

DECISION STRUCTURING DIALOGUE

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Abstract:

This paper presents a dialogue approach for the structuring of decisions, called Decision Structuring Dialogue. With Dialogue we refer to a facilitated group communication process with specific rules and guidelines. The aim of such a dialogue in general is to aid group interaction, collective learning and collaborative investigation. Decision Structuring Dialogue is developed on the basis of two such types of dialogues, the Nelsonian and the Bohmian Dialogue. Through a discussion of the importance of decision structuring in MCDM we introduce Decision Structuring Dialogue as a method for decision problem structuring. Elements of it can also be incorporated into other problem structuring methods. The approach was successfully used in a group of stakeholders, at a large regulated Finnish Lake, with conflicting interests.

1. Introduction

The identification and structuring of a decision problem is generally known as one of the most important elements of successful OR interventions and in MCDM. Not long after the publication of Howard Raiffa's *Decision Analysis*, has the identification and structuring of problems, determining stakeholders, definition of objectives and the generation of alternatives been regarded as a first crucial step in any successful decision-making activity. Raiffa (2002) himself claims that he "completely missed the boat" when he ignored the nonmathematical underpinnings of human decisions: how to identify a problem or opportunity to be analyzed, how to specify objectives of concern and how to generate the alternatives to be analyzed.

The recognition by analysts that the framing and structuring of decision problems is crucial has increased both the demand for, and discussion about, reliable structuring and framing methods (Keeney 1992; Gregory & Keeney 1994). The characterization of a decision problem may have a strong impact on stakeholder preferences. (Kahneman & Tversky 2000). Recent experience suggests that analysts and

facilitators in the field of MCDM and Risk Management should focus on the structuring of decision problems and involve stakeholders in deliberative processes. Belton and Stewart (2002) propose that the departure of any decision analysis should begin with a stage of free thinking around the issue by surfacing values, beliefs, priorities, facts, points of view, constraints and consequences. Soft operational research presents different techniques for reaching decision by considering and structuring different alternatives (French 1998, Mingers 2000, Flood 2001, Rosenhead & Mingers 2001). Value focused thinking stresses the priority of thinking on values before alternatives (Keeney 1992). In successful decision with a public interest, such as risk- and environmental management, the importance of the involvement of stakeholders and the integration of analysis and public deliberation is essential (Gregory & Keeney 1994, Gregory & Wellman 2001).

Research shows that decision makers, depending on the overall situation, in addition to individual decisions can, and should, interact and learn from co-workers and subordinates (Vroom 2000). Increased collaboration results in significant improvement in decision-making processes in interactive social environments, and situations where the decision tasks are complex (See Handzic & Tolhurst 2000, 2002). Previous research also shows how difficulties in effective knowledge integration such as conflicting interests, status differences and distinctive thought worlds can be overcome by formal interventions (Okhuysen & Eisenhardt 2002).

2. Dialogue

The proposal here is that the dialogue model is a highly effective method to address and deliberate on fundamental values and structuring decision problems. Dialogue emphasizes reflection and investigation of assumptions, prejudices, and values. This enables decision makers and stakeholders to look at their values and preferences from a fresh perspective. This is especially important when interests differ and the risk conflicts are high. Ordinary discussions and opinions expressed might not reflect fundamental values of the stakeholders but points of view highly dependent of the discussion climate itself, in contrast to points of view of the decision itself (Flood 2001, Deutsch & Coleman 2000). The dialogue model

presented aids for decision makers and stakeholders to confront and address values in groups in an analytical way.

The Dialogue approach we present is built upon two different dialogue traditions, Bohmian and Nelsonian Dialogue, also known as Socratic Dialogue. Bohmian Dialogue refers to the theory and technique introduced by Bohm (1996) and further developed by, amongst others, Isaacs (1993, 1999) and Senge (1990, 1994). Furthermore, the dialogue approach was inspired by Nelsonian dialogue practised in field of philosophical practice and the philosophy of management (Nelson 1965, Boele 1998, Bolten 2001, Kessels 2001).

Dialogue is a powerful method for learning, for creating shared understanding, unfolding new viewpoints. Nelsonian dialogue aims at collective investigation of a chosen concept. (Boele 1998, Bolten 2001, Kessels 2001). Bohmian dialogue aims at the unfolding of collective intelligence. Dialogues, both Bohmian and Nelsonian, have been employed to help public and private sector organizations to solve problems, create shared knowledge, develop ethical understanding and improve communication (Bolten 2001, Isaacs 1999, Dixon 1998).

The central task of a dialogue can be said to provide a setting for communication and thinking in a group. Normally, the guidelines and rules in everyday debates, discussions and meetings are tacit. When, for instance, engaging in an academic debate, it is often tacitly assumed that the debaters defend their own positions, at least until hard evidence against their positions are presented. Of course, tacit rules vary from organization to organization and from culture to culture and it is contingent which rules are applied. In dialogue rules, guidelines and the aim of the communication situation at hand are made explicit. Participants must adhere to, or at least promise to make an effort to follow these rules. The rules of dialogue are developed in order to increase joint investigation, capacity for thinking together and to create mutual understanding: the focus is on the issue, not on other participants' character or position. These aims can be illustrated by contrasting dialogue to debate.

Figure 1. A Comparison of Dialogue and Debate

Dialogue	Debate
Investigate assumptions	Defend assumptions
Search for underlying structures	Take stances and structures for granted
Emphasis on thinking together	Emphasis on one's point
Create mutual understanding	Win
Allows different viewpoints	Defends personal viewpoints
Learning/investigation	Advocating

William Isaacs (1999) characterizes dialogue as fulfilling much deeper, widespread needs than simply reaching consensus. Isaacs, who contrasts dialogue to negotiation, argues that dialogue uncovers space for shared meaning. This shared meaning helps to co-ordinate and align actions and values. Both Isaacs and Bohm stress that the aim of dialogue is to improve capacity for thinking in a group.

Dialogue and group interaction

Dialogue aids participants to reflect on values and preferences that go beyond their initial picture of the situation at hand. Dialogue strives to address the fundamental and underlying goals, interests, concerns and preferences of stakeholders. The dialogue approach focuses on joint investigation of values and preferences and therefore allows for each participant to look other participants' reasoning, i.e. learn why and how they understand the situation at hand, instead of only strengthening initial individual points of view.

A traditional way to evaluate a set of alternatives in a group is interviewing. There are some recognized problems with this procedure. Interviews and other personal methods can bring about problems of reliability and consistency due to the lack of interactivity. They can generate large amounts of unstructured stakeholder opinions, which may be difficult to use in the support of decision making. (Marttunen & Hämäläinen 1995). Questionnaires also run the risk of assuming a particular decision

frame, and of leaving out important objectives, values and alternatives. An easily imagined example of this can be pictured as follows. A interviewer asks inhabitants of a heavily trafficked area whether they find the traffic disturbing. Everyone answers yes. The interviewer also knows that complaints about the traffic in this area are above average. However he cannot conclude that the inhabitants in general would regard a change in the traffic structure as an improvement of the local environment. There is an unlimited amount of other aspects that forbids such a conclusion. Some might think that the traffic, though disturbing at times, is good for business, some that a crime program would be more appropriate, and other that the traffic disturbances are part of the urban environment. Personal interviews must build on some initial expert framing of the situation. There are strong evidence that values and decision preferences are highly labile and context dependent (Fischhoff & Slovic & Lichtenstein 1980, Kahneman & Tversky 1979, Tversky and Kahneman 1981, Slovic 2000). Dialogue aims at a collective elicitation of values. It is an effective tool to aid participants to see different possible frames and is consistent with value of informed consent and preference management (See Kahneman and Tversky 2000).

Incentives for dialogue

The dialogue approach presented here concerns the structuring of decision problems with multiple attributes and stakeholders. The incentives for investigating the applicability of dialogue in decision problem structuring context are various. The democratic spirit in public, environmental, political, local, decision-making and the ideas of the learning organization i.e. the organization philosophy according to which successful and sustainable organizations need to develop effective, shared and reliable communication practices is one incentive. It is seldom clear, beyond reasonable doubt, why a decision in the public domain that involves several individuals, business, or social spheres is better than another decision. (Rauschmayer, F. 2001). Good structuring should therefore take into account the different world-views, values and preferred alternatives of the different decision makers and stakeholders, independently of whether they are true or false in any absolute sense. (Meredith, J.R. 2001, Rauschmayer, F. 2001). Dialogue also satisfies the MCDM goal of helping decision makers organize information in a way that leads them to feel comfortable and confident about making a decision. When structuring complex decision problems with many interest groups it is not always the case that there is one and only

one correct identification and structuring of a problem. Literature, research and experimentation on dialogue suggest that it is a powerful way of finding the underlying assumptions and values of participants in both heterogeneous and homogeneous groups (Isaacs, W. 1999).

3. Decision Structuring Dialogue

Basic elements: The guidelines

The goal of Decision Structuring Dialogue is to structure and frame the decision in multi-criteria decisions with many stakeholders. The starting point of dialogue is learning the guidelines of dialogue. Though there exist some variety on which skills practitioners and facilitators emphasize when introducing and facilitating dialogue, most count listening, learning from experience, suspension of judgement and assumptions, voicing and respecting as central (for an extended list see figure 2). Though superficially trivial and present in any good discussion careful attention to, and striving to learn these skills are central for a successful dialogue-intervention (See Krauss, R.M & Morsella, E 2000, "Communication and Conflict", The Handbook of Conflict Resolution, Senge 1994, Bohm 1996, Isaacs 1999).

Decision Structuring Dialogue starts with an introduction of the guidelines for the dialogue, suspension of judgement, listening, voicing, thinking together, talking from experience, respecting, using colloquial language and collective investigation (see Figure 2).

Figure 2 Guidelines and virtues of Bohmian and Nelsonian Dialogue

Listen and pay attention to how you listen

Suspend or refrain from judgement

Investigate assumptions

Study different viewpoints

Listen and try to understand before questioning

Respect others, don't use arguments against or derived from another persons being

Say what you think, not what others expect you to think

Slow down your thinking process

Speak from experience

Do not appeal to external authorities, persons or research reports

Learn rather than advocate

Make an effort to really be present

Basic elements: An initial question

Decision Structuring Dialogue begins with an initial, question that is related to the problem at hand. Thus, in addition to a careful attention to the guidelines there is an initial question. A question focuses on the *examination* of the matter at hand, rather than simply on the question of *how the matter at hand is/should be discussed*.. A question seems especially necessary when time is limited. Experiences from Bohmian dialogue suggest that dialogues without any agenda or initial question will turn to an investigation of the problems at hand, but only after considerable time (Isaacs 1999).

The initial question should be general with some relevance to the problems at hand. The question should be empirically relevant and bear a connection to the problem.. It is of vital importance that the initial question is formulated after discussions with stakeholders and participants. During the dialogue the initial question should be reformulated. The reformulation of the initial question should take place at an early stage of the dialogue. This allows participants to mutually dialogue on whether the chosen initial question really is important, or in what ways it should possibly be modified in order to be so. Before the reformulation it may, however, be advisable to let the group dialogue on what the goal of the present dialogue is. This motivates the group to use their own understanding of the situation instead of relying on, for instance, the second-hand understanding of the facilitators.

Basic elements: speaking from experience

Participants should be encouraged to speak from experience. Interpretations of, for instance, reports and research, are set aside and participants transmit their own unique view of the problem to other participants.

Basic elements: Visioning

Visioning is an important part of Decision Structuring Dialogue. *Visioning, as such*, is central to many methods of participation and has proved to be of central importance in efforts to reach consensus and decisions in settings with many stakeholders with different initial values (Deutsch & Coleman 2000). It is

also central in organizational systems thinking (Senge, P. 1991), Future Search Conferences (See Jackson & Miller & Dash 2002) and in many other collaborative and consensus building techniques (Moore & Longo & Palmer 1999). The idea of the visioning part of dialogue is to let each participants express his or her view of an ideal situation or solution to the problem. Theoretically, an overall picture of the situation will encourage participants and decision makers to focus on a desirable future instead of problematic or inflamed present. Empirically, visioning is to be of fundamental importance in clarifying what measures to adopt and what decisions to make in complex situations with many different interest groups (Susskind, L. & McKernan, S. & Thomas-Larmer, J. 1999).

Practical arrangements and aids

A chart or a blackboard is an useful aid. Writing down guidelines and key words and phrases of the dialogue helps participants to check what has been said. Participants should sit in a circle and be encouraged to speak to each other, not to the facilitator.

3. The Structure and Practice of Decision Structuring Dialogue: experiences from a large regulated Finnish lake

Lake Kemijärvi is the most strongly regulated lake in Finland. With annual changes in water level up to 7 meters the regulation serves both power production and flood protection interests. The current regulation started in 1965. A steering group was set in 2000 to reevaluate the management policy. The task of the steering group is to discuss the perceived disadvantages of the regulation, co-ordinate measures, and recommend actions for improving the regulation. The steering group was founded by the *Lapland Regional Environment Centre*. The active parties in regulation matters were invited to take part in the work of the steering group. These are the surrounding municipalities, the regulator i.e. the power plant *Kemijoki oy*, land owners, recreational users such as active fishers, environmental activists and the *Finnish environment institute*. The strongest differences in viewpoints were between the power plant, stakeholder A, and the fishers, landowners and environmental activists. Differences of interests and the alternatives as to which future decisions and measures regarding the regulation of Lake Kemijärvi should

be taken were especially strong between the power plant and the land owners, recreational users, fishers and environmental activists. The task of the Finnish Environment Institute is to reconcile and mediate between the stakeholders and provide environmental expertise.

The task of the steering group is to produce knowledge on the impacts of the regulation, evaluate the needs and possibilities for improving regulation practices, and evaluate the impact of the measures taken in order to reduce the disadvantages of the regulation.

The research team on dialogue was engaged as a possible means to investigate the perceived "feeling of unease" between interest groups and why consensus as to which decisions should be taken in order to improve the regulation could not be reached.

Groundwork

The groundwork for the dialogue process started with observatory participation by the research team, in meetings, personal discussion with different parties of the steering group and two workshops on dialogue involving researchers from *Finland's Environmental Institute* and the *Lapland Regional Environment Centre*. Initially, the starting point was "How can the regulation of Lake Kemijärvi be improved?". This formulation of the situation in Lake Kemijärvi strongly suggested that what was at stake was possibilities to change the concrete regulation and consequently the water level. The problems with the current water level, according to landowners and fishers concerned damage on fishing tackle, drifting rudiments of stubs and brushwood, erosion of shores, the impact on fish populations, melting ice in the winter and the impact on the use of piers and boathouses. Discussions in the steering group pointed towards problems with finding consensus about decisions of how the regulation, i.e. the engineered changes in water level, should be handled in the future. Thus, the decision problem seemed to pertain to technical questions: how should the regulation be improved and negative side-effects reduced? In discussions with different parties, with experts from *Lapland Regional Environment Centre*, and observations at the steering groups' meetings it became clear that the change of regulation of the water level was not a real option for the power company and would generally interfere with power production and flood regulation. A consensus decision about a change in the regulation of water therefore seemed unlikely.

A survey made in the region around Kemijärvi emphasizing technical aspects of the regulation provided information about what people perceived to be important future measures regarding the improvement of the regulation of Lake Kemijärvi. At an initial level, the observations made in the meetings of the steering group and the survey reflected the idea that future measures and decisions should focus on technical aspects. Stakeholder B emphasized the importance of repairing damage on fishing tackle and damaged shores and other technical disadvantages. The greatest emphasis by Stakeholder B concerning technical aspects was laid on the regulation itself. Voices that the water level should be regulated in a way that, factually or presumably, would decrease disadvantages of the impact on fish population, melting ice in the winter and the use of piers and boathouses were brought forth. Thus the survey, the initial observation of discussions in the steering groups indicated that the framing or structuring of the situation should build on these technical aspects.

However, there were some hints that the current situation as well as future measures and decisions do not restrict themselves to technical problems. The survey included one statement with/on an overall viewpoint of the regulation, namely: "The different and partly conflicting goals of different parties with a connection to the regulation of Lake Kemijärvi has successfully been reconciled". Out of all of the respondents, 42% disagreed, 14 % strongly disagreed, whereas 23 % agreed with the statement. Also, discussions with the different stakeholder groups revealed aspects of the problem that indicated a structuring of the problem including questions of communication, information and human relations.

The dialogue

During the dialogue, the weight put on perceived advantages and disadvantages changed due to the perception of new alternatives. The initial problem formulation, "How can the regulation of Lake Kemijärvi be improved?" changed dramatically. The emphasis changed from a focus on the technical aspects, the actual water level and its advantages and disadvantages, to issues about interaction and communication between stakeholders. In accordance with the idea that alternatives in MCDM interventions and that values are not given but evolve successively out of a learning process (Belton, V. & Stewart, T. J, Kahneman & Tversky 2000), a new set of alternatives seemed to unfold during the

dialogue. The alternatives of the different stakeholders, contrary to the results of the survey and the problems discussed in the steering group, no longer focused only on technical choices and actions.

Stages of the Decision Structuring Dialogue

The dialogue approach had been presented to participants by letters, presentations, and discussions. The initial question of the dialogue “What is good mutual understanding?” was introduced. An external writer was used to write down statements, concepts and problems that occurred. The Flip charts later proved to be of central importance for the groups. The group wanted other bodies and levels to learn what issues had been developed in the dialogue.

Stage 1. Introduction. The guidelines with an suspension of judgement, listening, voicing, thinking together, talking from experience, respecting, using colloquial language and collective investigation were introduced. Questions about the process were answered and an emphasis on voluntary participation was laid.

Stage 2. Goal of the dialogue

The participants laid great emphasis on discussing different perceptions of data and failures of reaching consensus on what decisions are to be taken due to the communication climate. None of the goals expressed explicitly concerned the concrete problems such as concrete disadvantages or advantages from regulating the water level. Instead emphasis was laid on the discussion climate and communication deadlocks.

The participants individually formulated the following goals:

Secure possibilities to co-operate in a democratic spirit

Discussion about improving the regulation

Bring forth energy economic viewpoints

More fruitful discussions

Open up the deadlock

Learn to think together and listen

Structure problems

An open and investigative attitude

The different goals were discussed and accepted.

Stage 3. At this stage participants reformulated the initial, context independent question: "What is mutual understanding?" to "What could good mutual understanding in the regulation of lake Kemijärvi be?"

Stage 4. Answering the reformulated question. At this stage questions and problems familiar from the survey and the meetings emerged when participants addressed questions about raising the water level and correction of disadvantages caused by the regulation. However, there were also calls for better interaction, statements that power interests were destroying the possibilities of mutual understanding and claims that there were few possibilities for decision making at grass-roots level. Also, some of the historical processes of the regulation were criticized and claims were made that this had a strong impact on how the regulation today is perceived. The participants paid attention to the guidelines. When not adhering to the guidelines or when insecure whether they were adhering to them or not, participants frequently apologized for doing so.

Stage five. Visions dialogue - stressing the big picture

"What does my vision of a good overall situation look like" The vision dialogue brought forward ideas and opinions that consensus in regulation of lake Kemijärvi are not to be solved by changes in the regulation of the water level. Environmentalists, recreational users and members from Lapland Regional Environmental Centre regarded the improvement of communication, public participation and collaboration as crucial.

Emphasis was laid on the following issues.

A more open attitude to people's hopes would clear the climate

An open and continuous discussion, improvement of participatory and interactive activities

Value discussions and openness would open up the deadlock

Different measures should be applied, not economical alone

The use of the lake should not be restricted by dreams of good old times

More information needed in order to decrease the disadvantages of misunderstanding

The different preferences of the power plant and other interest groups can better be solved or managed by increased participation and shared decision processes

The co-operation between the power plant and other interest groups should be improved

The improvement of communication should not be founded on legal duties but on voluntary participation

These opinions suggest that the problems to reach decisions and dissatisfaction with the current regulation are not only due to perceptions about technical issues.

Stage 6. Recreational users and activist claimed that the most important problems with the regulation are those discussed at stage 5. Some stakeholders that previously wanted fundamental changes in the water level expressed that they agreed that the water level can't, for power economical, flood protection, and employment reasons, be changed. A new alternative, that of co-operation, participation and improved communication emerged as one possible course of action in the process of improving the regulation of Lake Kemijärvi.

4. Conclusion and Discussion

The case study revealed that dialogue is a powerful method for structuring decision problems with many stakeholders and conflicting interests. Dialogue, understood as a facilitated process with explicit rules and guidelines for interaction and communication is a promising method for problem structuring. It can be

used as such, or as in Lake Kemijärvi in connection to other measures to improve public participation and collaboration. Also, the guidelines and the approach for decision structuring dialogue can easily be incorporated into decision conferences or as part of other problem structuring tools. Due to problems in communicative practices and in failures to understand other stakeholders overall perception, the discussion had previously centered on the water level. Stakeholder B explicitly stated that problems at Lake Kemijärvi are not due to the regulation or Stakeholder A's measures to repair and reduce the perceived disadvantages of the regulation. Instead fishermen, land owners and activists, contrary to what they had been claiming in the steering group meetings, openly claimed that the advantages of, as well as the reasons for the current water level, were greater than the disadvantages or the reasons against. The decisions and measures to improve the disadvantages of the regulation were according to the survey regarded as unsatisfactory by stakeholder B. However, the dialogue indicated that problems at Lake Kemijärvi are strongly due to communication problems and lack of co-operation. Thus, when considering future courses of action a set of alternatives should be taken into account. The two alternatives, changing the water level or improving communication and collaboration are not to be regarded as exclusionary but interdependent. Poor communication, unwillingness to listen to other parties, egoistic considerations and mutual distrust may have an impact on how decisions about technical matters and measures are perceived and welcomed. Images of failure with regards to rectifying disadvantages may also have an impact on the nature of communication and co-operation. A feasible claim is that the alternatives and criteria that evolved are to be considered in the structuring of the problem. These alternatives and criteria can be further evaluated, weighed and taken into account in future decision models. Decision Structuring Dialogue was created with the core criteria of public participation in mind. This aspect will be discussed in a forthcoming article.

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