels of management.

***Subhashish Samaddar, Ph.D.**, Certified Analytics Professional (CAP®), is a Professor of Business Analytics and Operations Management in the Managerial Sciences Department at the J. Mack Robinson College of Business, where he was the founding Academic Director of MS Analytics Program. He served on the INFORMS' team that created the CAP certification examination administered globally, and co-edited its first guide book. An internationally reputed and multiple award winning researcher, teacher and speaker, he specializes in Business Analytics, Data Science, Operations and Organizational Knowledge management, and Decision Making. A 25+ year veteran and a consultant in analytics, he has helped many US organizations - Fortune 100, privately held and governmental agencies - with their analytical needs. He currently teaches business analytics and research methods to undergraduates, MBA's and Executive Master's and Doctoral students and corporate clients.*



***Satish V. Nargundkar, Ph.D.**, is a Professor of Business Analytics in the J. Mack Robinson College of Business at Georgia State University. Over the past three decades, he has helped large and small companies improve their decision making through analytics. A recipient of multiple awards for teaching and research, he has over 25 years of experience in the areas of analytics, process improvement, and decision support. His research interests are multidisciplinary, and include supply chain management, quantitative methods, and the improvement of teaching methods. He is passionate about excellence in teaching and is sought after as an instructor in executive programs. In his spare time, he enjoys reading, traveling and photography, and is an instructor in martial arts.*

BOOK REVIEW FOR "BALANCING GREEN: WHEN TO EMBRACE SUSTAINABILITY IN A BUSINESS (AND WHEN NOT TO) (2018)"

Authored by Yossi Sheffi and with Edgar Blanco from Massachusetts Institute of Technology, The MIT Press, IT Hardcover, ISBN: 9780262037723, 568 pp., 6 in x 9 in, 23 figures, March 2018

Mehmet G. Yalcin, Ph.D., Feature Editor

Keywords
Environmental Sustainability, Supply Networks, MIT

Dr. Mehmet G. Yalcin *is an Assistant Professor of Operations and Supply Chain Management at the University of Rhode Island, College of Business. Mehmet held various engineering and managerial positions prior to joining academia where he has been recognized with research and teaching awards. He is a certified Black Belt in Lean/Six Sigma (LSS), and Logistics, Transportation, and Distribution (CLTD) and teaches Operations and Supply Chain Management courses to students and practitioners. Dr. Yalcin's research focus is at the interface of sustainability and innovation with the focal point on Supply Chain Ambidexterity (SCX).*

"Nuanced explorations of global supply chains reveal that sustainability is not a simple case of 'profits versus planet' but is instead a more subtle issue of people versus people." (Sheffi and Blanco, 2018, p. xiv)

Other than the appeal of wittily picked headings and even subheadings scattered across this work, why would we prescribe Balancing Green as a supplementary material in a sustainability-related supply chain management course? There is a lot to be said about what this book "IS" at the risk of shortcoming on many great aspects covered in it. That said, what this book "is NOT" also bears a lot of value, which one could extract without much help. Authored by Yossi Sheffi and Edgar Blanco from MIT, Balancing Green: When to Embrace Sustainability in a Business (and When not to) was published by The MIT Press in 2018. It does a remarkable job in explicating the details of how supply networks fare when dealing with environmental sustainability matters, and then props the door wide open toward further true sustainability discussions. The authors outline a disclaimer early in the preface suggesting that the book "does not specifically address the social impacts of supply chains" yet acknowledges that "addressing environmental challenges in supply chains carry social concerns as well" (p.x). Readers are prepared for deeper discussions and also many case studies in latter sections by pointing out the enormous scale of today's global supply chains, their complex and interdependent network structures, associated environmental challenges, as well as how assessment of environmental impact is currently done.

Sheffi and Blanco lay the groundwork for consumers' (dis)sensitivity to environmentally sustainable products (relatively speaking) by quoting the practitioners with statements such as "only 15 percent of consumers were actually willing to pay more-and even then only a little more-" (p.9). The authors follow through with such statements by suggesting that consumers claim otherwise. Ultimately, the grand revelation is that the consumers don't put their money where their hearths are! Early in the book, the constraints are laid out such that "to be viable, companies must overcome three fundamental hurdles. The first hurdle is the marketplace… the second hurdle is the regulatory bright-line…the third, but less well-defined, hurdle is maintaining a "social license to operate""(p.25-26). Speed and variability of these three hurdles seem to vary and perhaps the authors seem to have addressed them (except the social), if not fully, to a certain extent through many cases. For instance, the authors discuss that for a few companies, environment and financial concerns seem to align such "naturally" such as Patagonia. "In contrast, for main stream companies, this strategy may be "too green,"… unwilling who are unwilling to sacrifice financial performance for the sake of environmental performance."(p.26). It is then suggested that "most of

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these companies focus on environmental initiatives that are aligned with their stakeholders' performance goals, such as increasing profits, mitigating risks, or gaining market share."(p.26). At this juncture, the authors mention "The dual role of businesses' supply chains in creating both economic growth (including jobs) and environmental impact highlights a fallacy in the environmental activist-touted struggle of "profit versus planet.""(p.28). An example from Walmart follows and a proposition is made by indicating that the real conflict is not "profits versus planet" but rather (some) people versus (other) people." Therein lies the challenge. Even the most environmentally responsible companies must manage their supply chains to satisfy growing demand and provide jobs in the process."(p.28).

Supply chain managers are delegated the task of fixing the ubiquitous sustainability issues by simply walking the readers through explaining how "bill of materials (BOM) doesn't list everything" (p.36). And through supplier selection in the mostly outsourced 21st century, "Lion's share of a product's environmental impacts take place deep within the supply chain at the mines, farms, and oil fields that produce raw materials." (p.38). The contributing factors such as supply chain length and suppliers serving in different tiers of the same network (p.40) are exemplified. It is described that often times, the supply chains are late in addressing the risk associated with the environmental issues and detection offers "cold comfort" (p.44) for those affected despite the indices such as "The Environmental Performance Index" (p.45) that encompasses health and ecosystem items. Shifting the focus back to supply chain managers, a call is made for further development of Green SCOR model with additional environmental impact metrics into the use phase (p.52) due to "consumption and emission patterns taking place at each stage of every supply chain" (slightly paraphrased, p.54). To illustrate with an example, carbon footprint assessment of a seemingly simple supply chain of a natural product, banana, is provided where the researchers "identified 56 primary materials and processes across 16 major supply chain stages that were required to grow a banana and deliver it from farm to consumer" (p.61).

"Within the context of life cycle analysis (LCA), every source of materials or services, no matter how indirect or outside the company's sphere of influence, is part of a company's broader environmental impact."

Chapters 4 through 8 elaborate the means and methods for environmental sustainability activities that take place in manufacturing, sourcing, transportation, disposal, and design stages in a very detailed manner. While discussing the "sustainability improvements in the manufacturing process of a company's existing products" (p.91) in an isolated manner without "changes to the products themselves, changes in the raw materials and parts or changes in disposals", the authors emphasize that "companies extend the focus of their environmental sustainability efforts to their suppliers" (p.118). "Within the context of life cycle analysis (LCA), every source of materials or services, no matter how indirect or outside the company's sphere of influence, is part of a company's broader environmental impact." (p.121). This is true because "significant environmental impacts often take place in the deepest tiers of the supply chain that grow, harvest, or mine raw materials" (p.119). Coupling the transportation networks including the ports with "burning fuel as both the primary source of the environmental impact of transportation and a dominant cost factor in transportation economics." (p.151), "a greener transportation network is presented as a cheaper transportation network" (paraphrased, p.151). Aligned with earlier arguments, disposal of products is discussed by underlining some

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of the largest environmental impacts taking place beyond the "Cradle-to-gate which is the point at which the customer takes possession of the product." (p.187) at the end of a product's life. In continuation, how "careful design and engineering can further reduce environmental impacts" (p.218) at every stage of supply chain management is discussed.

The latter sections of the book discuss how sustainability is communicated, managed, deeply embedded/embraced, and scaled up by businesses. The challenge of "attracting green customers and green investors while avoiding attacks by NGOs and regulators" (p.251), managing sustainability along with "a CEO's conviction, a desire to reposition the organization, a viral video attacking the company, a customer's new mandate or the success of green competitors." (p.284), the motivations of ""deep green" companies" such as Dr. Brenner's and Patagonia (p.342), yield to handling the daunting task of scaling the sustainability efforts to the global supply chains, which becomes more clear via the authors' explanations in this work.

"This book examines the role of sustainability in business, focusing on supply chain management because, environmental sustainability is a supply chain management issue."

In the last chapter, the authors propose a framework with seven elements of eco-growth and makes an argument for a Pareto frontier that is set between environmental impact and market capitalization. The authors' arguments come with a major assumption that "For a business to survive, growth is an imperative, not an option." (p.377). The reasoning behind this is presented as "Societies, too, live under a king of growth imperative to seek to improve the quality of life of their growing populations through creation of jobs and the conversion of the country's natural resources into wealth." (p.377). At this point, repeating the variants of this assumption becomes the norm, such as following "As a result, one has to conclude, again, that regardless of personal beliefs and hopes, there are business reasons to pursue environmental initiatives." (p.382). But then, a proposal finally emerges "Why don't we develop a business model aimed at contributing to society and environment instead of taking from them?" (p.393). And it is linked to the Pareto frontier by suggesting "business-oriented eco-growth" (p.393). The suggestion is deferred by stating that "the world is not static…and the eco-innovation frontier and consumer attitude change beyond the Pareto Frontier." (p.401). In the frontier, "The business sense behind the eco-risk mitigation depends only on the beliefs of the NGOs, media, and regulators … and beliefs of those consumers…" (p.407). Once again, supply chain managers (by the way, who are they?) are designated as the responsible party where "Implementing sustainable practices falls on the shoulders of supply chain managers." (p.407). In closing the icing on the proverbial cake is a message that urges the supply chain managers to find their ways toward further growth through innovations that address the trade-offs between environmental and financial matters.

Now, let us go over what Balancing Green "is NOT". The title is misleading with use of the word green (environmental sustainability is implied) and then embracing (or not) sustainability (inclusion of social sustainability implied). Somewhat clarifying this mystery, the authors suggest early in the book that "Many companies bundle their environmental and social initiatives under the general heading of "corporate social responsibility" or a broader definition of sustainability." (p.x). Hence the impact of the book, therefore, is somewhat constrained because upon consuming Sheffi and Blanco's work, I would have loved to think

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that the global supply chains are progressively becoming less unsustainable. Could we discuss sustainability without the social component? Perhaps; and I would support the authors' work because scholars can discuss anything in anyway and anywhere. Yet, the better question perhaps, is; shouldn't it be better if we discuss sustainability with the social component? Is the tug of war between the "have" and "have nots" too complex to address in a book?

The book repeats its purpose many times by treating environmental sustainability as sustainability. For instance, "This book examines the role of sustainability in business, focusing on supply chain management because, as shown throughout the book, environmental sustainability is a supply chain management issue." (p.21). At times, the authors come across as defending the industry such as "This statement exemplifies one of the deep tensions that the environmental movement faces: Industry not only provides goods that consumers depend on but also provides jobs that communities rely on." (p.25).

Unfortunately, they cannot steer away from social matters "Throughout, this book discusses the business challenges created by environmental pressures in an era of growing economic pressures rooted in both competition and uncertainty. Companies need ways to assess, select, and manage long-term investments in sustainability while also managing their growth opportunities, as well as short-term challenges, such as margin compression, revenue stagnation, political unpredictability, and countless other immediate business pressures." (p.29). Sometimes even with blatant references such as the collapse of the building filled with slave labor in Bangladesh (p.41). Should health risks associated with pressures embedded in supply chains be considered as part of environmental sustainability or social sustainability?

On the other hand, plentiful emphasis is on the "Tradeoffs among competing objectives of sustainability and business objectives." (p.219) and constant search continues until the end via statements such as "Pushing past the Pareto Frontier to deliver both high financial performance and lower environmental impact requires a fundamental change." (p.351). Occasional counter point of views are presented –perhaps rightfully so- as extremes such as by "Quoting CEO David Brenner of Dr. Brenner's Magic Sops "What we're doing is pretty radical; this is not feel-good sustainability, buying offsets and crap like that."" (p.325). The bottom line is that social sustainability is not accounted for in this book and therefore environmental sustainability arguments lose a leg. For instance, in the eco-growth framework, eco-culture is clearly a social element! Yet, wealth seems to have been measured/implied through shareholder (and marginalized stakeholder) interests and therefore financial metrics. How about arguments such as ensuring survival but also sustaining the organization into the future and keep reinvesting the profits? Or arguments such as could the shareholder base be expanded to the public in general? Let's talk about AB InBev's and Coca Cola's alleged water stewardship versus the health risks that come with the beverages they produce and sell to society. In lieu of supply chain managers, I am calling supply chain scholars for action.

Then, surprisingly, the authors cleverly shift the focus of discussion in the final chapter to society and social responsibility. The book's finale is underwhelming which is not par with my initial expectations. One would expect that a more overarching handling of the idea of sustainability including the social impacts that encompass all three pillars was presented. I cannot help but wonder if the health care system is broken because we cannot decide that it is a social sustainability matter… In summary, the book is shouting for help and it effectively serves as a call for action from those scholars who conduct research in the world of social sustainability. It would be interesting if the authors could extend their studies by adding a few more chapters for what – the reviewer hopes – would be a new edition of this great book.

Have you ever wanted to jump back to a methodology you haven't used since graduate school for a paper you are currently writing? Our research team was trying to answer the research question: "Why do for-profit corporations participate in the development of open source software?" I suggested to my teammates that the answer might be in game theory. Little did I know that our journey would be much more difficult but also more interesting than I had envisioned. We found that game theory has indeed evolved. In this article, I describe a small part of the process that produced a paper along with two colleagues, Julie Kendall and Matt Germonprez. The journey we embarked upon would not have resulted in a complete article if it were not for the Decision Sciences Institute and its members who gave us advice during our presentation at one of the Decision Sciences Institute regional meetings. Read on to find out what happened.

Kenneth E. Kendall
Rutgers University
Feature Editor

GAME THEORY REVISITED: SEARCHING FOR ANSWERS ABOUT COLLABORATION ON SOFTWARE DEVELOPMENT PROJECTS

Kenneth E. Kendall
Rutgers University

Julie E. Kendall
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We became part of a research team that obtained a National Science Foundation research grant. Our team began studying a phenomenon that is occurring between for-profit corporations and the open source software community. They started sharing knowledge and collaborating on projects. This cooperation was a marked change from the software development world of 40 or 50 years ago. Our research team decided to investigate how development practices have changed.

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Julie E. Kendall *is a Professor of Management in the School of Business-Camden, Rutgers University. Dr. Kendall is a fellow of the Decision Sciences Institute (DSI) and a Past Chair of IFIP Working Group 8.2. She was awarded the Silver Core from IFIP. She served as Treasurer and Vice President at Large for DSI. Her textbook Systems Analysis and Design is now in its 10th Edition. Dr. Kendall was inducted into the PhD Project Hall of Fame in 2016. Julie received the AIS 2018 Sandra Slaughter Service Award for leadership within the Association for Information Systems.*

Our early articles compared the "Wild West" of open source software design with a new, "domesticated" type of open source software development (Germonprez, Kendall, Kendall, Young, Warner, & Mathiassen, 2013). We further explained the basics of free and open source software in an article in Decision Line (Germonprez, Kendall, Kendall, & Young, 2014a). We then studied the SPDX working group (formed under the auspices of the Linux Foundation) a group whose mission included minimizing the risk of falling out of compliance with open source software licensing agreements (Germonprez, Kendall, Kendall, & Young, 2014b).

Next, our research team took on a more substantial challenge, coming up with a theory concerning how software projects were designed in the new, collab-

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orative environment (Germonprez, Kendall, Kendall, Mathiassen, Young & Warner, 2017). We described the phenomenon, looking at practitioners working to improve the development process, and we proposed a theory regarding open source development, but we had not yet discussed why for-profit corporations and the open source community desired to collaborate.

After much thought, I suggested we look to game theory for answers.

KEN'S RATIONAL GAME THEORY STORY

My interest in game theory started with an interest in a new genre of strategic board games created in the 1960s and 1970s. I even got the chance to sit down and play Acquire, a corporate merger game, with its creator Sid Sackson, who many people recognize as the father of the modern board game. I was sure he was studying my logic to design his new creation. In 2016 I wrote an article for *Decision Line* on what we can learn from online games (Kendall, 2016).

My first exposure to game theory as a topic in operations research was in graduate school from the textbooks by Hillier and Lieberman (1967) and Wagner (1969). Game theory was fun, but this was a time I found myself moving away from operations research to management information systems. So, I began to ask questions, such as "How does game theory handle missing information, incorrect information, or bluffing?" So, I put aside game theory for another day and started writing my doctoral dissertation.

In 2013, I felt I could easily jump back into a field that I enjoyed so much during my graduate years. All I need was a refresher course, or so I thought. I downloaded a couple of the more popular books on game theory including the compendium by Dixit and Nalebuff (2010.) to my Kindle account. I started to read the books on my iPad. My wife and favorite coauthor, Julie was undergoing physical therapy twice a week for an injured knee, so I read a chapter one day and tried applying it to open source development the next .

I refreshed myself on strategic dominance and the Nash equilibrium, the prisoner's dilemma, games solved by backward reasoning, and even the somewhat obscure trielling game, from a book by one of my professors, John Boot (1967). I was optimistic that every game could be used to identify the reasons why corporations and the open source community were cooperating.

Our literature search uncovered only one article on game theory and open source software: Hawkins (2004). Hawkins' work only addressed rational reasons for participating in specific situations and did not include corporations cooperating with one another or cooperating with open source communities. We interpreted this to mean that the world of game theory and software development was open to whatever we wanted to do.

So, for our coauthored paper, I started to elaborate on each of the rational, quantitative game theory models. After examining how each of these models fit (see Table 1), we decided that the Stag Hunt game was the most appropriate framework for describing corporate–community collaboration.

The stag hunt is a cooperative game in which players must collaborate because no single player alone can take down the stag (Fang, Kimbrough, Pace, Valluri, & Zheng, 2002). However, one or more players might get distracted by a rabbit which they identify as easy prey. Members of for-profit corporations realize that working together yields superior rewards but may occasionally work to pursue their own goals.

In the meantime, the rest of our research team started identifying all of the interview responses that revealed rational reasons for collaboration. The six rational reasons we identified were: saving money, performing less maintenance, contributing within limits, reducing

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Type of game	Objective	How we considered this game theory model to be relevant to corporate-community collaboration in open source software development
Prisoner's Dilemma	Lose as little as possible	The Prisoner's Dilemma Game would explain free riders (those who participate, but do not contribute). It does not help explain why corporations participate.
Tragedy of the Commons	Set up a cartel or trust with rules to punish cheaters	Contrary to suggestions of previous researchers, open source software is not analogous to a common pool of resources because software resources are not used up. This is not useful in explaining why corporations share knowledge.
Volunteer's Dilemma	Sacrifice one person's life for the benefit of all	The ultimate sacrifice for a corporation is going out of business. Corporations would not give their intellectual property away in order for their competitors to survive. This game theory model does not apply to corporate-community participation.
To Lead or not to Lead	Observe and follow competitor's strategy to maintain lead	Following a follower is a clever way to stay ahead, but that means that Followers and newcomers have no chance to overtake leaders unless they develop propriety software. Not useful for explaining collaboration.
Trielling	Eliminate the opponent	Typical corporations do not try to completely eliminate their competition, just desire improved market share or higher profits. This game is not appropriate.
Stag Hunt	Cooperate to get the big prize	Short-term easy gains may replace long-term collaboration. This model was useful to us in exploring rational reasons why for-profit corporations would contribute to open source development.

Table 1. *Rational Game Theory Models, Objectives, and their Applicability to Corporate Participation in Open Source Software Development (based on a table by Kendall, Kendall, & Germonprez, 2016).*

long-term costs, increasing marketing benefits, and making the first move.

JULIE'S EMOTIONAL GAME THEORY STORY

We presented the preliminary findings of our game theory research at the WDSI (Western Decision Sciences Institute) Annual Meeting, in Napa, CA, April 2014. We find it very valuable to present our ongoing work in progress at the DSI Annual Meeting or one of the regional meetings to get feedback. At this meeting, we received terrific advice from Professor John Davies of Victoria University in Wellington, New Zealand. John asked several incisive questions pointing to the usefulness of exploring the work of Bryant on Drama Theory for our game theory paper. We were led down a path that would extraordinarily complicate writing our article, but our team felt that it ultimately would be the right path to take.

I reached out to Professor Jim Bryant, from Sheffield Hallam University in the UK. Jim (who has subsequently become an Emeritus Professor) is one of only a handful of acknowledged experts on Drama Theory and has recently published a book, *Acting Strategically Using Drama Theory* (Bryant, 2015) and maintains an active blog https://dramatheory.wordpress.com/drama-theory/ for discussing social justice issues with a Drama Theory lens.

Jim was incredibly generous, and as soon as I contacted him, he immediately emailed multiple bibliographies for us to wade through and even offered to send copies of difficult- to-locate Drama Theory papers. Jim's magnanimity made a significant impression on us since he casually remarked in one of his emails that he was at the time under immense pressure to complete his magnum opus (which he did —on time and to great acclaim).

There was a lot to learn, but there was also something especially motivating to us about the topic of

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Drama Theory. First of all, we love drama. Ken and I support many theatres in New York and Philadelphia, so drama is a big part of our lives. We've served as consultants, board members, and even official nominators for the Drama League in NYC. But should we keep our academic and personal lives separate?

Our interest in drama led us to write a methodology paper on storytelling. We realized that interviews were producing a lot of unconnected "sound bites" and we could get higher quality data if we listened to complete stories instead. Borrowing from research about mythology, we wrote a paper on organizational storytelling (Kendall & Kendall, 2012). A few years later we contributed to the *Decision Sciences Journal of Innovative Education*, demonstrating that storytelling was useful in graduate education. Drama Theory related exceptionally well to our work in storytelling. We felt as if we had come full circle in our explorations to find both qualitative and quantitative expressions of game theory that could be used to understand the reasons why corporations participate with the open source community.

While the first set of game theory models explored rational reasons for corporate-community collaboration, the second set of game theory models revealed emotional reasons for knowledge sharing. The game theory approaches that yielded the emotional reasons are shown in Table 2. We eventually chose Drama Theory because it better described the phenomenon of collaboration that was occurring. Emotional reasons included accepting responsibility, improving shared software, gaining community influence, relinquishing the gatekeeper role, improving developers' skills, and extending the life of projects.

FINDINGS FROM OUR STUDY USING GAME THEORY

In our final paper, after we identified different approaches to game theory, we examined responses to our interview questions from corporate members of open source communities. The study, which involved over 40 corporations, attempted to find out why corporate members devoted time and effort to engage with the open source community. We contributed to open source software literature by revealing that it was not merely altruism, as some researchers and practitioners had assumed. Instead, we identified six rational and six emotional reasons for corporate participation in open source software development from the interviews of our participants. That research

***Table 2.** Emotional Game Theory Models, Objectives, and their Applicability to Corporate Participation in Open Source Software Development (based on a table by Kendall, Kendall, & Germonprez, 2016).*

Type of game	Objective	How we considered this game theory model to be relevant to corporate-community collaboration in open source software development
Metagame Analysis	Consider many alternatives from many perspectives	Multiple alternatives might encourage Balkanization and forking, resulting in code that is broken up into smaller pieces or changed and divided. Therefore, this model is not appropriate to explaining corporate-community participation.
Coopetition	Duality of cooperation and competition as best scenario	Coopetition explains the duality of war and peace, two metaphors not found in the open source community. Metaphors of ecosystem, game, meritocracy, and family exist in open source communities. Therefore, this game theory model is not appropriate.
Collaborative	Work together towards positive outcome	Many members of corporations understand why it is in their best interest to contribute first and frequently to an open source repository. This model forms a basis for understanding the emotional reasons why corporations participate. This model was determined to be appropriate, but we decided not to use it.
Drama Theory	Reframe players and strategies as actors and scenarios	This game theory model was useful to us as it encourages scenario development elaborated through stories. We found emotional reasons in the narratives of employees. This model was determined to be appropriate, so we used it.

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was published two years later in the *Journal of Organizational Computing and Electronic Commerce* (Kendall, Kendall, & Germonprez, 2016).

LESSONS LEARNED

First, we learned that game theory is no longer limited to purely rational thinking. Emotions do change people's actions in life, so game theory research had to model the real world. We agree with Dixit and Nalebuff (2010) who state that:

> *"Many mathematical game theorists dislike the dependence of an outcome on historical, cultural, or linguistic aspects of the game or on purely arbitrary devices like round numbers; they would prefer the solution be determined purely by the abstract mathematical facts about the game— the number of players, the strategies available to each, and the payoffs to each in relation to the strategy choices of all. We disagree. We think it entirely appropriate that the outcome of a game played by humans interacting in a society should depend on the social and psychological aspects of the game." [location 1849]*

Second, we learned that game theory, which we thought would be purely quantitative in nature, has evolved. Game theory includes both quantitative decision making and qualitative decision making. This quotation from Bryant (n.d.) illustrates that Drama Theory is a decision science which involves structured thinking, analytics, modeling, alternatives, and hopefully a solution:

> *"Drama theory provides a framework for structured thinking and analysis about confrontations: Situations shaped by several parties in which there is the potential for conflict or cooperation. Game theory offers a means of modelling confrontations but does so from the basis that the 'game' is fixed. By contrast, Drama Theory takes the game itself (now called the "frame") to be susceptible to change under pressure of emotions and rationalisations produce by the players (termed 'characters'). Emotions and rationalisations are produced in response to three "dilemmas" that a character may face at a so called "moment of truth". Drama Theory proposes that characters will change the frame in such a way as to eliminate the dilemmas they face." (Bryant, n. d.).*

Qualitative research will continue to play a part in the decision sciences.

Third, we realized that although there are many different types of games, only one or two from each side of quantitative and qualitative game theory were applicable to open source software development. When we first started, it appeared that many of the games would be useful, but in the end, only a couple of games described the behavior of organizational members cooperating with open source communities.

Finally, we found that while it is possible to catch up in a particular field of decision sciences, it takes a lot of work. All of us as researchers are continually contributing to advance our field. Keeping up in one's own discipline is a task in itself but catching up in the theory and practice of a discipline you haven't used in years is challenging. That's why it takes all of us to work towards a better world, whether we directly collaborate with one another, or simply appreciate what each of us contributes in their own way.

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PRODCUTION OPERTIONS MANAGEMENT

OPERATIONS MANAGEMENT RESEARCH: A WORLD OF OPPORTUNITY

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***Danny Samson** has been professor of operations management at the University of Melbourne, Australia for three decades. He has published over 100 articles and a dozen books, developed innovative Masters degrees and served as Department Head and Associate Dean. He has conducted many consulting studies and developed and conducted executive education programs on a range of topics in numerous countries. He served many years as Associate Editor of Journal of Operations Management and is currently co-editor in chief of Operations Management Research.*

Having recently taken over as editors-in-chief of Operations Management Research journal, Matteo Kalchschmidt and I have set out what we think are some important and fertile areas of research in Operations and Supply chain Management.[1] We haven't captured them in any exhaustive sense, but these are just some of the topics areas that we hope and expect to increasingly see in submissions to our growing journal. Indeed, there is so much that is not yet fully understood in Operations and Supply Chain management, that a large collective effort is required. Some key themes and challenges are described in overview below.

First, since operations and supply chain management (OSCM) exist within and between organisations to serve the whole of multiple organisations' goals, clarity is required as to how that can best be accomplished, across a variety of circumstances. Whereas pioneering work was indeed usefully done on operations and competitive strategy some 40 years ago by legends in our field such as Wick Skinner, more is needed as we extend our efforts to optimising supply chain designs in pursuit of organisation and societal goals. And we must recognise that this ideal should be pursued and hence studied rigorously in all sectors, broadening substantially from its manufacturing roots to include non-profits, all types of services, government organisations, mining and agriculture and others.

Behavioural operations is a field that is usefully growing but we are only touching the surface of the knowledge that is required to deeply understand the human input element of OSCM, and how to maximise its effectiveness in a robust manner. The phenomena that we research must be at micro- level, where we see that in practise, employee satisfaction is high in only a small proportion of organisations, impacting on productivity and service levels, while others do it well. What stops a broader set of application of high-performance workplace policies and behaviours: why is 'best practise' not more widespread in this regard? What works, and precisely in which circumstances?

At a broader level of human sciences, our advancing understanding of supply chain and network management requires deeper understanding of issues such as inter-firm relationships and matters of trust and psychological contracts across supply relationships.

DESIGN IT, RUN IT, IMPROVE IT!

Considering the fields of OSCM as involving the design, conduct and improvement of operations and supply, let's consider each element. First, we need a great deal more knowledge about optimising the overall design. Large amounts of works have been published about particular sub-slices of whole supply chains, such as optimal inventory policies, transport/logistics systems, capacity planning details, etc. Yet much less work has occurred on the critical issue of whole of supply chain design, that integrates all aspects of what is required to make for a successful supply chain. This also applies to its relationship with business strategy, where both risk and return

[1]Samson D, Kalchschmidt, M., Looking Forward in Operations Management Research, to appear, 2019, Operations Management Research

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must be considered (Samson and Gloet, 2018).[2] There has been a lot of work published on supply disruption risk, and not so much on the more systems-oriented aspects of uncertainties that are always present in the environment in which production and supply takes place. More application of decision sciences to the broader issues of supply chain design is warranted.

What should OSCM managers and leaders do to ensure their processes are running optimally? Research on the design of operations should be linked to empirical works of what makes for successful leadership and management of such operations in terms of the actual behaviours of people in those managerial roles.

When it comes to improvement of OSCM, we know that a myriad of improvement initiatives have been tried, every year by most organisations, and here I refer to Lean, quality management, process reengineering, six sigma, and a host of other approaches. Most studies show that firms still are very wasteful of their resources (about one third of resources such as people's time and efforts on average are non-productive and costs of non-conformance are high). Further, we know that the 'lasting success' rates of improvement initiatives such as Lean are low even though these initiatives are powerful and sensible in concept, yet the explanation of these matters is not yet complete: indeed we are far from it in my view. It is fascinating that there is so much variance in performance of OSCM systems, including every sector and size of organisations. In automotive, we see companies such as Toyota gaining consistently and profitably in global markets over decades, thanks to their Lean approach, while many others have tried similar approaches with much less success. In hospitals, we see some pockets of excellence such as the Baldrige Award winners, in a sea of what is otherwise, from an OSCM perspective as measured by Baldrige, mediocrity. And it is not as if these matters are unimportant: while automotive sector inefficiency causes cost and quality issues, ineffective operations management in hospitals costs many lives, being a staggering number of 'preventable deaths'.

There is indeed much to study here, such as why improvement initiatives are so difficult to get right, and how and why the market for effective operations management and improvement is so inefficient, such that effective practices are not taken up more widely and quickly. And this is despite billions of dollars spent each year on procuring advice from professional consultants, and yes, professors too.

We need to more effectively research how OSCM and other functions and activities within organisations can be jointly optimised. Examples are the OSCM-marketing interface, where the 'marketing mix' and OSCM design clearly influence each other, yet both in practise and in concept are usually not well interfaced. The same could be said of functions such as finance and information systems, which are critical to organisational outcomes in concert with OSCM. Our research about 'What Works' should be providing executives with guiding frameworks at a higher level of value and robustness than at present, based on us doing more through better examination of these functional interfaces.

OSCM matters should be considered at the heart of the field of sustainable development. Acknowledging that effectiveness of our OSCM systems impacts on not just financial and economic outcomes but also on the (green) environment and communities in which we operate, there is again a nascent set of studies about this 'triple bottom line' and the trade-offs, synergies, descriptions and prescriptions of 'What Works' in this regard, requiring much further attention from scholars. Concepts like 'reduce, reuse, recycle' are a major potential contribution for OSCM research, as they centrally involve OSCM parameters. The problems of single-use packaging, plastics waste, energy sources and distribution and transport effectiveness are examples of where OSCM can contribute to progress. In this domain, there are very many challenges that

[2]Samson, D., & Gloet, M., (2018) Integrating performance and risk aspects of supply chain design processes, Production Planning & Control, 29:15, 1238-1257, DOI:10.1080/09537287.2018.1520314

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require finer understanding, from better understanding technology choices, to transport planning, to modern slavery policies in global facility location and supply relationships. Some excellent foundational work has been done and published in our journals, yet there are many 'grand challenges' yet to be addressed in OSCM concerning sustainable supply chain management.

The technological input to OSCM keeps advancing, and some might well say it is accelerating. Newer digitalization-based systems from additive manufacturing to AI, IoT, blockchain, big data, widespread automation such as lower cost robots for all sorts of applications are presenting opportunities and challenges in most industries. Technology is increasingly pervasive. Modelling technology development and adoption decisions hence becomes of increasing importance as an input to the OSCM strategy and while this is not a new field of research, the pervasiveness of AI going forward leads us to need to understand new versions of the challenges of how technological change can best be positively impactful in OSCM.

Broader than just the referenced technologies above, more research is required on the interface between mainstream OSCM (referring here to the production and distribution of today's offerings), with the innovation activities of organisations and network partners. Optimal policies about new product/ service offerings are a matter of marketing and OSCM parameters, and are crucial for organisational success. Concepts such as ambidexterity are potentially useful, yet not well understood in practice, once again in terms of 'What Works'.

We also need to develop better research methods in OSCM, beyond math modelling, survey research and case studies, and a few other approaches, so as to be able to get better answers to the challenges posed. I have been recently debating the value of case studies and mixed methods studies with prominent colleagues, some of whom argue that case studies lack power due to their context specificity and are therefore lacking in generalisability. Yet if they shed a bright light on a phenomenon, even in a single organisation, then surely they are instructive and valuable, especially when they accompany broader survey or other studies of that phenomenon. As an example, I have been recently working inside Toyota and learned more from that work about workplace operations, lean, culture, continuous improvement, and leadership than from decades of reading and doing surveys and math modelling research.

And finally, let us consider theory development. OSCM is a practical field, often researched by industrial engineers, management scientists, economists, some behavioural scientists and many others, and we bring approaches to it from a wide variety of these and other disciplines. We use notions of competitive strategy, theories of the firm, resource based and dynamic capabilities etc, all of which impinge on OSCM, or at least we force fit them to do so to get our work into respectable journals. Yet if we ask the question about a single unifying theory of OSCM, or a set of such theoretical frames that collectively underpin OSCM in a robust manner, isn't the cupboard quite bare? Perhaps it is because of our bent towards practise, and perhaps this is not able to be changed, yet a wonderful challenge is to develop further theory that could be used to explain and predict OSCM phenomena richly, including many of the aspects described above, and others.

There is no shortage of OSCM problems that are worthy of rigorous research efforts, and we foreshadow that in journals from the most prestigious such as Journal of Operations Management, to up-and-comers, such as Operations Management Research, we will hope to close the gap between theory and practice, and get to a point where our research adds more value to practice than in the past.

APDSI 2019 ANNUAL CONFERENCE

JULY 15 – 18
BRISBANE, AUSTRALIA

TECHNOLOGY SUPPORTING PEOPLE AND DECISION MAKING

The 24th Asia Pacific Decision Science Institute (APDSI) conference is hosted by the University of the Sunshine Coast, Australia and will be held at the Mercure Brisbane hotel from the 15th to the 18th of July (see https://www.apdsi2019.com/).

CALL FOR PAPERS - Deadline April 5, 2019

Information Technology continues to be a disruptive force in the community. The rapid expansion of the gig economy and the revaluation of the way business has been conducted in the past has meant that corporations and small to medium enterprises need to make decisions on the adoption or development of new technologies in order to maintain their competitive edge, or in some cases even survive.

This expansion of new ways of doing business has meant organizations need to be aware of new approaches to technology and decision making. With this theme in mind, we invite submission papers (research in progress or full papers), posters or abstracts (around 500 words). This will be an exciting forum where academic scholars and industrial experts can share their knowledge and experience as well as exchange ideas on the latest international business innovations and seek opportunities for future collaborations.

Keynote speakers include addresses by Professor David Lacey from IDCare (see https://www.idcare.org/) on Cyber-Security but from a victim's point of view. This view point is very different from the traditional approach of stopping fraud before it occurs. Lacey outlines the trials and tribulations of the victim in obtaining justice and suggests that just "getting the money back" is not the whole story.

Also providing a keynote is Professor Brent Moyle, who will outline his nontraditional approach in obtaining industry funding from regional councils in Australia, *"The Triple Helix: Government, Industry and University Collaboration in our Rapidly Changing 21st Century Society."*

We have secured an interesting and topical workshop featuring a US academic, Professor Amy Z. Zeng, Ph.D., Dean, Barney School of Business, University of Hartford in Connecticut USA, who along with our Dr Wayne Graham from Australia, will speak on *"Building a Career-Ready Program to Prepare the Workforce for the 21st Century."*

We welcome additional workshop ideas. Please contact Don Kerr (dkerr@usc.

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edu.au) for ideas on any workshop at the conference.

I hope you can submit a paper or simply attend this international conference. The registration includes lunches, morning and afternoon teas and the conference dinner. Registration fee is $650 AUD ($460USD) for regular DSI members, with a DSI member student rate of $500AUD ($350 USD).

Brisbane is the capital of the Sunshine State and with almost 300 days of sunshine per year, the city knows how to take advantage of the year-round outdoor lifestyle. Extend your stay and see some more of Brisbane's backyard. Discover the city through the eyes of a local, cuddle a koala and hand-feed kangaroos, watch the sun set from one of only three bridge climbs in the world

and dine on tasty menus created using produce grown less than two hours from Brisbane.

Make your plans now and I hope to see you in Brisbane in July!

Don Kerr
APDSI 2019 Program Chair

10TH ANNUAL EUROPEAN DECISION SCIENCES INSTITUTE CONFERENCE

DECISION SCIENCES IN A CONNECTED WORLD
JUNE 2 - 5, 2019
NOTTINGHAM, UK

EARLY SUMMER IN THE HEART OF ENGLAND?

The European Decision Sciences Conference (EDSI 2019) will be hosted by the University of Nottingham in the UK (JUN 2-5). Visit our EDSI website for detailed information.

REGISTRATION IS NOW OPEN!

Registration is open with discounts for early registration by April 12. Optional trips/tours are also offered on a first-come, first-serve basis. Please book early. Go HERE to register.

WE PROMISE AN EXCITING PROGRAM!

KEYNOTES

- **The Power of Social Network Analysis** (Martin Everett, University of Manchester)
- **Seeking the Best Suppliers in the World – Competition and Collaboration** (Robert Johnson, Jaguar Land Rover)
- **Retail Beyond the Tipping Point: Tackling the Fulfilment Challenges in Omni-Channel Retailing** (Neil Ashworth, Collect+/Yodel)

PROFESSIONAL DEVELOPEMENT SESSIONS

- **Digital Methods and Technologies for Interdisciplinary Research**
- **Conducting Rigorous Survey-based Research**
- **Behavioral Experimental Research in Management**
- **Networks Analysis with R/Python**
- **Bayesian Methods and Knowledge Elicitation**

+ SPECIAL SESSIONS, WORKSHOPS AND PANELS

The University is located on a beautiful 350 acre parkland campus that includes state of the art conference and hotel facilities.

SOCIAL PROGRAM AND TRAVEL

The conference fee includes a traditional beer, cider and cheese tasting, a gala dinner and tour of Wollaton Hall and deer park. Optional trips after the conference on Wednesday 5th June include:

- Chatsworth house and gardens – historic panoramic country house (about 30 miles away). The Royal

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Horticultural Society have their show at this time for gardeners and plant lovers.

- Nottingham historic trip with Robin Hood! Plus lunch in the oldest pub in the UK (Ye Old Trip Jerusalem) – with an afternoon falconry and archery exhibition.

Numbers are limited on both trips so EARLY BOOKING ADVISED!

Nottingham is centrally located in the heart of England about 120 miles from London (1hr 40 mins by train). It is easily accessible with connections from London airports, East Midlands (closest), Birmingham, and Manchester. It is well located for travel in England – the Lake District, the West Country, and Wales, Scotland and Ireland. Edinburgh, Glasgow, Dublin, Belfast are an hour away by air. The London rail terminus for Nottingham is St Pancras International which hosts Eurostar with trains to Paris, Brussels and Amsterdam.

The Cricket World cup is taking place at this time and Nottingham is one of the match venues **(we will have a SPECIAL TUTORIAL SESSION EXPLAINING CRICKET).**

The DeVere Orchard Hotel has a set of rooms reserved for conference delegates at preferential rates. Please note this rate is only available until March 29. Contact them directly quoting EDSI2019 to receive the special rate. Please BOOK your ACCOMODATION EARLY to ensure preferential rates and room availability. Other hotel accommodations in Nottingham are available. Please refer to our website, www.edsi-conference.org for more information.

Bart L. MacCarthy
Conference Chair
Contact: edsi2019@nottingham.ac.uk

Northeast Subdivision of the Decision Sciences Institute (DSI)

APRIL 4 – 6, 2019

NEDSI
Northeast Decision Sciences Institute

2019 Annual Conference (48th) Philadelphia, PA

Important Dates

- Deadline to upload revised submissions: March 20, 2019
- Conference dates: April 4-6, 2019

Awards

- David M. Levine Best Paper in Innovative Teaching
- Richard Briotta Best Paper Award in Knowledge Management & Strategy
- Best PhD Student Paper
- Best Application of Theory
- Best Overall Conference Paper

Sponsoring Institute

Penn State Great Valley School of Graduate Professional Studies

Chancellor: Dr. James Nemes

PennState Great Valley

Special Events

We are delighted to host NEDSI 2019 in Philadelphia. Our theme is: "Leveraging Innovation to Make Sustainable Business Decisions." We have scheduled the following events and activities:

- Welcome Plenary Session featuring Harold Epps, Director of Commerce for the City of Philadelphia and Jeff Hornstein, Director of the Economy League.
- Guest speaker Dr. Jay Liebowitz will talk about an exciting new area of research: the role of intuition in decision making.
- Other speakers
- Off-site social at the Philadelphia Museum of Art
- Reception, Gala dinner and awards ceremony
- Self-guided and trolley tours
- Proximity to several world class restaurants including Vedge, Vetri, Talula's Garden, Zahav, Lacroix, Bibou and others

Hotel and Registration

Please visit our website: https://nedsi.net

Tracks and Track Chairs

Marketing
Effie Stavrulaki, estavrulaki@bentley.edu

Innovation and Creativity
Carolyn LaMacchia, clamacch@bloomu.edu

Decision Making
Gang Li, gli@bentley.edu
John W. Weber, JWeber@devry.edu

Sustainability
Hal Ravinder, ravinderh@mail.montclair.ed

Accounting, Finance, Economics
Homer Bonitsis, theologos.h.bonitsis@njit.edu
Chiaku Chukwuogor, Chukwuogorc@easternct.edu

International Business and Law
Jennifer Swanson, jswanson@stonehill.edu

Organizational Theory and Behavior
Jennifer Swanson, jswanson@stonehill.edu
Kellyann Kowalski, kkowalski@umassd.edu

Operations Management/Operations Research
Joy Field, fieldjo@bc.edu

Teaching and Innovative Education
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Business Analytics and Knowledge Management
Matt Liberatore, matthew.liberatore@villanova.edu
Dinesh R. Pai, drp18@psu.edu

Supply Chain Management and Logistics
Pedro Reyes, Pedro_Reyes@baylor.edu

Legal, Ethical, and Social Issues
Binshan Lin, Binshan.Lin@lsus.edu
Anil Aggarwal, aaggarwal@ubalt.edu

Strategy, New Ventures and Entrepreneurship
Anshu Arora, anshu.arora@wilkes.edu
Jeff Moretz, jmoretz@fairfield.edu

We appreciate all their hard work!

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NEDSI Officers for 2019

President: Neset Hikmet, University of South Carolina

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Contact

estein@ericwstein.com
http://www.nedsi.net

Technology Issues

koray@uri.edu

Sponsoring Institute

Penn State Great Valley School of Graduate Professional Studies

Chancellor: Dr. James Nemes

PennState Great Valley

Sessions

We received over 190 papers, abstracts and proposals on the topical areas and 14 tracks listed on the front page. The papers were blind reviewed by referees and abstracts were subject to final review by Track Chairs and the Program Chair. The Program includes nearly 50 sessions. Accepted papers and abstracts will be published in the conference proceedings. Copyright of the papers will stay with the author(s).

To be included in the proceedings and scheduled for presentation, **at least one author must register** for the conference.

Meeting Venue

The 48th Annual Meeting of NEDSI will be held at the stunning DoubleTree by Hilton Hotel in beautiful downtown Philadelphia on the US east coast. The conference organizing committee has prepared an enjoyable and productive conference in Philadelphia. Tours and other events are included.

About Philadelphia: https://www.visitphilly.com/
About Pennsylvania: https://visitpa.com/
Center City Hilton DoubleTree

- Hotel Reservations: go to nedsi.net

About the Airport – Philadelphia: http://www.phl.org/

Hotel and Registration

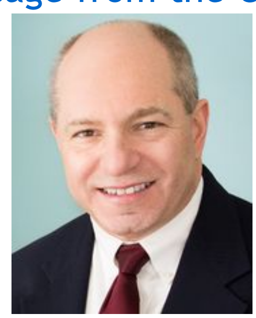
Please visit the following website: https://nedsi2019.net

Program Committee

This conference would not have been possible without the help of the members of the Program Committee:

- Awards
  - Joy Field (chair), Dinesh Pai, Linda Boardman Liu, Theologos Homer Bonitsis, Douglas Hales, Gang Li
- Web Site
  - Koray Ozpolat
- Tours and Special Events
  - Carolyn Lamacchia
- Logistics
  - Linda Friedman
- Undergrad Posters
  - Doug Hales & Jennifer Swanson
- DSI National
  - Vivian Landrum

Message from the Chair



The 2019 NEDSI Conference will be held at the DoubleTree Hilton Hotel in Philadelphia, PA April 4 - 6, 2019.

- ✓ On-site check-in will start on April 4th, Thursday morning at 10am.
- ✓ The sessions will start on April 4th, Thursday afternoon at 1:30 pm and will continue through April 6th, Saturday evening.
- ✓ The gala dinner, keynote and awards ceremony will be held on April 6th, Saturday night.

See you in Philadelphia, PA!

Eric W. Stein, Ph.D.
Associate Professor of Management Science and Information Systems
Penn State

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OPEN POSITIONS AT HIGHER EDUCATION INSTITUTIONS

The Decision Sciences Institute website provides a listing of open academic positions. Below you will find Placement Listings for January 3 – March 21, 2019. For more details on these and other position listings, as well as applicant listings, visit the DSI website – decisionsciences.org Ready to post a position? Guidelines on how to list your position can be found there as well.

POSTING DATE	INSTITUTION	LOCATION	JOB TITLE	JOB TYPE	AREA OF INTEREST
3/21/19	West Virginia University	Morgantown, WV, USA	Teaching Assistant Professor	Non Tenure Track	Global Supply Chain Management
3/20/19	Pasadena City College	Pasadena, CA, USA	Assistant Director	Full-Time	Financial Aid
3/14/19	University of California, San Diego	Academic Coordinator II	San Diego, CA, USA		Systems Engineering
3/14/19	University of Connecticut	Storrs, Connecticut, USA	Assistant Professor in Residence	Full-Time	Business Operations and Information Management
3/13/19	Georgia College	Milledgeville, GA, USA	Assistant Professor	Full-Time, Tenure Track	Operations, Supply Chain Management, Logistics
3/11/19	Bucknell University	Lewisburg, PA, USA	Visiting Assistant Professor	Full-Time	Business Analytics, Quantitative Modeling, Operations Management
3/11/19	Georgia Southern University	Savannah, GA, USA	Assistant Professor	Tenure Track	Logistics, Supply Chain Management
3/4/19	The University of Wisconsin Parkside	Kenosha, WI, USA	Assistant, Associate, Full Professor	Tenure Track	Operations Management, Management, Marketing, MIS, Human Resource Management, Finance
3/4/19	West Virginia University	Morgantown, WV, USA	Visiting Professor	Full-Time, Non Tenure Track	Supply Chain Management, Logistics, Operations Management
2/21/19	University of Oklahoma	Norman, OK, USA	Associate, Senior Assistant	Full-Time, Tenure Track	Health Technologies, Analytics, Management Information Systems
2/20/19	Truman State University	Kirksville, MO, USA	Faculty Position	Full -Time, Tenure Track	Business Administration, Operations Management
2/18/19	University of Texas at Dallas	Richardson, TX, USA	Senior Lecturer	Non Tenure Track	Information Systems
2/11/19	University of Louisville	Louisville, KY, USA	Assistant Professor	Full-Time, Non Tenure Track	Operations Management, Operations Research
2/11/19	Nova Southeastern University	Fort Lauderdale, FL, USA	Faculty Position	Full-Time	Management of Information Systems, Management Sciences, Business Analytics/ Statistics
2/7/19	Morgan State University	Baltimore, Maryland, USA	Assistant Professor	Tenure Track	Information Science and Systems

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POSTING DATE	INSTITUTION	LOCATION	JOB TITLE	JOB TYPE	AREA OF INTEREST
2/1/19	University of California, Riverside	Riverside, CA, USA	Teaching/Lecturer	Part-Time	Information Systems
1/31/19	Washington University in St. Louis	St. Louis, MO, USA	Visiting position, Lecturer	Full-Time	Operations Management
1/31/19	Virginia Tech	Blacksburg, VA, USA	Assistant, Associate, Professor	Full-Time, Tenure Track	Data Analytics, Decision Sciences
1/14/19	University of New Haven	West Haven, CT, USA	Assistant, Associate Professor	Full-Time	Business Analytics
1/9/19	New Mexico State University	Las Cruces, NM	Assistant Professor	Full-Time, Tenure Track	Information Systems
1/7/19	University of Saskatchewan	Saskatoon, Saskatchewan, Canada	Limited Term Lecturer	1 Year Full-Time	Operations Management, Management Information Systems, Business Statistics
1/4/19	Ball State University	Muncie, IN, USA	Assistant Professor	Full-Time, Tenure Track	Business Management, Computer Information Systems
1/3/19	Ball State University	Muncie, IN, USA	Assistant Lecturer	Full-Time Contract Position	Business Management, Information Systems, Operations Management

PAST PRESIDENTS

2010 - CURRENT

2017–2018	Jatinder (Jeet) Gupta, University of Alabama – Huntsville
2016–2017	Funda Sahin, University of Houston
2015–2016	Morgan Swink, Texas Christian University
2014–2015	Marc Schniederjans, Deceased
2013–2014	Maling Ebrahimpour, University of South Florida, St. Petersburg
2012–2013	E. Powell Robinson, Jr., University of Houston
2011–2012	Krishna S. Dhir, Berry College
2010–2011	G. Keong Leong, University of Nevada, Las Vegas
2009–2010	Ram Narasimhan, Michigan State University

2000 – 2009

2008–2009	Norma J. Harrison, Macquarie Graduate School of Management
2007–2008	Kenneth E. Kendall, Rutgers University
2006–2007	Mark M. Davis, Bentley University
2005–2006	Thomas E. Callarman, China Europe International Business School
2004–2005	Gary L. Ragatz, Michigan State University
2003–2004	Barbara B. Flynn, Indiana University
2002–2003	Thomas W. Jones, University of Arkansas–Fayetteville
2001–2002	F. Robert Jacobs, Indiana University–Bloomington
2000–2001	Michael J. Showalter, Florida State University
1999–2000	Lee J. Krajewski, University of Notre Dame

1990–1999

1998–1999	Terry R. Rakes, Virginia Tech
1997–1998	James R. Evans, University of Cincinnati
1996–1997	Betty J. Whitten, Deceased
1995–1996	John C. Anderson, University of Minnesota–Twin Cities
1994–1995	K. Roscoe Davis, University of Georgia
1993–1994	Larry P. Ritzman, Ohio State University
1992–1993	William C. Perkins, Indiana University–Bloomington
1991–1992	Robert E. Markland, University of South Carolina
1990–1991	Ronald J. Ebert, University of Missouri–Columbia
1989–1990	Bernard W. Taylor, III, Virginia Tech

1981 – 1989

1989–1990	Bernard W. Taylor, III, Virginia Tech
1988–1989	William L. Berry, Ohio State University
1987–1988	James M. Clapper, Aladdin TempRite
1986–1987	William R. Darden, Deceased
1985–1986	Harvey J. Brightman, Georgia State University
1984–1985	Sang M. Lee, University of Nebraska–Lincoln
1983–1984	Laurence J. Moore, Virginia Tech, Deceased
1982–1983	Linda G. Sprague, Deceased
1981–1982	Norman L. Chervany, University of Minnesota–Twin Cities
1979–1981	D. Clay Whybark, University of North Carolina–Chapel Hill

DSI FOUNDED – 1979

1978–1979	John Neter, University of Georgia
1977–1978	Charles P. Bonini, Stanford University
1976–1977	Lawrence L. Schkade, University of Texas–Arlington
1975–1976	Kenneth P. Uhl, Deceased
1974–1975	Albert J. Simone, Rochester Institute of Technology
1973–1974	Gene K. Groff, Georgia State University
1972–1973	Rodger D. Collons, Drexel University
1971-1972	George W. Summers, Deceased
1969-1971	Dennis E. Grawoig, Deceased

DSI FELLOWS

Adam, Everett E., Jr.
Anderson, John C.
Benson, P. George
Beranek, William
Berry, William L.
Bonini, Charles P.
Brightman, Harvey J.
Buffa, Elwood S.*
Cangelosi, Vincent*
Carter, Phillip L.
Chase, Richard B.
Chervany, Norman L.
Clapper, James M.
Rodger D. Collons
Couger, J. Daniel*
Cummings, Larry L.*
Darden, William R.*
Davis, K. Roscoe
Davis, Mark M.
Day, Ralph L.*
Digman, Lester A.
Dock, V. Thomas
Ebert, Ronald J.
Ebrahimpour, Maling
Edwards, Ward
Evans, James R.
Fetter, Robert B.
Flores, Benito E.*
Flynn, Barbara B.
Franz, Lori S.
Ghosh, Soumen
Glover, Fred W.
Gonzalez, Richard F.
Grawoig, Dennis E.*
Green, Paul E.
Groff, Gene K.
Gupta, Jatinder N.D.
Hahn, Chan K.
Hamner, W. Clay
Hayya, Jack C.
Heineke, Janelle
Hershauer, James C.
Holsapple, Clyde
Horowitz, Ira
Houck, Ernest C.*
Huber, George P.
Jacobs, F. Robert
Jones, Thomas W.
Kendall, Julie E.
Kendall, Kenneth E.
Keown, Arthur J.
Khumawala, Basheer M.
Kim, Kee Young
King, William R.
Klein, Gary
Koehler, Anne B.
Krajewski, Lee J.
LaForge, Lawrence
Latta, Carol J.*
Lee, Sang M.
Luthans, Fred
Mabert, Vincent A.
Malhotra, Manoj K.
Malhotra, Naresh K.
Markland, Robert E.
McMillan, Claude *
Miller, Jeffrey G.
Monroe, Kent B.
Moore, Laurence J.*
Moskowitz, Herbert
Narasimhan, Ram
Neter, John
Nutt, Paul C.
Olson, David L.
Perkins, William C.
Peters, William S.
Philippatos, George C.
Ragsdale, Cliff T.
Raiffa, Howard *
Rakes, Terry R.
Reinmuth, James R.
Ritzman, Larry P.
Roth, Aleda V.
Rungtusanatham, Manus (Johnny)
Sanders, Nada
Schkade, Lawrence L.
Schniederjans, Marc J.*
Schriber, Thomas J.
Schroeder, Roger G.
Simone, Albert J.
Slocum, John W., Jr.
Smunt, Timothy
Sobol, Marion G.
Sorensen, James E.
Sprague, Linda G.*
Steinberg, Earle
Summers, George W.*
Tang, Kwei
Taylor, Bernard W., III
Troutt, Marvin D.
Uhl, Kenneth P.*
Vakharia, Asoo J.
Vazsonyi, Andrew*
Vickery, Shawnee
Voss, Christopher A.
Ward, Peter T.
Wasserman, William*
Wemmerlov, Urban
Wheelwright, Steven C.
Whitten, Betty J.*
Whybark, D. Clay
Wicklund, Gary A.
Winkler, Robert L.
Woolsey, Robert E. D.
Wortman, Max S., Jr.*
Zmud, Robert W.

*Deceased

In order for the nominee to be considered, the nominator must submit in electronic form a full vita of the nominee along with a letter of nomination which highlights the contributions made by the nominee in research, teaching and/or administration and service to the Institute. Nominations must highlight the nominee's contributions and provide appropriate supporting information which may not be contained in the vita. A candidate cannot be considered for two consecutive years.

Send nominations to:
Chair of the Fellows Committee Decision Sciences Institute
C.T. Bauer College of Business 334 Melcher Hall, Suite 325
Houston, TX 77204-6021
info@decisionsciences.org

INSTITUTE CALENDAR

2019

April 4 – 6	Northeast DSI Annual Conference Philiadelphia, PA
April 4 – 6	Midwest DSI Annual Conference Indianapolis, IN
June 2 – 5	European DSI Annual Conference Nottingham, UK
July 15 – 18	Asia-Pacific DSI Annual Conferenc Brisbane, Australia
November 23 – 25	DSI Annual Conference INew Orleans, LA

Visit the DSI website for details on these upcoming events.

MEMBERSHIP RATES

DSI Membership Rates

Based on the GDP per Capita (PPP)

All dues amounts are in United States dollars ($)

	MEMBER CATEGORY A	MEMBER CATEGORY B	MEMBER CATEGORY C				
MEMBER TYPE	*Greater than 75th Percentile*	*50th -75th Percentile*	*Less than 50th Percentile*				
Regular	**$160**	**$80**	**$40**				
Emeritus	**$80**	**$40**	**$20**				
Student	**$0**	**$0**	**$0**				
	Australia	Andorra	Afghanistan	Congo, Republic of the	Iraq	Nicaragua	South Africa
	Austria	Bahamas, The	Albania	Cook Islands	Jamaica	Niger	South Sudan
	Bermuda	Bahrain	Algeria	Costa Rica	Jordan	Nigeria	Sri Lanka
	British Virgin Islands	Belgium	American Samoa	Cote d'Ivoire	Kazakhstan	Niue	Sudan
	Brunei	Denmark	Angola	Croatia	Kenya	N. Mariana Islands	Suriname
	Canada	European Union	Anguilla	Cuba	Kiribati	Pakistan	Swaziland
	Cayman Islands	Faroe Islands	Antigua and Barbuda	Curacao	Korea, North	Palau	Syria
	Falkland Islands	Finland	Argentina	Cyprus	Kosovo	Panama	Tajikistan
	(Islas Malvinas)	France	Armenia	Czech Republic	Kyrgyzstan	Papua New Guinea	Tanzania
	Gibraltar	Germany	Aruba	Djibouti	Laos	Paraguay	Thailand
	Guernsey	Greenland	Azerbaijan	Dominica	Latvia	Peru	Timor-Leste
	Hong Kong	Guam	Bangladesh	Dominican Republic	Lebanon	Phillippines	Togo
	Iceland	Israel	Barbados	Ecuador	Lesotho	Poland	Tokelau
	Ireland	Italy	Belarus	Egypt	Liberia	Portugal	Tonga
	Isle of Man	Japan	Belize	El Salvador	Libya	Puerto Rico	Trinidad and
	Jersey	Korea, South	Benin	Equatorial Guinea	Lithuania	Romania	Tobago
	Kuwait	Malta	Bhutan	Eritrea	Macedonia	Russia	Tunisia
	Liechtenstein	New Caledonia	Bolivia	Estonia	Madagascar	Rwanda	Turkey
	Luxembourg	New Zealand	Bosnia and Herzegovina	Ethopia	Malawi	Saint Helena, Ascension,	Turkmenistan
	Macau	Oman	Botswana	Fiji	Malaysia	and Tristan da Cunha	Tuvalu
	Monaco	Saint Pierre and Miquelon	Brazil	French Polynesia	Maldives	Saint Kitts and Nevis	Uganda
	Netherlands	Saudi Arabia	Bulgaria	Gabon	Mali	Saint Lucia	Ukraine
	Norway	Slovenia	Burkina Faso	Gambia, The	Marshall Islands	Saint Vincent and	Uruguay
	Qatar	Spain	Burma	Georgia	Mauritania	the Grenadines	Uzbekistan
	Singapore	Taiwan	Burundi	Ghana	Mauritius	Samoa	Vanuatu
	Sweden	Turks and Caicos Islands	Cabo Verde	Greece	Mexico	San Marino	Venezuela
	Switzerland	United Arab Emirates	Cambodia	Granada	Micronesia	Sao Tome and	Vietnam
	United States	United Kingdom	Cameroon	Guatemala	Moldova	Principe	Virgin Islands
			Central African Rep.	Guinea	Mongolia	Senegal	Wallis and Futuna
			Chad	Guinea-Bissau	Montenegro	Serbia	West Bank
			Chile	Guyana	Montserrat	Seychelles	Western Sahara
			China	Haiti	Morocco	Sierra Leone	Yemen
			Colombia	Honduras	Mozambique	Saint Maarten	Zambia
			Comoros	Hungary	Namibia	Slovakia	Zimbabwe
			Congo, Democratic	India	Nauru	Solomon Islands	
			Republic of the	Indonesia	Nepal	Somalia	