



Newsletter

Operations Research Society of South Africa
Operasionele Navorsingsvereniging van Suid-Afrika



December 2010
www.orssa.org.za












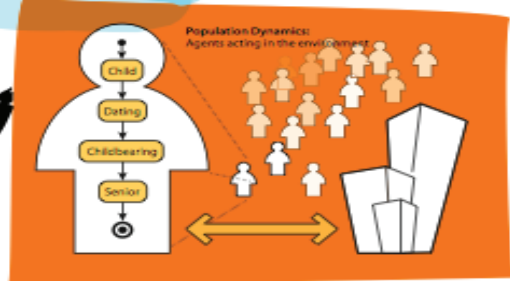
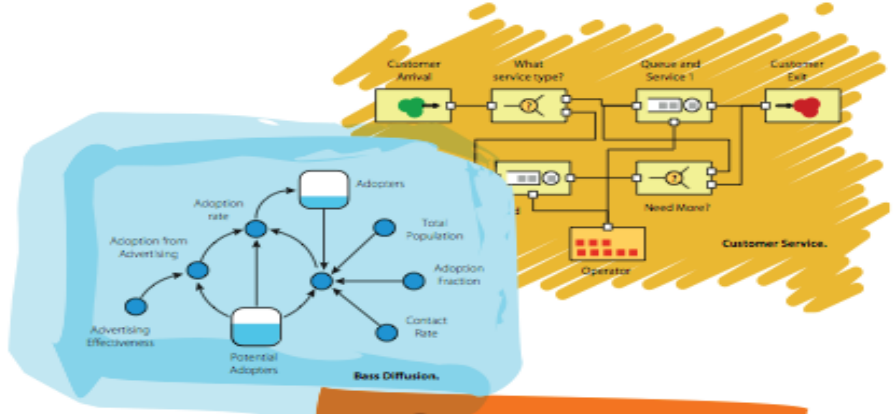
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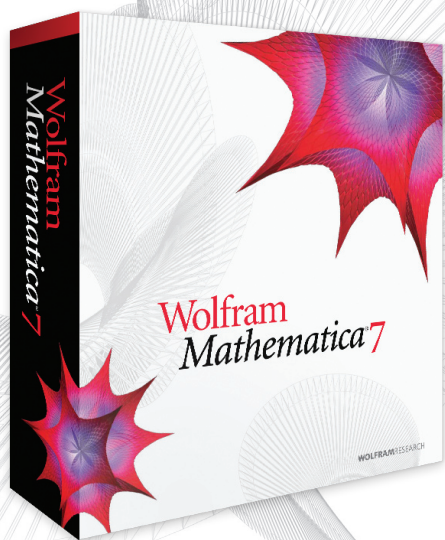
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FROM THE EDITOR

Contactable at: 14556561@sun.ac.za



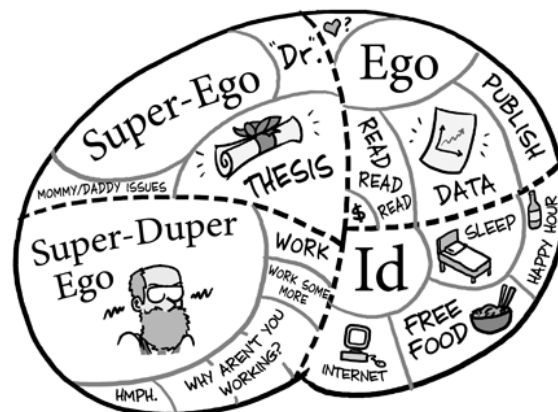
Danie Lötter

Welcome to the last edition of the newsletter for 2010. I can't believe that my first year as editor has come to an end. First of all I would like to give a huge word of thanks to each and everyone who contributed to the newsletter during the past year. I truly hope that somewhere throughout the year everyone could find something enjoyable to read.

This edition kicks off with the president's address followed by a very interesting member interview with Jim Cochran (who was also the keynote speaker at the 2010 conference) by Linke Potgieter from the University of Stellenbosch.

The featuring article for this edition is from the Sasol value chain optimisation team on the outstanding work they have done, resulting in them being one of the finalists in the Franz Edelman Awards. This edition concludes with a few words from Jan van Vuuren on ORiON, who will be stepping down as editor of ORiON. I would also like to use this opportunity to wish you all a Merry Christmas and a happy new year. Enjoy the holidays and please travel safely. Enjoy 😊

Comic



JORGE CHAN © 2010

The Grad Student Brain

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Queries and Contributions

Any queries and contributions to the newsletter are most welcome, especially article submissions. For any queries and contributions, please contact the newsletter editor: Danie Lötter
Email: 14556561@sun.ac.za

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FROM THE PRESIDENT'S DESK

by Dave Evans (davee@dbsa.org)

ORSSA President



Welcome to the last Newsletter of 2010. Quite seriously (I'm giving my age away here) I can remember when the Millennium was so far away that I wondered whether I would still be alive when it happened – now it's ten years in the past!

As many of you will know, one of my pet themes is the insanity of this new 'world at the speed of the internet' which we are building. You can take practically any device you can imagine, and if you spin it progressively faster, it will reach a point where it shatters. I am concerned that 'Society as we know it' is being subjected to similar threatening increase in speed. (And yes, I know the ancient Greek philosophers were making similar comments, 2 500 years ago, but I am unrepentant!)

For me, this has two obvious corollaries for the Society.

Firstly, we are all so ferociously busy, that no-one has any spare time to blink, let alone run an OR Society. I therefore express my huge thanks to all of you who do find time to do that – at Chapter and National level, and to organise things like national conferences. Without you, we would not have a healthy, vibrant Society.

Equally well, let me appeal to any of the members not active in these areas, who would like to get more involved, to contact me, or any of the members of the national executive committee or chapter chairs, as there is always more than enough work to go round. It's also a great way of gradually getting to know more people in our fraternity.

Secondly, the world is now taking decisions at the speed of the internet, which offers huge opportunities for operations researchers, whatever area you may be interested in. I often have the sense that any decision taken in a hurry is now seen as better than a good decision taken after a reasonable analysis of the available information, although 'analytics' has become something of a buzz word in recent years, to the extent that it appears all over the SAS adverts in this newsletter, for example. So let's get out there and aid

the decision makers who have the sense to ask for help, to make more right decisions.

The other thing I would strongly recommend, although I'm hardly a shining example myself, is that each of us consciously takes charge of our own lives and live it at a speed that works for you – dying of a heart attack at the speed of the internet is something I can do without.

Let me take this opportunity to record a huge vote of thanks to Danie Lötter for the outstanding job he is doing as our newsletter editor. Having been editor myself in the dim and distant past, I know what is involved. All that most of us see is a very professional publication, four times a year. Whilst this in itself is impressive enough, there is a huge amount of work behind this. One thing it involves is nudging people like the president into submitting their contributions on time – something he does politely, effectively and remorselessly.

Likewise, the Newsletter business manager, Francois Bester, has also done a quiet but sterling job in the background in getting the advertising into the newsletter which maintains its viability.

Our thanks to you both.

And on that note, I will sign off, and wish you all a restful and refreshing festive season with your loved ones, so that we can all take on 2011, reinvigorated and ready for the new challenges which will undoubtedly come our way.



**OR 2011
International Conference on OR
August 30 – September 2, 2011
Zurich, Switzerland**

All members of the OR/MS community are invited to participate in the OR 2011 in Zurich, Switzerland.

This international conference of the three German speaking OR societies GOR, ÖGOR and SVOR is under the patronage of the Swiss OR Society (SVOR).

Deadline Abstract submission: 30 April 2011

<http://www.or2011.ch/index>

MEMBER INTERVIEW: JIM COCHRAN

By Linke Potgieter, contactable at 13558684@sun.ac.za



Jim Cochran

Jim Cochran, keynote speaker at the 2010 ORSSA conference at Magoebaskloof, is an Associate Professor of Quantitative Analysis in the Marketing and Analysis Department of the College of Administration and Business at Louisiana Tech University.

He received his PhD (with a

major in Statistics and minors in Operations Research and Mathematics) from the University of Cincinnati in 1997. He has served on various Editorial Boards, including *INFORMS Transactions on Education*, *ORiON*, *Journal of the Chilean Institute of Operations Research*, *INFORMS Case and Teaching Materials Collection*, *Decision Sciences and Operations Management Education Review*. Among the very comprehensive list of academic achievements, one of the more recent includes serving as Editor-in-Chief of the new Wiley *Encyclopedia of Operations Research and Management Sciences*. The Encyclopedia is already available electronically at www.wiley.com/go/eorms, and the printed version will be available during January 2011. Wiley has also partnered with Research4Life to assist developing countries with obtaining access to the encyclopedia – further information can be found online at www.Research4Life.org. Of course, everyone with a little bit of operations research in their blood would want to know more about such a brave undertaking; and we were privileged enough to ask Jim a few questions after the conference.

How did you first become involved in Operations Research?

After receiving my MBA and MS in economics at Wright State University in Dayton, Ohio, I was unable to find suitable employment in private industry, so I taught as an adjunct instructor of economics part-time at Wright State for a few academic terms. Fortunately a position with the faculty at Wright State University became available which, being thrilled at the opportunity of

teaching full time, I accepted immediately. However, it required of me to teach courses in statistics, operations research, and computer programming that were outside of my primary field of study. Teaching these courses lead to the realisation that what I enjoyed most about economics were the analytic aspects of the discipline. After teaching full time for three years, I left academia to direct the Analytic Services Division of a large marketing research firm. This allowed me to become exposed to many potential new applications of operations research. When I ultimately returned to academia after a few valuable years in private industry, I knew I wanted operations research to be a major part of my studies and academic career.

What would you consider to be your most interesting OR related project?

One of the advantages of academic life is the freedom to work on whatever interests you, so unless I do a poor job of selecting projects, each project I have worked on should have been of great interest to me! I can think of some particular initiatives I have worked on that have been particularly interesting and satisfying. I have really enjoyed serving as the founding Editor-in-Chief of the Wiley Encyclopedia of Operations Research and Management Science. The articles are well written and extremely interesting, and I have greatly expanded my breadth of understanding of the discipline through this role. Working with colleagues to establish *Statistics Without Borders* and then co-chairing the organization through its first two years of existence and its involvement in Haiti, Sierra Leone, Democratic Republic of Congo, Mexico, and Central America was extremely gratifying. The ongoing efforts to establish a strong and reliable network of operations researchers in Africa have fascinated me, and I hope some of the discussions on this topic that occurred during the 2010 ORSSA Conference in Magoebaskloof will bear fruit. I have also been involved in an international operations research education initiative that has been co-sponsored by IFORS and INFORMS, and I have seen great progress in this area in only a few years; I have learned much from my colleagues around the world. I had suspected that there are many great operations research educators around the world working in novel and creative ways to reach their students under difficult conditions, and my involvement in this initiative has confirmed my suspicion. Finally, working as Editor-in-Chief of the only

operations research/management science journal in the world has been a captivating experience. The articles in INFORMS Transactions on Education are a great source of interesting reading and new ideas for me. We have been able to push readership of this journal, which is freely available online at <http://www.informs.org/Pubs/ITE>, to over 11,000 in the six month period at the end of 2009. Readers from over 130 countries visited the journal's website during that period, and we are now working with editors of other journals, such as Jan Van Vuuren of ORiON, to identify articles published in these journals that can form the basis of good teaching cases. Once written and reviewed, these cases could then be published by INFORMS Transactions on Education and made freely available to all operations research instructors. I also hope that we can eventually use this journal and its resources to support efforts undertaken to improve the quality of education in southern Africa. I have been very fortunate in both my professional and personal life!

When was the idea of the Wiley Encyclopaedia of Operations Research and Management Science conceived?

Susanne Steitz-Filler, who is an Editor with John Wiley & Sons, Inc., approached me in the fall of 2006 with the idea for an encyclopedia of operations research and management sciences. I thought the product of this effort would be an important contribution to the discipline that would support both research and education, and so I was immediately drawn to the concept. I was very comfortable with Susanne and her colleagues, and Wiley had produced several very successful and important encyclopedias for other disciplines, so I was confident that Wiley had the resources, expertise, and commitment necessary to ensure the success of this project.

How does the Wiley Encyclopedia differ from the Encyclopedia of Operations Research and Management Science?

The Encyclopedia of Operations Research and Management Science, which was first published by Kluwer Academic in 1996, consists of a single volume of approximately 1000 pages, and provides one to three page overviews of important topics in operations research and management science. *The Wiley*

Encyclopedia of Operations Research and Management Sciences is more comprehensive; it consists of eight volumes, each of which is approximately 800 pages. The approximately 600 articles in this encyclopedia cover topics in greater detail and generally provide extensive references. I greatly admire Saul Gass and the late Carl Harris and the contributions they have made through their efforts as co-editors of *The Encyclopedia of Operations Research and Management Science*; Professor Gass and I have discussed our ventures and agree that there is a unique place in the market and a unique need for each of these resources.

Who are the major contributors to the Wiley Encyclopedia?

There are 600 articles, many of which were coauthored by multiple authors, so the encyclopedia will feature approximately 1,000 contributors. In addition, the articles were subjected to a rigorous peer review process similar to what is used by top academic journals, so we probably utilized approximately 2,000 reviewers. In addition, we had 23 Topical Editors who were responsible for working with me to ensure the encyclopedia provided extensive coverage of the discipline, managing the review process for papers in their respective areas, and making recommendations on these articles. Four Area Editors were responsible for also working with me to ensure the encyclopedia provided extensive coverage of the discipline, managing the Topical Editors in broad areas of operations research and management science, and making final decisions on most articles. Operations research/management science professionals from well over forty countries were involved in the creation of the first edition of this encyclopedia. Furthermore, members of academia, private industry, nonprofit organizations, government agencies, and the military have all participated, so I feel comfortable in saying that the entire worldwide community contributed – and I strongly believe this is the defining strength of this resource.

Do you have an inspiring message for OR practitioners in South Africa?

Wow – that is a difficult question. It is much easier for me to talk about what inspires me. I have made several trips to South Africa and I have been privileged to be

involved with the operations research communities in South Africa and several other countries in the region, including Zimbabwe, Madagascar, Botswana, and Namibia for many years. The work done by members of these operations research communities serves as great inspiration to me. I am also very inspired by ORSSA's recent decision to explore the possibility of hosting its

2011 conference in Zimbabwe. This is a very important step for operations research in southern Africa, and I look forward to a very successful 2011 ORSSA conference at Victoria Falls and the ensuing spread of meaningful and important operations research applications across southern Africa!



April 10-12, 2011 | Marriott Chicago Magnificent Mile, Chicago Illinois

You are invited to submit a proposal to present at the 2010 INFORMS Conference on Business Analytics and O.R. This prestigious INFORMS conference has earned a reputation for high-quality, invited presentations directed to a "listener" audience. For the 2011 conference, we are expanding the reach of speaker invitations to a broad spectrum of practitioners and academics. Accepted submissions will be incorporated into the program in a special track. We encourage you to submit a proposal for review by the Selection Committee. Both presentation content and speaking expertise will be considered in selection, with priority given to real-world business topics and high-quality academic work geared to real situations.

Please visit the webpage for further information : <http://meetings2.informs.org/Practice2011/callforpresentations.html>

DECISION SCIENCE SERVICES (Decision Analysis / Operational Research / Analytics)

Theo Stewart is emeritus professor of statistical sciences at the University of Cape Town (where he had been responsible for developing operational research programmes since 1984), and part-time professor of decision science at the Manchester Business School (UK). He has extensive experience in applying quantitative, systematic and analytical tools to problems of resource management, production scheduling, project assessment and evaluation, performance measurement, etc. He is a former President of the International Society on Multiple Criteria Decision Making and former Vice-President of the International Federation of Operational Research Societies.

Particular areas of expertise include:

- Integration of "hard" (computational/mathematical modelling) and "soft" (qualitative systems modelling) methods of management science and analysis;
- Formal structuring and analysis of problems involving multiple and conflicting goals and objectives (sometimes termed *multicriteria decision analysis*).

Support can be provided to clients across a broad spectrum of the decision sciences, including facilitation of workshops aimed at structuring planning and decision problems for purposes of formal analysis; development of decision support systems or procedures especially in the context of multicriteria decision making; formulation and implementation of simulation and optimization models.

In addition, *specially tailored training courses* can be developed and presented, on topics such as decision and risk analysis, optimization modelling, simulation modelling, multicriteria decision making, and data envelopment analysis.

To find out more of what can be offered, contact Theo Stewart by phone (021 6503224 or 0827862216) or email on dsservice@iafrica.com

HARNESSING THE POWER OF DATA TO OPTIMISE BUSINESS RESULTS

Francois Beyleveld, at SAS, explains why sustainability as a concept offers a watershed of opportunity for better business performance through innovation, while also benefiting the planet and employees' own careers.



Francois Beyleveld

More and more South African companies are beginning to realise that 'greening' their IT infrastructures brings greater business efficiency, return on investment and improved levels of service to their organisations.

In fact, organisational performance as we know it, demands sustainability measures across social, environmental and economic factors, which in turn requires the vital steps of integrating and analysing data to achieve new goals and transform internal organisational cultures. Technology companies in particular are at the forefront of green IT initiatives, because they acknowledge that their reputation as socially responsible entities is critical.

The right choices

By deploying the right technologies, IT can play a significant role in furthering a company's ability to monitor, analyse and implement more sustainable, or green practices, defined as those that meet the requirements of the present day without compromising the ability of future generations to meet their needs. In many cases, making small, incremental changes in IT processes can lead to definitive benefits.

When it comes down to the practicalities of doing business in an increasingly energy-hungry world, most companies are now looking at their supply chain and their ability to measure, monitor and improve their efficiency footprint within their organisations. Those that cannot demonstrate that value, might find themselves out in the cold when the next tender request comes around.

Another aspect that is becoming more important in green IT is employee retention and recruitment. Talented employees have many employment options and are increasingly looking at their employers and their stance

on corporate responsibility and the environment. Clearly, reducing energy use is more about being environmentally responsible. To ensure their long-term viability, organisations must begin now to find and implement solutions that decrease power consumption.

The tools

The good news? Many of the same tools and practices that have enabled these organisations to reduce IT complexity, streamline operations and controls are also highly effective in energy use to help companies become lean, clean and green organisations. These include data de-duplication, high availability and virtualisation, power management and energy efficient data centre design.

The most strategic enterprises will use data, and the intelligence gained from it, to their competitive advantage – driving increased brand value through innovation and improving internal efficiencies and accountability. They will also build loyalty in consumers, employees and other stakeholders – such as in higher education where they track, communicate and educate on sustainability.

Today, companies are able to measure, manage and report on the Triple Bottom Line – environmental, social and economic indicators – and determine business strategies to reduce risk and increase shareholder value.

The results

Harnessing sophisticated software, companies are able to measure key sustainability activities using methodologies and protocols, utilising their existing data in operational systems and databases.

They are also able to report ongoing performance to ensure transparency with key stakeholders and compliance with regulatory agencies. By establishing an integrated, consistent source of quality information, companies can bind initiatives to a common

sustainability framework that allows alignment across all lines of business – from water treatment facilities to the data centre,

Additionally, companies are able to improve performance by identifying metrics that have the greatest impact on goal attainment so that they can make the most informed strategic decisions by using optimisation, forecasting and data mining capabilities to analyse scenarios and run simulations to improve response and successful strategy execution.

Organisations can also manage and forecast the finances and resources needed to achieve the desired outcomes across the enterprise and within each department. Using analytics, they are able to prioritise organisational strategies and align investments in new product innovation, programme management and talent accordingly and establish scorecards and strategy maps driven by the sustainability goals of the organisation.

To end

In closing, going green offers a vital path to innovation and creating enduring value and competitive advantage. Despite the challenges of adopting an environmental mind-set, the direction that companies have to head in is clear, and it is clear that IT has a key role to play. When people start understanding the strategic risk and strategic opportunities of climate change in terms of its impact on brand value, their market and their operations, they'll get engaged in a much broader environmental agenda.

To learn more about how to meet the requirements for real-time decision making, contact SAS on +27 11 713 3400 (Johannesburg and Pretoria) or +27 21 912 2420 (Cape Town) or visit www.sas.com/sa



THE
POWER
TO KNOW.

Competing on the International Operations Research Stage : The Story of Sasol's Franz Edelman Award Journey

by Michele Fisher (michele.fisher@sasol.com)
Sasol Technology

Project Summary

Sasol Technology's Value Chain Optimisation (VCO) team developed a suite of stochastic simulation models that span Sasol's Coal to Liquids (CTL) value chain. These models are able to reflect production variability over time providing a unique and critical input to decision making. The team has repeatedly used the models to answer questions and build business cases for various business units.

Ownership of stochastic simulation models has led to an estimated value addition for Sasol of over R2.3 billion since 2000. Although not audited, this is in fact considered a conservative estimate because it does not account for the improvements in energy efficiency, green house gas emissions, general risk reduction and the overall understanding of Sasol's complex and integrated systems. According to the general manager of business development at Sasol Synfuels, stochastic operations model results are embedded in the decision making process for both strategic decisions at Sasol Synfuels and for technical operations planning. No capital proposal is submitted to the Sasol board by business unit senior management unless the stochastic operation model results are reported as part of the business process (where models exist).

This work received international recognition in 2010 when Sasol was selected as a finalist in the prestigious Edelman Awards which are sponsored by the Institute for Operations Research and the Management Sciences (INFORMS®). The purpose of the Edelman competition is to bring forward, recognise and reward outstanding examples of Operations Research practice in the world. Each year they recognise work that has been implemented, sustained and proven to give a high benefit to industry big-wigs such as Hewlett-Packard, Netherlands Railways and IBM. The Edelman awards are the "Oscars" of the Operations Research discipline and

Sasol's nomination acknowledges that work done by the team is world class.

Problem description

Ensuring Sasol is a successful business requires that complex operations be managed across different business units, sites and value chains. Operational decisions need to be supported by sound technical advice. Operations Research provides valuable inputs into decision making in this complex environment.

Historically, the petrochemical industry based business decisions on steady state conditions and average production limits. This approach ignored time-based variability and dynamics. This meant that plants were usually over designed to compensate (costing additional capital). It also meant that upstream and downstream plant interactions were a problem for growth projects, planned maintenance, shutdowns and failures. This had a significant impact on production volumes, product quality, and hence on profitability.

The Value Chain Optimisation team recognised a unique opportunity to improve decision making by considering the effect of production variability and dynamic interactions. We believed that this would improve the development of business cases, the identification of risks, and ensure Sasol could better assess the impact of factors such as: changing market conditions, product composition, operations efficiency, volumes stored, operating philosophies and schedules.

The team found a solution in discrete event simulation modelling. This technique had never been used in Chemical Engineering for continuous petrochemical operations. The team pioneered the Modelling Operations using Stochastic Simulation (MOSS) methodology in order to implement the solution and used this methodology to build the gas factory model, the liquid factory model and the fuels blending model in

Arena. The relationship of the models to the CTL value chain is shown in Figure 1.

Results

The simulation models are used to develop business cases, to highlight risks and to assist strategic decision making. They are also used to analyse the impact of changing market needs, product composition, operations efficiency, operating philosophies, schedules and proposed future projects. In addition, the models support shorter term questions on operations that ensure that production is sustained and improved. Examples are:

- When government regulations for cleaner fuels resulted in the phasing out of leaded gasoline, Sasol had to make changes to fuel components, blend recipes, infrastructure, and process units. The team used the fuels blending model and the liquid factory model to analyse plans. We identified a feasible plan that not only prevented off-specification gasoline over the entire period but also avoided the construction of a complete process unit and large storage tank.

- The polypropylene plants made operating the plants difficult. A number of options were proposed to reduce variability, including adding storage tanks and changing operating philosophies. The liquid factory model was used to advise on size and control philosophies for a new storage tank to limit production losses.
- The gas factory model was used to ensure that the continuous Fischer-Tropsch reactors could be kept online by correctly planning the shutdowns, buffer levels, and batch process operation for catalyst replenishment. The MOSS methodology accurately reflected the combined continuous and batch aspects of this process. Model results were used to improve plant uptime and therefore increased production.

The above examples illustrate the strength, capability, and versatility of the MOSS methodology. They also show the ability of the team to deliver quality advice in a timely and responsive manner. The team has been involved in many other projects over the last 10 years and work together with other teams to support the decisions. In the 2010 Edelman submission Sasol Chief

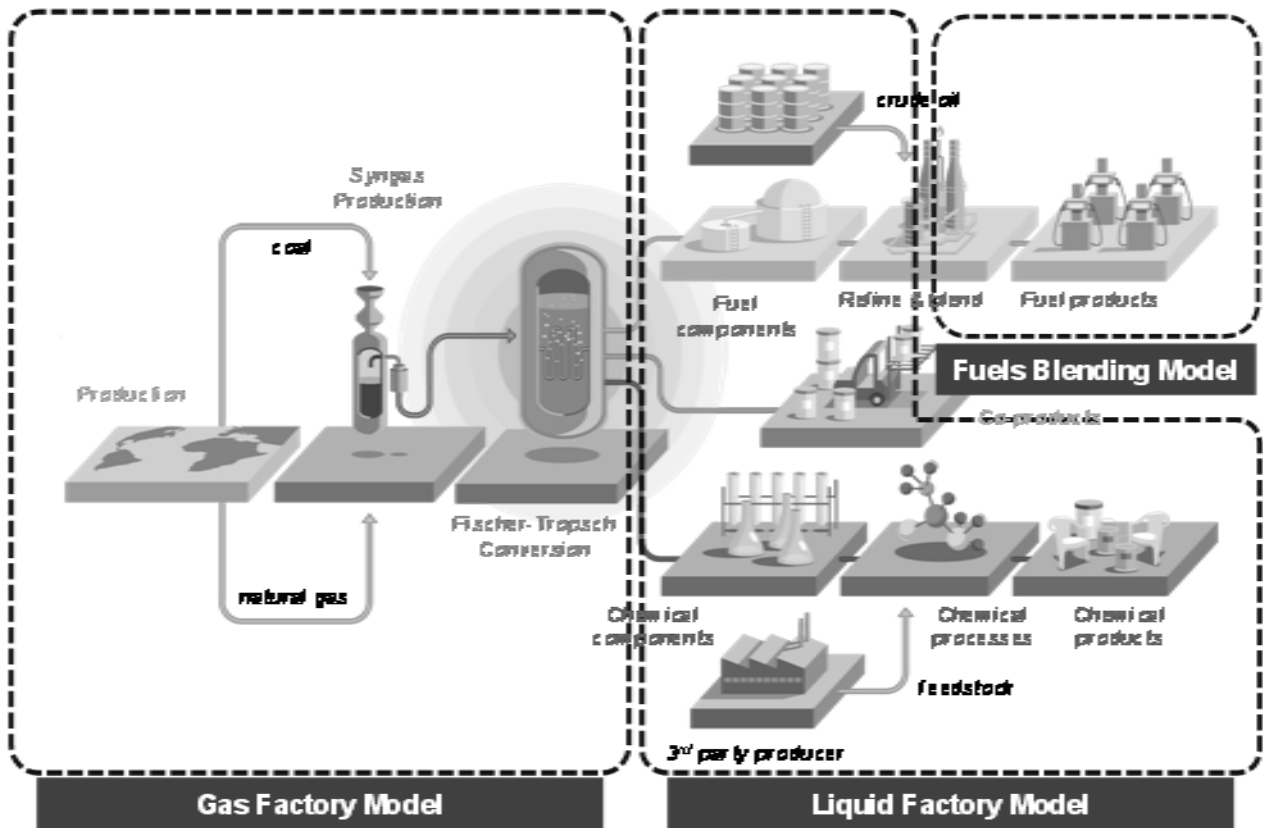


Figure 1: CTL value chain and MOSS models.

Executive, Pat Davies, attributed a value addition from these models for Sasol of over R2.3 billion since 2000. This is considered a conservative estimate since it does not account for the improvements in energy efficiency, green house gas emissions, general risk reduction and the overall understanding of Sasol's complex and integrated systems.

The Franz Edelman Award

The team was recognised as a world leader in Operations Research practice with its nomination as a finalist for the prestigious Franz Edelman Award. This award annually recognises the best and highest impact Operations Research. Past winners include: Hewlett-Packard, Sloan-Kettering Cancer Center, Netherlands Railways and IBM. It is not the first time that South Africa has been a finalist. In 1996, the South African National Defence Force (SANDF) brought home the trophy.

In addition to the Sasol entry, there were five other finalists:

"Improving Water Release Policies on the Delaware River through Operations Research"

- The Delaware River Basin Commission with Columbia University, The Nature Conservancy, Trout Unlimited, and the Delaware River Foundation needed to improve flow management from the Upper Delaware River reservoirs, which serve New York City. They developed the Flexible Flow Management Program to optimise limited water storage for competing uses in the Delaware Basin. Their adaptive inventory control approach makes reservoir releases a function of both the level of water in the reservoirs and season. Cost-benefit trade-off analyses are also used to develop water release policies

"Global Brand Assessment"

- Deutsche Post DHL with the University of Passau used Operations Research to effectively market a brand worldwide. The OR team applied a constrained profit-maximization approach to recommend the allocation of marketing resources across different brand investment categories.

"Indeval Develops a New Operating and Settlement System Using Operations Research"

- INDEVAL with Instituto Tecnológico Autónomo de México and Banco de México used simulation and optimisation to clear securities with minimum cash outlay. The Securities Settlement System, named Dalí, is a rule-based system that improved the quality and safety of the service. It also has a simulation model to evaluate the performance of the system.

"Achieving Transportation Asset Management via Operations Research"

- The New Brunswick Department of Transport with Remsoft found a better way to maintain roads. They built a basic Linear Programming model to help evaluate what new or different insights could be generated and how better decisions could be developed using this approach. Results showed that traditional planning methods could not address the exponential deterioration of the highway infrastructure, while the new approach offered a feasible plan with improved conditions at a lower lifecycle cost.

"Inventory Optimization: Achieving Real Benefits through User Adoption of Inventory Tools"

- Procter & Gamble Beauty and Grooming, Supply Chain Research and Development with Procter & Gamble Global Business Services, Product Supply Analytics; Boston University Optiant; and the Harvard School of Public Health reduced inventory and saved capital without jeopardizing profits. They determined which inventory optimization tools are right for a given supply chain's business and operating conditions. These models have been successfully adopted and contributed to multi-million dollar reductions in worldwide inventory.

To enter the competition a 2-3 page summary is submitted to the nomination committee. A short list of more than a dozen semi-finalists is made and verifiers investigate and summarise that team's work. The verifiers probed the following issues:

- history of the project and the team
- technical content and innovation
- impact/benefits
- executive endorsements



Figure 2: The Sasol team inducted into the Edelman Academy.

The verifiers defend the submission and the nomination committee chooses six finalists. Each finalist is assigned coaches (usually from the verifiers) to guide them through the process. Finalists have to prepare high quality presentations for the INFORMS conference and a written paper. In addition, a short glossy summary of the work must be prepared for the gala banquet and brochure. An executive from the company is expected to accompany the team. Figure 2 shows Willem Louw, Managing Director of Sasol Technology, speaking at the gala banquet with members of the Sasol team in the background. Where endorsements cannot be given in person, videos can be used. Endorsements should be both from inside and outside the company.

Overall, Sasol received very positive feedback on the gala presentation, the competition presentation and the paper. Audience members at the gala received an impressive introduction to Sasol. Competition judges sought out members of the team afterwards to let us know that Sasol gave an excellent presentation and a strong paper.

Lessons Learnt

Preparing for the Edelman competition required a significant effort. We were aware of the need for a paper, presentation and video. The tight timeline, additional deliverables and the quality expected of the presentations and videos became clear only after we were named as finalists. Verifiers and coaches are

usually in the US so in our case information was shared by e-mail and conference calls. It was sometimes challenging to explain the problem and the solution from a distance.

We developed a plan that delivered a professional product and met our obligations but it was a challenge to sort out the sequencing of tasks where we had to rely on inputs from many sources, tasks were interdependent and timelines were tight. For us the three major challenges were:

- **Executive Videos:** We were fortunate to have the Chief Executive and all but one of the other executives on one day and in one location for videos. The timing was not ideal as the paper was being written and the full script had not yet been developed but it was possible to tailor the presentation around the available video to make a cohesive high impact product.
- **Approval Processes:** It was challenging to get approval within the available time. We walked the most detailed product, the paper, through the approval process and based other products on it.
- **Releasing Detail of Cost Saving:** It was difficult to get approval to release specific information on projects and the value addition the models contributed.

While content seemed to be critical for being chosen as a finalist, it did not seem to be as important as presentation in the final assessment. Although an academic element gives weight to a submission, it is not a show stopper because this is a practice prize. Impact

and value add are very important. While these can be both quantitative and qualitative, the money aspect was most important. Participation of the Managing Director of Sasol Technology in person was critical to success. The support of management not only spoke to the importance of the work but also gave the team a huge boost. It made us raise our game.

One of the judges likened Edelman judging to figure skating with marks for technical merit and marks for artistic impression. Sasol had strong technical content and an excellent delivery in our videos and presentation. It is hard to know, but we may have lost ground on the impact of the work and intangible factors like:

- Being Topical: INFORMS considers the Edelman competition as its “show piece”. They use the competition to get exposure for the institute through press coverage, podcasts, YouTube,...
- Being Known: The relative anonymity of Sasol overseas and in the INFORMS arena may have been a disadvantage. They could not pronounce the company’s name when we began. They certainly knew who we were by the end.
- Being Valued in US: There is a perception that international nominations have a disadvantage because of the “not made here” attitude. We were advised to include US endorsements.

It is impossible to compete successfully in the Edelman competition without support. The Corporate Communication team was critical to ensuring we had a professional world class product. They oversaw the production of the video and ensured it met Sasol’s high standards. They also helped with media, presentation and publication advice. They coached us at our many practice sessions and arranged for telecue time as well. The wider support and encouragement of our colleagues at Sasol and in the Operations Research community was very important. We also relied on the assigned coaches for advice on Edelman requirements. Whilst they were able to answer administrative questions and technical questions they were not able to advise on how to turn our nomination into an award winning package. The three assigned coaches had not previously coached winning teams or been on the judging panel.

If you are interested in entering the Franz Edelman competition we would recommend that you build your support network along with your body of work. Capture endorsements and value addition statements that can be supported and shared. Document and brief the problem, methodology and results in the public domain before submission. This would help with the timelines and allow the feasibility of the idea to be explored before submitting it. You can submit a project for the Edelman that has been presented elsewhere but once you are a finalist, you cannot submit the project again.

Bottom line - if you have a mature project with good quality Operations Research in Practice with a high impact and a topical issue – GO FOR IT – it will be the professional experience of a lifetime.

To learn more:

- Edelman finalist papers are published in Jan/Feb issues of the Interfaces journal.
- More information about INFORMS and the competition can be found on the website: www.informs.org
- 2010 Edelman Award presentations can be viewed through the INFORMS Video Learning Center. You will need to set up a login and password but you don’t have to be a member to do this.
- YouTube and Flickr have videos and photos of the competition. Search for Edelman.
- Contact our team.

Disclaimer

The views expressed in this newsletter are those of the contributors and not necessarily of the Operations Research Society of South Africa. The society takes no responsibility for the accuracy of details concerning conferences, advertisements, etc., appearing in this newsletter. Members should verify these aspects themselves if they wish to respond to them.

Editing ORiON over the Period 2004-2010

by Jan van Vuuren (*vuuren@sun.ac.za*)
Department of Logistics, University of Stellenbosch

I have been editing ORiON for seven years now, overseeing publication of volumes 20–26, and this has been a very rewarding period of service to the Society for me during which there has been quite a number of highlights and milestones, amongst which I certainly count:

- achieving a new, international look for the journal,
- publishing the journal on time for seven consecutive years,
- reducing the turn-around time associated with manuscript review – effectively more than halving it since 2003,
- seeing ORiON indexed in online access systems such as ProQuest, African Journals Online, EBSCO Host and Sabinet,
- observing a considerable increase in citation levels of papers published in ORiON,
- appointing a 14-member international Advisory Board,
- publishing the special quarter centennial issue of ORiON last year, and
- launching the online submission system currently in use.

However, I believe the time has come for someone else to take over the reins of ORiON, so as to bring new blood and ideas to the editorial team of the journal and to steer ORiON to new heights. I have therefore decided to step down as editor-in-chief of ORiON at the end of this year, Volume 26(2) of the journal being my swansong.

I would like to thank all the authors who have submitted their interesting operational research work to ORiON over the past seven years; it has been a privilege for me to be able to keep my finger on the pulse of South African operations research by reading all these manuscripts. I would like to urge members of ORSSA to keep on using ORiON as publication vehicle for making their work known to the local and international OR communities.

Stephan Visagie was elected as the sixth editor of ORiON at the AGM held during the 39th Annual Conference of ORSSA in Magoebaskloof in September

Tenure	Editor
1985–1989	Theodor Stewart
1990–1993	Marius Sinclair
1994–1995	Yvonne Walus
1996–2003	Paul Fatti
2004–2010	Jan van Vuuren

Table 1: The first five editors of ORiON.

this year, at which occasion Martin Kidd was elected as manager of the journal, replacing Stephan, who held the position during the period 2004–2010. I would like to wish Stephan, Martin and their team all the best for the task ahead.

I think the immediate future challenges facing ORiON include:

- steering the journal through the turbulent waters of decisions regarding the new national online open access platform for local journals and the momentum and Government support that this initiative is gaining through the efforts of the South African Academy of Science, or alternatively making a decision with respect to the possibility of approaching a for-profit publishing house, such as Blackwell Scientific, as so many other regional journals have done in order to increase their readership bases and citation levels,
- investigating other methods of further increasing the citation levels of papers published in ORiON,
- considering a re-application for listing by Thompson ISI,
- expanding the readership base of ORiON further into Africa,
- pursuing the establishment of ORiON as the international medium of choice for publications in Operations Research for Development, and
- increasing the rate of high quality submissions so as to raise the flow of manuscripts to a critical mass able to sustain a larger collection of papers per issue in response to the criticism of low volume output by Thompson ISI and others.

Editing ORiON has at times been a heavy burden, but certainly a very richly rewarding one – may the journal grow from strength to strength during the next seven years of its existence!

IFORS 2011

Conference for the  International Federation of Operational Research Societies

Second Call for Papers
19th Triennial Conference of
the International Federation of Operational Research Societies
10th – 15th July, 2011

Melbourne, Australia

World OR: Global Economy and Sustainable Environment

Recent natural catastrophes and man-made crises have underscored the inter-connectedness of our world. Any upheaval leads to momentous reverberations across the globe with impacts well into the future. Now more than ever, Operational Research is of strategic importance to address problems critical to the economy and the environment. Academics and practitioners are invited to share knowledge, experience and insights on theory, methodology and application of Operational Research to issues of vital concern to the global community.

Opening Plenary

The opening plenary talk "Optimal Choice Sets: How tightly should we regulate?" will be given by Sir James Mirrlees, Trinity College, Cambridge, Nobel laureate in Economics 1996.

Abstract Submission now open:

Papers on all aspects of Operational Research are invited. Authors wishing to present are requested to submit an abstract of not more than 100 words via the Abstract Submission system at: <http://www.euro-online.org/conf/ifors2011/>

Please visit the webpage for further information:

<http://www.ifors2011.org>



ECCO XXIV

24th Annual Meeting of European Chapter on Combinatorial Optimization (ECCO)
May 30 – June 1, 2011, Amsterdam, The Netherlands

<http://www.eccoxxiv.com/>

The ECCO Annual Conferences aim to bring together researchers in the field of *Combinatorial Optimization* to present their work, share experiences, and discuss recent advances in theory and applications.

The conference has the following primary objectives:

- exchanging results and experiences in solving real-world combinatorial optimization problems.
- reporting on development and implementation of appropriate models and efficient solution methods for combinatorial optimization problems.
- establishing networking contacts between individuals and research groups working on related topics.
- promoting the work on combinatorial optimization (theory and applications) to the broader scientific community.
- identifying challenging research problems for the field, as well as promising research outlets (both in theory and applications).
- promoting interactions with researchers in other related fields.

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