

DAAG 2016 CONFERENCE

April 6-8 Banff, Canada



The Society of Decision Professionals proudly presents The 22nd Decision Analysis Affinity Group (DAAG) Conference

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Day 1: Wednesday, April 6

Society of Decision Professionals Workshops

WORKSHOP 1: Enriching Your Frame: Use of Scenario Thinking for Strategy Development

Instructors: Ellen Coopersmith and Kent Burkholder, Decision Frameworks

Time: 8:00am – 12noon

Room: Black Bear

Abstract: Some decision problems benefit greatly from the incorporation of scenario thinking into the framing workflow. Scenario thinking is a practical, efficient approach to scenario planning involving the creation of hypothetical future business scenarios designed to raise decision maker awareness of alternative futures and prepare companies for shifts in the business environment. This workshop will introduce a merged scenario planning - decision analysis framing workflow, which was developed after many years of observation that both classic decision analysis framing and classic scenario planning can suffer from weak elements which improve immensely when the two processes are successfully merged. Merging decision analysis (DA) framing and scenario planning provides a complimentary workflow for high level, strategic decision workshops. This is especially true when decision problems include many external, macro uncertainties, associated with socio-economic, political and or environmental issues, in which DA frames can fall short. For those problems, inserting scenario planning into the DA framing workflow provides better understanding of different possible futures and deeper insight from which to develop more robust strategies to consider. Likewise, DA framing brings needed structure to the strategy development element of the scenario planning process, which can be tortuous in many traditional instances.

Take away from the workshop: Practice framing strategic decisions using scenario planning and traditional DA framing techniques.

- Selecting the key macro uncertainties from which to base the scenarios.
- Describing the different scenarios using questions to help develop the “worlds”.
- Developing strategies for each future world.
- Testing the robustness of each strategy in the other worlds

Who should attend this workshop? *Those supporting strategy development in areas where there are a lot of above ground risks. Planners, decision analysts, and managers.*

About the Workshop Leaders

Ellen Coopersmith

Ellen Coopersmith is the founder of Decision Frameworks and a Petroleum Engineer with a degree from the Colorado School of Mines. She is based in Houston, Texas, and specializes in Decision Analysis consultation, facilitation, training, and implementation. Prior to founding Decision Frameworks in 1999, Ellen spent 16 years at Conoco, where she led their implementation of Decision Analysis in Upstream for five years. She is an accomplished technical and managerial facilitator, as well as a published and invited

speaker on both the implementation and the technical elements of Decision Analysis. Ellen's passion for and focus on Decision and Risk Analysis is on skill development and on making framing, uncertainty analysis, and valuing information easy day-to-day asset management tools in our client industries.

Kent Burkholder

Kent Burkholder is a Vice President of Decision Frameworks and has been with the company since 2003. He is an advisor and consultant with broad experience in petroleum economics, decision and risk analysis framing, and economic modeling and implementation. He is highly skilled in decision facilitation and has developed and conducted many decision analysis, economic modeling, and value-of-information courses. Kent's decision analysis application experience covers a wide range of topics including exploration, appraisal, development, business strategy, refining and new technology research. His extensive industry experience in the oil and gas sector allows him to provide high level support to executives and business decision-makers. Mr. Burkholder holds a B.A.Sc. in Mechanical Engineering and is a member of the Society of Petroleum Engineers. Kent joined Decision Frameworks after six years with Petro-Canada, ten years with Merak Projects, and two years with Schlumberger. Kent's last position with Schlumberger was as Manager of Schlumberger's Oil & Gas Business Consulting group in the Middle East and Asia.

WORKSHOP 2: The Skills and Science of Facilitative Questioning

Instructor: Kathryn Rosback, KRE Inc. & Tyler Ludlow, Eli Lilly

Time: 1:00pm – 5:00pm

Room: Black Bear

Abstract: For a team faced with a need to find new solutions or one tasked with making collaborative complex decisions, a step-by-step framework or a well-structured set of templates or even the sincere desire to be collaborative is not enough. Today's leading business consultants and innovation thought leaders are calling for the need to spend more time in the questioning mode to shift unproductive patterns of thought and talk, re-frame problems, and improve innovation. But it's not just any question: it is essential that the facilitator have some skill in the art of facilitative questioning.

This engaging and interactive workshop will introduce participants to the science and psychology of question types and structure, and provide opportunities to practice question application using participative case studies.

Take away from the workshop:

- Understanding of the essential phases for effective decision making conversations.
- Skills in structuring more effective questions, particularly those questions that are aimed at drawing out underlying values and resolving differences
- Personal feedback on how to improve the facilitative application of questions

Who should attend this workshop?

- Decision makers, facilitators, and/or team leads
- Mediation/ OD consultants or leads
- Individuals involved in conflict resolution discussions.

About the Workshop Leaders

Katherine Rosback

Katherine Rosback is a specialist in the areas of group decision-making facilitation and strategy planning and implementation. Prior to her consulting work, Katherine gained an extensive background in problem-solving and decision-making skills through her work in quality engineering, project management, and as a Director of Quality. Her resume also includes five years of leading strategic planning and implementation projects while employed with an international strategic consulting firm. For the past 16 years, she has facilitated strategic planning and portfolio discussions, led highly technical best practice initiatives, and assisted in linking organizational structure and governance systems to strategy. Her Advanced Facilitation Course has been taught throughout the U.S., Canada, and Europe and in China for over 15 years and receives continual praise for one of the most insightful and useful courses ever attended. When facilitating decision-making groups, she is commended for the way she effectively guides groups through complex discussions necessary to clarify the choices and help them reach better decisions. Katherine has a B.S. in Chemical Engineering and an M.A. in Organizational Communication, both obtained through Purdue University.

Tyler Ludlow

Currently a Senior Decision Scientist at Eli Lilly in Indianapolis, Tyler Ludlow was previously part of the Decision Analysis Group at Unilever in the UK, which won the 2008 Decision Analysis Society Practice Award. In addition to his experience in decision analysis, Tyler has 15+ years of experience as corporate trainer, teambuilding consultant, and teacher. He loves facilitating groups of people and sharing his insights. Together with his wife, they are raising and learning from their nine amazing children.

WORKSHOP 3: Biases in Decision Making

Instructors: Jennifer Meyer and Carl Spetzler, Strategic Decisions Group

Time: 8:30am – 12noon and 1:00pm – 4:30pm

Room: Lynx

Abstract: Humans naturally fall victim to hundreds of biases and traps, particularly in decision making. A recent explosion in behavioral decision science research has led to many new publications and popular books. This presents a challenge for the decision professional, because the field of biases is so vast and detailed, it's nearly impossible to comprehend it. And describing the behaviors is not enough.

In this workshop, SDG will share their framework for organizing and understanding the decision-related biases. Through interactive discussions and live experiments, participants will learn to recognize a variety of critical decision traps, as well as the megabiases that arise from the combined effects of these biases. The workshop will also introduce an approach for avoiding these biases. Participants will share best practices, brainstorm new solutions, and develop personal strategies to create more effective prescriptive guidance for decision makers.

This program is designed for decision professionals seeking to improve the effectiveness of their decision leadership. It features highlights of the three-day biases course in the Stanford certificate program in Strategic Decision and Risk Management. It also integrates the latest thinking from the forthcoming book

Decision Quality: Value Creation from Better Business Decisions (Wiley, 2016), by Carl Spetzler, Hannah Winter, and Jennifer Meyer.

About the Workshop Leaders

Carl S. Spetzler

For four decades, Dr. Carl Spetzler has helped top management create innovative new strategies that deal with the complexities of uncertainty and risk over long time horizons. Dr. Spetzler is chairman and CEO of Strategic Decisions Group and program director of the Stanford Strategic Decision and Risk Management certificate program. He frequently leads executive seminars and briefings and has published papers on strategic management, planning, and decision analysis. Dr. Spetzler received an MBA and a PhD in economics and business administration and BS in chemical engineering from the Illinois Institute of Technology (IIT). He serves on the boards of IIT and the Decision Education Foundation. In 2004, Dr. Spetzler received The Ramsey Medal, the highest honor awarded by the Decision Analysis Society of INFORMS for lifetime contributions to the field. In 2006, he was elected to the SRI Hall of Fame for his leadership in the growth of decision analysis at SRI. He is a Fellow in the Society of Decision Professionals.

Jennifer Meyer

Dr. Jennifer Meyer has more than 25 years of experience as a strategy consultant, helping clients in a variety of industries with strategy development, economic evaluation, and business portfolio modeling. Her expertise is in decision situations that require both technically complex analyses and organizationally complex alignment processes, particularly in the oil & gas sector. She is a senior engagement manager with Strategic Decisions Group. Dr. Meyer also teaches courses through the Stanford Strategic Decision and Risk Management certificate program and develops customized materials and courses for clients to support their decision-related professional development needs. Dr. Meyer received a PhD and an MS in operations research from Stanford University and a BA in mathematics and physics from Drake University. She is a Fellow in the Society of Decision Professionals.

DAAG Welcome Reception/Dinner

Keynote Speaker: Andrew Brash

Time 6:00pm – 8:00pm

Room: Glacier

Andrew Brash is a Calgary climber and teacher who has been following his passion for climbing and adventure for over twenty years. He's traveled and climbed in some of the most impressive mountain environments the world has to offer, including mountains in Tibet, China, Pakistan, Kazakhstan, Alaska, Chile and Nepal. Andrew has one of the most interesting climbing resumes in Canada, which includes new routes and unclimbed peaks in Nepal, China, Norway and Tibet. He's been featured in magazines and journals such as *The Canadian Alpine Journal*, *The American Alpine Journal*, *Climbing Magazine*, *On the Edge Magazine*, *High Mountain Sports*, *National Geographic Adventure Magazine*, *Explore Magazine* and was profiled in *Gripped Magazine*. In May of 2006, Andrew took the final step towards his life-long goal of climbing Mount Everest. Just two hundred meters from the Everest summit, Andrew and his team were forced to end their expedition to assist an Australian climber. The climber Lincoln Hall was suffering from severe altitude sickness had been declared dead by his teammates who were forced to leave his body to the mountain. Andrew and his team discovered him some twelve hours later. They spent many hours helping Lincoln to recover and organizing his rescue. The

story made headlines around the world and was contrasted with the well-publicized death of another Everest climber that same season, David Sharp of England. Andrew's involvement in the Lincoln Hall story on Mt. Everest and the resulting lessons of making decisions that matter, comprise the Andrew's insights on decision making in difficult circumstances, but also in the areas of ethics, commitment, compassion and of the profound results they can bring. Whether in business, government or everyday life, making great decisions is an essential ingredient to success in whichever field one chooses to participate.

Day 2: Thursday, April 7

Welcome to Day 2 and Icebreaker Activity

Time: 8:00am – 8:45am

Room: Summit

Keynote Speaker: Michael Runge

Colorado River, Glenn Canyon Dam Decision

Time: 8:45am – 10:00am

Room: Summit

Michael C. Runge is a research ecologist with the U.S. Geological Survey, Patuxent Wildlife Research Center, where he has worked since 1999. His research focuses on the use of decision theory and population modeling to inform wildlife management, with particular emphasis on the formal application of adaptive management. Most of his research involves collaboration with Federal management agencies (U.S. Fish and Wildlife Service, Bureau of Reclamation, National Park Service, National Marine Fisheries Service, and others). He has worked on projects with migratory birds, National Wildlife Refuges, endangered species, and marine mammals (including manatees and polar bears). He co-designed the “Introduction to Structured Decision Making” and “Adaptive Management” courses for the National Conservation Training Center, and co-leads the joint USGS/FWS Structured Decision Making Workshops. Mike received a B.A. in biology and philosophy from the Johns Hopkins University, an M.A.T. (Master of Arts in Teaching) in biology from Spalding University, and a Ph.D. in wildlife science from Cornell University. With his wife and daughters, he has climbed all 46 of the high peaks in the Adirondacks.

Session 1: Corporate and Organizational Decision Making

Time: 10:30am – 12noon

Room: Summit

Chairs: Josh Harrison, Nexen (Joshua.Harrison@nexencnoocltld.com)

Carl Spetzler, Strategic Decisions Group (cspetzler@sdg.com)

Session Abstract: This session is focused on the journey to ODQ (organizational decision quality) – i.e., the broad adoption of DQ in organizations. The highest award given by the SDP is the Raiffa-Howard award for ODQ. We will provide the opportunity to have new award recipients share their perspective, learnings, and advice. In addition, we will have a panel of examiners that will provide their insight from having served as in the evaluation process of applicants. Finally, we expect to present a self scoring instrument that will allow potential applicants to evaluate their current state of adoption along the ODQ maturity curve and identify areas for improvement.

Session 2: Decision Analysis for Everyone!

Time: 1:00pm – 2:15pm

Room: Summit

Chairs: Tyler Ludlow, Eli Lilly (tludlow@lilly.com)

Session Abstract: Many of us use Decision Analysis to create value within organizations, where project teams, decision consultants/facilitators, and decision boards exist in one shape or another. DA can also create value for individuals, who often fill all of these roles at one time. The contexts for these decisions are varied: day-to-day decisions in large businesses, small business decisions, medical decision making, parenting, etc. Ironically, this can arguably be viewed simultaneously as both DA at its most personal, while also representing the epitome organizational decision quality, when DA/DQ are truly a part of people's DNA. This session will include presentations that discuss issues and considerations for the individual application of DA, an overview of organizations and efforts to equip everyone with decision skills, and how decision professionals can get involved.

Roundtable Discussion

Time: 2:15pm – 2:45pm

Room: Summit

Keynote Speaker: Dave Snowden

The Cynefin framework for decision making

Time: 3:15pm – 4:30pm

Room: Summit

Dave Snowden is the founder and Chief Scientific Officer of Cognitive Edge. He works with governments and industries around the world on complex issues relating to strategy and decision making. He has pioneered a science-based approach to organizational decision making drawing on anthropology, neuroscience and complex adaptive systems theory. Mr. Snowden previously was a Director of the Institution for Knowledge Management at IBM, where he founded the Cynefin Centre for Organizational Complexity. He holds visiting Chairs at the Universities of Pretoria and Hong Kong Polytechnic University, as well as a visiting fellowship at the University of Warwick. He is a senior fellow at the Institute of Defense and Strategic Studies at Nanyang University and the Civil Service College in Singapore. His paper with Mary Boone on Leadership was the cover article for the Harvard Business Review in November 2007, and also won the Academy of Management award for the best practitioner paper in that year.

Raiffa-Howard Award Presentation & Celebration

Timing: 5:00pm – 6:30 pm

Room: Summit – All DAAG Participants Welcome!

DAAG Networking Dinner

Timing: 7:00 pm – 9:00 pm

Location: [Wild Bill's](#) (201 Banff Ave, Second Floor)



Banff Park Lodge Resort Hotel & Conference Centre, 222 Lynx St

Banff, AB T1L 1K5

↑ Head south on Lynx St toward Caribou St

84 m

↙ Turn left onto Caribou St

160 m

↙ Turn left onto Banff Ave

8 m

↙ Turn left

6 m

Wild Bill's Legendary Saloon, 201 Banff Ave

Banff, AB T1L 1C4

Day 3: Friday, April 8

Welcome to Day 3

Time: 7:55am – 8:00am

Room: Summit

Session 3: Societal and Non-Profit Decision Making.

Time: 8:00am – 9:15am

Room: Summit

Chairs: *Laura Keating, Strategic Decisions Group (lkeating@sdg.com)*

Somik Raha, SmartOrg (sraha@smartorg.com)

Pat Leach, Decision Strategies (pleach@decisionstrategies.com)

Session Abstract: DA stands for Decision Analysis, but it should also stand for Driving Action. Driving action is important at all levels of social, political and economic organization. The three talks in this session illustrate how DA can be used to drive action, and also examine the challenges that are unique to the non-profit and societal decision space. The talks span the organizational, societal and neighborhood scales. The session also touches on DA tools that can be used and useful even when there is NOT a specific decision that needs to be made immediately.

Talk 1: Decision Analysis for Financial Sustainability in Conservation Organizations

Esteban Guerrero, SmartOrg

Global efforts to address Climate Change and other Sustainability challenges are becoming self-sustaining themselves. Conservation organizations are beginning to use financial mechanisms to build investment funds to secure conservation efforts in perpetuity. Debt swaps, one such type of financial mechanism, are highly complex, are negotiated at the highest level of the social-public-private junction, consider decades-long time horizons, and are therefore highly uncertain. This talk will show how Portfolio Decision Analysis made a big dent in helping financially lay project champions understand and manage the complexity of debt swaps, and discover the potential that sustainable finance mechanisms have to fund many other conservation undertakings.

Talk 2: ABCDs of Informal DA in Neighborhood Non-profits

Enrico Manlapig, Westmont College

This case study describes a Decision Analysis for a pre-school that faced a difficult decision on whether to close or continue operating. The client's decision was complicated by a unique mix of challenges, strong emotions, the cooperative nature of the preschool, and the background of the decision makers. Lessons from this exercise are presented as suggestions for offering decision support in other informal DA roles for neighborhood non-profits.

Talk 3: Supporting landscape level planning and management with DA-facilitated integrated science modeling.

Karen Jenni, US Geological Survey

Tim Nieman, Decision Applications

We recently participated in a National Academies of Sciences workshop on “Integrating Landscape Approaches and Multi-Resource Analysis into Natural Resource Management.” The workshop covered a range of activities being undertaken across the U.S. Department of Interior to bring together the physical, natural, and social sciences to better address pressing land and natural resource management questions. Our presentation will extend our remarks from the workshop, which focused on the importance of including perspectives and participation of a wide range of decision-makers (at all levels) and stakeholders, to discuss the importance and challenges of bringing analytic rigor to these very large, very loosely structured issues, and to the unique challenges of creating integrated assessments in a way that is true to the underlying science(s) and communicating the results in way that is useful to land managers. We will draw from examples of over a decade of consulting projects conducted for the U.S. Fish and Wildlife Service and U.S. Geological Survey.

Session 4: Capital Decision Making Under Resource Constrained Circumstances

Time: 9:15am – 10:15am

Room: Summit

Chairs: *Leslie Lippard, Genentech (lippard.leslie@gene.com)*

Jim Weller, Endeavor Management (jweller@endeavormgmt.com)

Session Abstract: Multiple case studies will be presented related to capital decision making in a resource constrained (money, people with key skills sets, other constraints) environment. A variety of presentations related to capital project decisions and portfolio capital allocation decisions will be sought from industry (e.g. oil & gas, health care, technology) and organizations (government, non-profit). These case studies are intended to demonstrate how something surprising came from applying DA principles or where a novel DA approach was used which produced a useful outcome of interest to DA professionals.

Talk 1: Turning the supertanker – Introducing Structured Decision-Making at BC Hydro: the good, the bad, and the icebergs.

Basil Stumborg, BC Hydro

This Case Study looks at BC Hydro (the provincial electricity supplier in British Columbia) and its path to adopting a multiple objective decision making framework to its business decision making process. Along the way, we will address some key elements of success, things that didn't work so well, and some “icebergs” (those hidden things that can really slow you down).

Talk 2: A Must Do Project Without the Required Capital

Gerald J. Lieberman, Endeavor Management

This Case Study illustrates several ideas with widespread applicability for developing an economically viable project in a severely resource constrained environment. While the Case is for a brownfield oil and gas asset, the ideas, while not novel, are intended to stimulate innovative approaches across industries for projects faced with severe resource constraints.

The Case involves an already producing oilfield in shallow water that needs a major capital investment to sustain production. Since most oil companies today are severely constrained on capital and cash flow, major new capital investments are typically not considered. We illustrate some ideas like constructing an 80 / 20 cost solution, violating normal practice constraints, using someone else's capital, and reframing the project to improve economic viability.

Session 5: Medical Decision Making

Time: 10:45am – 12noon

Room: Summit

Chairs: *Kwon Kim, Strategic Decisions Group (kkim@sdg.com)*

Tyler Ludlow, Eli Lilly (tludlow@lilly.com)

Onikepo Omotade, Decision Strategies (oomotade@decisionstrategies.com)

Session Abstract: This session will discuss challenges and best practices of decision making in the medical context, as part of an effort to regularly cross pollinate ideas and competencies between medical communities and DA professionals. Presentations will include:

- Discussion of latest insights from researchers at the Society for Medical Decision Making - communication of risk, eliciting preferences, behavioral aspects of decision making, decision education and training, etc.
- Case study of decision analysis being applied in the medical industry (hospitals, health care systems, insurance companies, etc)
- Decision making in global healthcare, which deals with challenges of delivering healthcare in developing countries.

Talk 1: Embedding Decision Making into a Clinical Utility Algorithm

Zachary Skrivanek, Eli Lilly and Company

Framing, structuring, analyzing, and deciding on a preferred alternative is a classic DA process on a single project. At times this process is generalized to create a decision framework that will allow decision makers to conduct a decision process on multiple projects. This generalization can be complex, as the frame and structure need to be explored broadly enough to be valid for any project that might walk through the door. However, there is still human decision makers running the process in the end, who are ultimately capable of fine tuning the application of the framework. Now imagine creating a decision frame and structure that would be embedded into an algorithm that would essentially think and decide on its own, without a human decision maker. And what if the decisions the algorithm were making were running a project with a

price tag in the hundreds of millions of dollars? This presentation will share a case study example of a decision algorithm used run a Phase 3 clinical trial of an experimental drug for the treatment of diabetes.

Talk 2: Improved Drug Treatment Decisions Through Consistent Benefit-Risk Tradeoffs

Jack Kloeber, David Culhane and Steve Hamlen, Kromite

Making decisions about the correct treatment for a patient occurs millions of times every day throughout the world. There are many efforts by organizations to use rules, templates, or simply experience and gut instinct to make these decisions. We worked with a pharmaceutical company to develop a physician-oriented multiple objective approach for such decisions. The prototype we will discuss is for patients with moderate to severe psoriasis. We include the key benefits and risks associated with each approved drug for this disease as well as doctors' value assessment for each of these.

Talk 3: The Shared Decision Making Summit

Matt Gorman, Kromite

Tyler Ludlow, Eli Lilly and Company

At DAAG 2015 the top-rated session was a keynote about decision quality in the medical context, specifically the treatment decisions made by patients and their health care providers. While researchers across the world have been studying this for almost two decades, creating a field of its own entitled Shared Decision Making, wide-spread implementation in practice settings still lags.

As part of SDP's outreach effort, which seeks to increase the awareness and adoption of decision quality outside of SDP's traditional professional borders, SDP is hosting the Shared Decision Making Summit on 27-29 Sep, in partnership with the Society for Medical Decision Making (SMDM). With its history in the pharmaceutical industry, SDP's focus for the first annual SDM Summit is Pharma's Role in Patient Decision Making. The event will bring together pharmaceutical leaders and key stakeholders in the healthcare industry, along with experts in Shared Decision Making, to explore how a group of organizations can break down barriers and build bridges to help enable and support a broader adoption of Shared Decision Making.

Session 6: Unsolved Problems and Developing Ideas

Tentative Timing: 1:00pm – 2:15pm

Room: Summit

Chairs: Jack Kloeber, Kromite (JKloeber@kromite.com)

Jay Andersen, Eli Lilly (jsa@lilly.com)

Session Abstract: The session will be a fast moving one, with 5-8 speakers. We hope to engage creative thinkers in the audience as well as speakers who will present creative, but possibly not fully developed ideas and unsolved but important problems. We expect audience participation during the session with a flurry of follow up meetings and/or emails to the speakers with

potential solutions or challenges. Each speaker will have 5-10 minutes to present an idea. Each idea must have a motivation behind it – either a key to solving a type of problem which comes up in an industry, or a creative idea for communicating, analyzing, or framing a decision problem which leads to better insight and more clarity.

Talk 1: Finance v DA Perspective

Henk Krijnen

Abstract: Why do the broader concepts of decision analysis not penetrate the financial sector? Why does there seem to be a divide in philosophy between the probabilistic DA concepts and the approaches for investment analysis that are predominant in Finance. For instance, does risk really simply equate to opportunity cost of capital and discount rate?

Talk 2: When is enough, enough?

Elayne Ko, Pfizer

Abstract: I continue to consider Prof. Larry Phillips' paper on Requisite Decision Model to be a very useful and helpful guidance on when to stop iterating when completing a decision analysis project. However, in reality, implementing the Requisite Decision Modeling approach is challenging. Cross-functional project teams, sometimes at the request of management, continue to evaluate and to analyze the decision problems well beyond the point of decision relevance.

Talk 3: Using Real Estate Diagrams

Jim Felli, Eli Lilly & Co

Abstract: Many times, discussions involving probabilities get muddy, even for seasoned professionals. This is especially true when the conversation involves multiple, interacting probabilities. We'll present and explore a simple visualization to help facilitate conversations about the desired performance of tests and assays in drug development.

Talk 4: Overthrowing the Tyranny of Economics

Pat Leach, Decision Strategies Inc.

Abstract: First, our economy is no longer labor constrained; it is resource constrained. Second, our measures of wealth and value do not at all reflect what we truly value and consider to be life-enriching. Third, we need to practice Comprehensive Capitalism – capitalism that appropriately accounts for all forms of capital (financial, natural, and social). In short, we need to view our lives, our businesses, and our societies through a much more complex lens than we have before. We need multi-dimensional metrics on which to base our decisions.

Talk 5: Can Bayesian Updating help when reacting to Adverse Events reports?

Keith Gardner, AstraZeneca

Abstract: How do we use a sparse but continuous stream of adverse event information, from many sources, sometimes conflicting, sometimes duplicative, to influence the decision around the most appropriate action to be taken by a pharmaceutical manufacturer? I have proposed a method which is loosely based on Bayes' updates which was originally designed for the Intelligence industry.

Talk 6: What If We're Wrong?- Optimized Learning with Asymmetric Threat Assessment

William Haskett, Decision Strategies Inc.

Abstract: "What if we are wrong?" Good decision support needs to describe the ramifications of being wrong as threats may alter the decision. What can we do when there is no material decision; where learning is efficiency based and would occur in any event; where there is only population learning and efficiency improvement? Asymmetric Risk Assessment can indicate the Value of Learning. The asymmetry shifts the optimal execution action to minimize threat and impacts negotiation and strategy.

Session 7: The Cutting Edge of Decision Analysis

Time: 2:45pm – 4:00pm

Room: Summit

Chairs: *Ellen Coopersmith, Decision Frameworks (Ellen@decisionframeworks.com)*

Pat Leach, Decision Strategies (pleach@decisionstrategies.com)

Session Abstract: Decision professionals are constantly pushing boundaries and creatively adapting the principles of DA to real-life situations. This session will focus on examples in which DA practitioners ad-libbed, incorporated new concepts, and broke new ground in the application of decision analysis to complex problems.

Talk 1: A Different Kind of Portfolio Analysis

Keith Gardner, AstraZeneca

A substantial oncology portfolio of multiple compound oncology products had to be winnowed down. There were approximately 22 individual compounds which can be combined in any fashion, creating a long list of possibilities and insufficient resources to tackle even a small slice. This is not the usual portfolio analysis since many of the features are either strictly non-numeric (alignment, synergy), or entirely missing at the early stage (safety, toxicity), or so inaccurate early on to be whimsical (regulatory, launch date). To resolve these issues we:

- created a decision analysis MCDA framework to structure the problem
- designed a survey to gather expert opinion to populate the missing information

- converted the radically unclear results of the survey into a triangular distribution for insertion to the MCDA model to reveal the overall results alongside the current level of uncertainty inherent in the information.

We now have a prototype model for going forward and are working on how to present the complex results to advanced stakeholders within limited time and interest windows.

Talk 2: Modeling Complex Uncertainties

Jonathan Mauer, Pfizer

This presentation illustrates how decision analysis generated insights to support a counter-intuitive portfolio investment decision. It is for decision professionals who wish to approach complex analytic challenges with grace and poise. This talk presents specific analytic solutions for two commonly encountered unknowns in R&D decision-making that are sometimes correlated; technical risk and commercial uncertainty.

Talk 3: The Head and Heart of Decision Quality

Somik Raha and David Matheson, Smart Org

Decision Quality is an old idea that has been with us since the 80's. It has been slowly and incrementally advancing, with the last major contribution being from the Decision Education Foundation, when the "head and heart" distinction was added. Since then, we have come to learn much more about how people make decisions. Notably, Kahneman, in his seminal "Thinking Fast and Slow" shows how his work has evolved from biases about System 1 and System 2 thinking. What would the big update be to Decision Quality after 35 years of experience with it? It is time to deeply integrate the heart into Decision Quality rather than leave the heart as a separate idea. We will propose a major upgrade to the Decision Quality framework for the 21st century.

Society for Decision Professionals Business Meeting

Time: 4:00 – 4:30

Room: Summit

DAAG Business Meeting & Planning for DAAG 2017

Time: 4:30pm – 5:00pm

Room: Summit

Chairs: *Scott Bartsch, Nexen (Scott.Bartsch@nexencooclted.com)*

Christa Roemkens, Chevron (CRoemkens@chevron.com)

Co-chairs of DAAG 2017 program committee (TBD)