

Institution: University of Strathclyde
Unit of Assessment: 19 Business and Management Studies
Title of case study: Improved group negotiation, problem solving, and strategy making in private and public sector organisations
<p>1. Summary of the impact</p> <p>The impact derives from research and development which led to the creation of i) a system and ii) methodology used for strategic problem solving, strategy making, and developing effective collaboration. Specifically, the impact results from the application of the developed Group Decision Support System (GDSS) and accompanying methodology that improves group negotiation and the quality of agreements in organisational settings. The GDSS is innovative computer software (<i>'Group Explorer'</i>) reflecting a multi-disciplinary approach that enables effective parallel and anonymous communication between group members to construct a visual interactive model. Direct, and anonymous, communication with the model facilitates the management of messy and complex qualitative views. Use of the GDSS has improved the effectiveness of collaboration, strategic problem solving and strategy making by senior teams in the NHS, DECC, Balfour Beatty, EDF, Land Engineering, Strathclyde Police, and Office for Nuclear Regulation (ONR), Scottish and Southern Energy, among others within and outside the UK.</p>
<p>2. Underpinning research</p> <p><u>Context:</u> The underpinning research by Colin Eden and Fran Ackermann at the University of Strathclyde largely focused on group decision and negotiation. Over two decades (1993-2013) their work has elaborated and developed the theory of negotiation in organisational settings, extended the field of <i>Group Decision and Negotiation</i>, and developed as well as tested a Group Decision Support System and negotiation methodology.</p> <p><u>Key Findings / Research Insights:</u> <i>Group Explorer</i> is a group decision support software tool based on an understanding of how individuals change their mind through a process of social and psychological negotiation [1]. It also recognises that developing, researching, and using group support designs, which support a social process as well as effective analysis [2], are seen as fundamental to a good chance of agreements about the resolution of complex situations being implemented. However, in addition the system is designed to combat the shortage of time available to senior teams by making strategy making and problem solving meetings considerably more productive [3].</p> <p>Some of the key research that underpins the development of the group support system relates to procedural justice and group-think. Procedural Justice relates to the way that decisions are made and participants are treated during decision making. Research suggests that an environment where participants feel a sense of fairness in contribution and being 'listened to' will encourage cooperation, trust, and engagement with the group's goals. The underlying research, therefore, focuses on how groups work, rather than how individuals behave in isolation, and on how groups arrive at commitments to act [4].</p> <p>The underpinning research also recognised that, in group work, there exists the significant danger of 'group-think'. Group think involves groups taking irrational decisions, suppressing dissent opinions or ignoring alternatives due to a psychological drive for consensus. This means that there exists the danger of organisations being blinkered to strategically important new opportunities. Hence, Ackermann and Eden's research builds on these insights and sought to counter the phenomenon by developing a mechanism for increasing the chances of productive enquiry and creativity. Such a system would provide participants a greater opportunity to genuinely change their mind [1, 3] and develop new rewarding relationships. The group decision support system that was developed was also informed by insights on anonymity and face-saving features for crucial stages of negotiations.</p> <p>Finally, research into 'getting to yes' (negotiation and conciliation theory) underpinned the design of <i>Group Explorer</i> and the accompanying methodology of <i>causal mapping</i> [5, 6]. Thus views and options are able to be revised to enable agreements about appropriate strategies and actions that</p>

will effect purposeful organisational change (the creative conclusions from the causal maps developed by the team).

The Group Support software (*Group Explorer*) and methodology has been available in the public domain since 2013. The system utilises networked laptop computers where participants can communicate (express views, ideas, assertions, and evaluations) with a continuously changing causal network/model displayed on a large public screen. Thus the modelling methodology is based on the theory and practice of causal mapping [6]. Participants are able to express preferences and give ratings anonymously with respect to network clusters, identify central issues, detect feedback loops, and categorise aspects of their model. The software detects levels of consensus and can identify outliers and dominance participants as the process unfolds.

Key Researchers: Colin Eden and Fran Ackermann have held academic posts at Strathclyde Business School since 1988 to present.

3. References to the research

1. Ackermann, F. and Eden, C. (2011a) Negotiation in Strategy Making Teams: Group Support Systems and the Process of Cognitive Change. *Group Decision and Negotiation* 20, 293-314
2. Eden, C. and Ackermann, F. (2001) Group Decision and Negotiation in Strategy Making. *Group Decision and Negotiation* 10, 119-140
3. Andersen, D., Richardson, G. P., Ackermann, F., and Eden, C. (2010). Using a Group Support System to Add Value to Group Model Building. *System Dynamics Review*, 26, 335-346
4. Ackermann, F. and Eden, C. (2010) The Role of Group Support Systems: Negotiating Safe Energy. In: Kilgour, D.M. and Eden, C., (Eds.) *Handbook of Group Decision and Negotiation*, pp. 285-299. Dordrecht: Springer
5. Eden, C. and Ackermann, F. (2013). 'Joined Up' Policy Making: Group Decision and Negotiation practice. *Group Decision and Negotiation*, DOI: 10.1007/s10726-013-9375-1.
6. Ackermann, F. and Eden, C. (2011b). *Making Strategy: Mapping Out Strategic Success*. London: Sage.

The software and methodological development was supported and funded by the recipients of the developments as they were made. The recipients paid for the use of the software and method as it was developed in order to gain its benefits. The software/system/method can now be acquired in the public domain (2013) and is being used by other University researchers and consultants: Hull Business School, Copenhagen Business School, Warwick Business School, Loughborough Business School, Aston Business School, MIT Research Establishment, Curtin Business School, Radboud University Nijmegen, University at Albany.

4. Details of the impact

Process/events from research to impact

The impact derives from the development of the special purpose group support software, *Group Explorer*, and the associated methodology. The impact from the use of the software and methodology arises from half/one-day workshops that are specifically designed for attendance by 6-25 participants using the developed methodology (problem oriented causal mapping) and *Group Explorer*. The participants are typically the members of the senior team in an organisation. The research and application was undertaken in real organisational settings, at the specific request of the top management teams across a range of major organisations (see below for examples) and undertaken by Eden and Ackermann - and the impact was derived specifically from these settings.

Types of impact

1. More Effective Collaboration and Conflict Resolution: One of our regular workshops includes 8 top team managers from EdF and 8 senior managers from the Office for Nuclear Regulation (ONR) in an effort to resolve dysfunctional behaviours between the organisations (the workshop was repeated and refined each year from 2006-until 2012). The Chief Inspector (ONR) comments in his letter that “*these strategic conversations, independently facilitated using your methodology and IT, have been time efficient and effective in developing our strategies, internal focus and external relationships*” [Source 3]. Post workshop interview notes from several named Senior Civil Servants of the Department of Energy and Climate Change (DECC) and from members of the ONR top management team said, for example: “*the model helped catch people up and develop a sort of common understanding. We learnt a lot more about each other. the mapping was very successful in deciding what needs to be done.*” “*The structure of the [workshop]*

– the format – takes out the negative elements... very different from traditional meetings – it [the GSS] provided a mechanism for honest discussion.” “The software [GSS] was incredibly useful – setting preferences and getting everything out in the open. It would have been much slower if everyone had to speak (and we wouldn’t have got that much on paper) ... good conflict resolution session with positive outcomes re attitudes and solid deliverables” [Source 6].

2a. Effective Strategic Problem solving and Nuclear New Build Risk Assessment: The Strathclyde approach is being used by a team of 10 senior managers from EdF tasked with addressing the development of a risk strategy (2011-2013). In the case of nuclear new build risk assessment and collaborative multi-organisational working between the Nuclear New Build team of EdF and ONR, the participants expect there to be a significantly increased probability of success, and reduced risk in the construction of new nuclear power stations, than would have been otherwise. The use of the system and methodology is to be extended by EdF later in 2013 and into 2014 [Source 1 and 2].

2b. Effective Strategic Problem solving: This example involved a Health Service Multi-organisational group of 30 GP’s, social workers, care home managers, and NHS senior managers addressing the strategic issues associated with increasing dementia (2008). The National Lead for Mental Health (the sponsor for the work) has written that the system enabled them to: “Understand their different perspectives around the key issues that were impacting on the functioning of the system. This took some of the unhelpful ‘emotional heat’ out of the discussions as individuals were able to understand that a different opinion was based on a different model of the world” (Ruth Glassboro, General Manager, Mental Health, Borders NHS).

3. More Effective Collaboration: Office for Nuclear Regulation (ONR) and the Department for Energy and Climate Change (DECC): This example from 2012 involved three teams of senior managers (two from DECC, and one from ONR). A participant from DECC speaking about the workshops said “The software was incredibly useful – setting preferences and getting everything out in the open. It would have been much slower if everyone had to speak...good conflict resolution session with positive outcomes regarding attitudes and solid deliverables.” The CEO of ONR at the time said “We agreed common goals – we can sort it out and stop bickering...Actions in place.” Meanwhile joint client Chief Nuclear Officer, ONR had this to say, “astonished by the capability of the system...would have taken us weeks to get where we got to...behaviours seem to have changed during the workshop: a more roundtable approach being taken, and joint things coming up by the end of the day”. [Source 3]

4. Evaluating Competitive Advantage of Scotland: Scottish Enterprise (SE) got together a group of Scottish company CEOs to consider how Scotland could become more competitive (2010). The SE sponsor said that “using both the Group Explorer system and the mapping tool helped to draw out the deep and underlying competencies that make our sectors different... I can’t imagine any other system or method that would enable us to have made as much progress as we did in such a short time” (Ian McMahon, Head of Engineering and Aerospace, SE).

5a. Strategic Problem solving: The first example involved a group of 18 NHS Consultants, Hospital Chief Executives, Government Civil Servants responsible for health provision, Senior nursing staff, and NHS administrators tasked with addressing issues in acute hospitals (2013). The Deputy Director of Health Performance states that “it was important for us all because it gave us a conversation where we could reach conclusions and prioritise. We finished up with agreements that were neither NHS or Government, but rather a shared understanding and agreement. We ‘got to a good place as a group’.” [Source 4].

5b.Strategic Problem solving: In the second example (2011), a team of senior managers from Clydesdale Bank were assisted when seeking agreement about a strategy for new working practices across departments. The Transformation Director at Clydesdale Bank attests to the use of the system over a number of years. He argues that his decision to use the approach was based on “experience of it increasing productivity, the ability to draw on multiple perspectives – often from those who have unique views but do not contribute in larger groups and most importantly to be able to move quickly from idea to agreement to the governance of delivery” (Kevin Page, Director of Operations, Clydesdale Bank).

6a. Developing Implementable Strategy: The first example involves the top management team of Balfour Beatty (25 people) a construction company. The Chief Executive writes: “This approach had a transformation impact on the company with a reduction in dysfunctional behaviours and an increased ability to identify and agree joint goals”. “[The] system helped protect anonymity in the

early part of the session and ensured that everything including highly contentious items was put up for debate and agreement. The outcome was high levels of ownership and commitment from the two separate SMTs on the way forward.” “By 2008 annual sales had reached £300M with a corresponding increase in profit. Employee numbers increased to over 1700.” [Source 5].

6b. Developing Implementable Strategy: The second example concerns the top management team of Land Engineering (2013). The team comment: “*The process followed was helpful... particularly useful were the tools in being able to gather and arrange everyone’s thoughts into something that was useful... we previously struggled with this*”. “*The process helped us get past some points where the interests of vocal individuals were not in the shared interest of the group*”. [Source 6].

7. Organisational Change: Royal Bank of Scotland. The sponsor comments that “*in a half day meeting with the whole team involved in the change in our organisation, we were able to gather views, reach consensus and ensure everyone provided input rather than just those who usually speak loudest!*” “[This was] a strategic planning session for a complex programme of change we were developing using the Group Explorer system. Usually, commencing a programme of change of that scale would require a series of workshops, and meetings to define the scope of the programme in detail, necessitating the need to collate complex and varied views and reach consensus over a period of weeks.” (Ingrid Astbury, Head of Mindsets & Behaviours Lean & Continuous Improvement, Group Operations, Royal Bank of Scotland)

8. Risk Assessment: The workshop with Scottish and Southern Energy help the company identify and explore the systemic relationship between strategic risks. “*Risks attained beyond the traditional top down risks identified through project risk registers*”... “*the software and mapping process enabled significant progress to be made in a very short period of time – capturing and structuring 100+ risks and subsequently prioritising them in as little as half a day*” (Frank Clifton, Project Development Manager, SSE).

As the various corroborating sources testify, in all of the cases listed above the application of the developed methodology and group support system was, in summary, taken by the participants to have led to one or more beneficial impacts: changes in relationships, reduction of dysfunctional behaviours, an ability to address joint goals, an ability to share wisdom and experience and viewpoints, and an increased commitment to agreements than would normally have been the case. The workshops also created impact by improving working relationships: degrees of trust, mutual and deeper understanding, and appreciation of interacting but different goals were significantly improved. In particular, the group support system facilitated designed conversations that would not have been possible using other formats, and allowed significantly increased productivity by: multiple conversations at one time, anonymity when appropriate, ease of face saving, continuous recording of ‘minutes’ (‘minutes’ created by the group in real time), and agreements developed in context.

Global reach: The impact has been more geographically extensive than just the UK with workshops held with senior management ‘bid teams’ within Bombardier (Canada), and management teams in the Netherlands (Reed-Elsevier), USA (various), Luxemburg (SES), Australia (Health) and Denmark.

5. Sources to corroborate the impact

1. The Project Director for Hinkley Point C, EdF Energy, can be contacted to corroborate the impact on negotiations with Office of Nuclear Regulation (ONR) and strategic problem solving.
2. The Safety and Technical Director, EdF, can be contacted to corroborate the impact on negotiations with Office of Nuclear Regulation (ONR) in relation to risk.
3. A statement from the Chief Nuclear Officer, Office of Nuclear Regulation (ONR).
4. A statement from the Former Deputy Director of Health Performance, Scottish Government.
5. A statement from the Chief Executive, Balfour Beatty Rail.
6. Post workshop participant interview notes.