Workshop: Excellence in Risk Analysis  
June 29-30, 2018, Crystal Mountain, Thompsonville, Michigan

On June 29-30 of this year, a group of SRA members met at the Crystal Mountain resort in Michigan in a workshop aimed at discussing a number of issues for the future development of risk analysis and the Society for Risk Analysis (SRA). It was an unforgettable event, full of enthusiasm, and rich in ideas and plans on how to advance SRA and the related science and profession. Also the venue was absolutely fantastic – watching the beautiful sunset at Lake Michigan cannot be described by words.

In more specific terms, the aim of the workshop was to stimulate the rise of future strong leaders in risk analysis and SRA by discussing how to build excellence in professional settings as well as for personal development. The workshop provided an opportunity to discuss and share ideas on how to further develop the field and science of risk analysis and the Society itself. The workshop was meant to be an occasion for strengthening the network of young SRA professionals and contribute to build excellence in activities (projects, publications, presentations, etc.), in people (attitudes, goal setting, improvement processes, etc), and in organization (teams, study programs, etc): a culture for ‘SRA excellence’. The workshop represents an important input to the development of vision and mission statements linked to SRA and its related scientific field and practice, and the structuring of the related strategies and plans for advancement.

The discussion was structured in:

- ‘the current state’ (‘where we are now’),
- ‘where we would like to go or be’ (the ‘big dreams’, the visions and high-level goals), and
- ‘how to get there’ (the means, the measures, strategies, priorities).

The big dreams create a gap that gives energy and stimulation of activities for moving in the right direction. Combined with a strategy of continuous improvement, the vision and this gap provide a strong instrument for obtaining top performance over time, when the proper balance is made between confidence (believe in something) and humbleness (be open and learn), and between protection and risk taking. An example of such a vision statement – big dream - is that the risk field is a recognized and influential science and profession, as demonstrated by the fact that this field is on the curriculum in schools.

As far as the current state is concerned, we conclude that SRA today is a healthy organization, with a strong financial basis. It is built on a number of Specialty Groups (SGs) covering a broad set of methodological topics and applications areas, as well as many Regional Organizations (ROs). It organizes high-quality conferences, including the Annual Meeting. Recently, SRA has launched some new initiatives, like the webinars, with success. Nonetheless, there is certainly a potential for further developments, as the workshop proved. Membership numbers have been reduced over the last 10 years.

The discussion among the participants of the workshop was partly carried out in selected groups, and the ideas emerging from the discussion within each group were presented in a final plenary session. See here for the group work reports. Below, we summarize some of the ideas and reflections that have been generated from this process. They can be categorized along the following main axes:
The Annual Meeting is the main event of SRA and its quality is, therefore, critical. Many suggestions for how to further improve it were suggested. These include:

- SGs to offer high quality talks providing overview and reflections of one or more key topics in their area highlighting also current challenges and issues, in order to enhance the understanding across various methodological areas and applications (talks should occur at the same time slot to encourage members to explore topics from other SGs)
- Organize panels with representatives from various SGs and ROs, for example to discuss how they address a particular topic (embrace debate and/or disagreement)
- Guide attendees in selecting talks, for example providing in the conference program information about the type of presentation, whether it is mainly theoretical, an application, a review, etc.
- Engage students, early career members, and first-time attendees by suggesting a conference agenda (which sessions would be most helpful depending on background and interests)
- Organize different types of speed dating to build community and collaboration
- Develop conference materials/booth to perform outreach at the conferences of other societies, e.g. INFORMS
- Organize introductory ‘educational sessions’ for relevant topics, for example related to project risk management, research work and paper writing
- Modernize the planning of the Annual meeting by using current methods for organising sessions and structuring of the program
- Provide SG executives with insight on how Program Committee meetings are run, and provide guidance so SGs can be prepared for these meetings to create valuable content for the Annual Meeting
- Seek more sponsors of the event
- Streaming of (selected parts of) the annual meeting
- Encourage SGs to set aside funding (or SRA to seek sponsorship) to invite speakers from outside of SRA to participate in the Annual Meeting. Registration and travel costs can be a barrier for bringing new members and new perspectives into the organization.

A main point addressed in the discussion was that ‘silos’ represent a challenge and that activities are needed to reduce these and strengthen collaboration across the different areas of risk analysis defined for example by the various SGs. There is something that unifies us, and that is the science and practice of risk analysis: the concepts, principles, theories, methods and models for analysing (in the wide SRA sense covering risk assessment, risk characterization, risk perception, risk communication, risk management and policy relating to risk). Risk analysis is both generic and applied. It is applied in the sense that risk analysis supports knowledge generation and problem solving in relation to specific applications (health, industry, climate change, etc.) - the activities are multidisciplinary or interdisciplinary, but risk analysis is also ‘generic’ in the sense that it develops general concepts, principles, methods and models for analysing risk (in the broad sense of the word ‘analysis’). We talk about Applied Risk Analysis (A) and Generic Risk Analysis (B). About half of the SRA SGs can be characterised as being of the A type and about half of the B type.
The distinction between these two types of risk analysis was given considerable attention in the workshop when discussing ‘who we are, what we are doing, and where would we like to be’: Is SRA mainly to serve Applied risk analysis and professionals working with applications, or is our main interest to advance Generic risk analysis? Currently we have a mixture of both. There was broad agreement that we need both. If we really are to grow as an organisation the A part needs to be expanded, but also the B part needs to be strong as the generic analysis provides an important knowledge basis for the applications. Now how could we obtain this? Surely we need to meet both the goals b) and c), as will be discussed in the following.

SRA needs to take a stronger role as a ‘knowledge organisation’ by providing guidance and communicate ‘state-of-the-art’ knowledge on risk analysis - both theories and practices. The working groups in the workshop highlighted this strongly and provided a number of suggestions for how to obtain a new stage in the development of SRA as a ‘knowledge organisation’. Our journal Risk Analysis and related scientific journals represent a backbone in the knowledge generation, but are not in a format that is suitable for guiding and communicating ‘state-of-the-art’ knowledge on risk analysis for broad audiences and practitioners. Science can in generic terms be understood as the most warranted statements – the most justified beliefs - of the relevant knowledge field, and these are established on the basis of the scientific literature, but it needs to be processed to establish what is to be considered the current ‘state-of-the-art’ knowledge. The clear message from the workshop is that SRA should play an important and stronger role in this process and deliver ‘state-of-the-art’ knowledge (both ‘know-how’ and ‘propositional knowledge’) to a broad audience. This will strengthen the science and profession of risk analysis and increase its impact as formulated by b) and c) above.

Here are some of the related suggestions coming from the working groups and the follow-up:

- Provide authoritative guidance documents on how to conduct state-of-the-art risk analysis (high quality risk analysis). Create SRA risk manuals or endorsed standards (e.g. like INFORMS TutORials).
- Provide practical, real-life demonstrations of risk analysis principles (youtube videos, risk bites, TED talks, sra.org/resources ‘what is risk’, museum exhibits, online storyboards)
- Provide simple illustrating state-of-the-art risk analysis examples. Create a case study repository with tutorials with best practices for use by for example faculty members, teachers, or providers of continuing education. Build and publish set of case studies, modules, or other educational materials (with a few teasers available to everyone; the full repository would be only available for members)
- Ensure a high degree of visibility, using website, social media, etc. Existing guidance documents and videos are hidden (sra.org/resources).
- Improve website to reflect the weight on SRA as a knowledge organization. Currently the website is not oriented to welcome and guide visitors to the information and advice that they may be seeking - it acts more as a ‘wall’, suggesting that membership and SRA meetings are the way to this content. By re-orienting the website to clearly demonstrate what SRA offers to risk analysts (and others), and providing easy access to that content, the webpage can become a central means of connecting analysts, educators, and decision makers with risk analysis resources and support.
- Consider ways of collaborating with International Standards Organization (ISO), ABET (www.abet.org) and related organizations.
- Create a certificate program/certification process that is managed by SRA
- Share teaching materials - syllabi and case studies (through a dedicated website for members or through an education repository)
- Develop e-learning courses
- Publish/present more broadly on the role of risk analysis in conferences covering data science, AI, etc.
- Stimulate development of suitable textbooks in risk analysis
- Stimulate writing papers on risk analysis education
- Create an online story map about risk analysis highlighting different applications and key historic events
- Develop a speakers bureau for media to reach out on risk-related news/events, and/or a list of experts to contact for media interviews when high-profile events occur
- Make podcasts more accessible to non-members (shorten length, improve quality of audio and content, possibly make less technical and interesting for a more general audience)
- Create a network/platform for sharing information about risk education within SRA
- Support topic-based outreach with industry, such as creating web content on how various industries approach climate change, finance, and other controversial topics
- Each SG identifies a set of papers which are considered summarising well the state-of-the-art of the area, as well as presenting some latest research news (2017-2018) (say up to three papers in each category). Videos etc can also be included. Links to further reading.
- Highlight the relevant risk-related aspects of everyday decisions or popular topics
- Balancing that we are concerned about protection but also value creation
- Improve the Risk Analysis journal (decrease time to get revisions/reviews, reduce barriers to open access publication)
- Subsidise Tutorial articles as Open Access articles in the Risk Analysis journal
- Open Source book on Risk Analysis (this project could be tied to other educational initiatives)
- Stimulate further development of courses, study programs and centres in risk analysis at universities. Foster strong SRA-academia connections to educate future generations
- Consider develop a specific SRA course on the core subjects of risk analysis, and stimulate universities to develop such courses.
- Encourage SGs to create more value for members aside from coordinating activities related to the Annual Meeting, e.g. provide quarterly email updates or newsletters, SG webinars or journal clubs, or other networking and learning opportunities.

SRA is probably not suited to serve institutions in their needs for practical arrangements related to research proposals. What SRA can do is to stimulate and promote activities which can be useful for the institutions in this respect, but not itself conduct the services. The same applies to active participation in research projects: SRA is not a research unit, but it can promote research and projects to be carried out to address relevant topics.

Several suggestion were also presented and discussed on how to legitimize risk analysis as a science and increase its status in society:

- Develop improved brand recognition with trademark and tagline
- Seek endorsement from science foundations and related type of organizations (e.g. (National Academy of Sciences (NAS)/National Science Foundation (NSF)
- Publish about risk as science, in journals as well as in academies of sciences (e.g. NAS). Think about Statistical Science and Data Science for inspiration
- Develop, share, publish use cases to varied audiences that clarify how risk analysis is both generic and applied
- Send letters to relevant departments (i.e. how are you incorporating risk into your curriculum?, this is how we can help, etc.)
- Question what others need from SRA and the risk analysis field
- Review SRA activities to see how they align with the goals of the organization. If our mission is, in part, to improve the rigour and uptake of risk analysis practices in society, are we doing the right things to make this happen? Are we reaching the right people? Is the composition of our membership reflective of the diversity of risk analysis researchers and practitioners nationally/internationally? Do we understand what the broader risk analysis field needs from us? Are we oriented such that we can influence the uptake of risk analysis best practices in industries and organizations who do not practice risk analysis rigorously, but perhaps should?
- Highlight risk science and application – not only risk analysis.

Other suggestions related to organisational capacity:

- Learn from other societies in terms of their growth trends, structure (e.g. INFORMS, JSM, TRB, GISP)
- Revive/expand/revitalize the Education Committee in SRA. Consider the development of a new SG on risk analysis education in the future
- Allowing for leadership for early career members. Involving in Council committees. Improved visibility of Council and its work
- Increase recognition of member contributions to the society
- Increase recognition of what the society does for members, students, etc.
- Increase incentives to become a member of SRA. As a ‘teaser’, make a selection of particular member resources freely available. Membership provides individuals access to full repositories.
- Establish a strategic plan for SRA. A strategic plan for the organization could help to identify where to best utilize resources to fulfill the society’s mission and goals
- Provide guiding documents for SGs and ROs. These could improve effectiveness within the organization by providing clear expectations for leadership roles, improving continuity and handoff when members transition into SG and officer positions, and ensuring that initiatives maintain momentum from one year to the next.
- Continue to engage young members to keep SRA current, adapting to changes in priorities, media, technology, etc.
- Improve efficiency and reliability of SRA organisation, in communication and responsiveness of email etc.
- Continue and further develop a mentorship program
- Strengthening collaboration with other societies and organization
- SRA should show up first in a Google search
- Should there be an SG focused on finance?

SRA leadership is working on establishing a funding scheme for supporting projects which can contribute meeting the strategic goals of the organisation. These goals are still subject to discussion but b-d) will undoubtedly represent key elements of this plan.

From the point of view of us workshop organizers, we feel very comfortable in saying that the objectives of the workshop have been achieved. The outcomes of the workshop have shown that there is a huge potential in the group and to further develop the organization and the related
field and science of risk analysis. We are confident that the SRA Executive Committee, the SRA Secretariat and the Council will follow up the ideas and suggestions that have emerged from the workshop and we will support this work with enthusiasm. Plans for some follow up are already made. It has also be suggested to initiate a work to produce a book with contributions from the participants.

We are grateful to the University of Stavanger (Norway) for the financial support of the project, and Elisabeth S. Paulsen for taking care of all the practicalities related to the workshop. Thanks also to University of Michigan for supplementing funding.

Roshanak Nateghi
Janey Camp
Roger Flage
Shital Thekdi
Hiba Baroud
Christian Beaudrie
Eva Andrijcic
Jade Mitchell
Cameron MacKenzie
Vanessa Schweizer
Julie Goodman
Seth Guikema
Andrea Staid
Terje Aven
Allison Reilly
Samrat Chatterjee
Royce Francis

Terje Aven and Seth Guikema