

**SOURCING FORECAST KNOWLEDGE
THROUGH ARGUMENTATIVE INQUIRY**

By

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Abstract

This paper describes a process for nominating and assessing potential actions in group meetings. It is probably useful in many other applications including as input to a forecast. The authors were concerned how the ancient and well-tried technique of argumentative inquiry might be applied in such meetings. The traditional form of argumentation, the courtroom or debating society, were thought too confrontational, yet other attributes of argumentative inquiry were thought to be attractive. These include the use of dialectic perspectives coupled with competition. The application described illustrates the use of the argumentative process in the design and selection of radio programs for estimating demand for an ex-government controlled radio network in Indonesia as it emerged into democracy. A series of group meetings applied an inverted form of facilitated argument whereby de-personalized statements were debated. This paper argues that correctly applied, the argumentative inquiry approach provides reliability, helps inform those participating in the exercises, and is sensitive to a variety of viewpoints.

Introduction

1. This paper is about how to facilitate a community group to provide qualitative input to a forecast of a complex social situation. Methods such as focus groups often produce unclear or unchallenged outcomes; moreover as Churchman [1] would say they are not explicit in their “guarantor” that justified knowledge or agreement will emerge. One method Churchman mentions which is far more explicit in how justified knowledge emerges is argumentative or rhetorical inquiry: reasoned debate, rather than quarrelling, as used in the adversarial justice system. Argumentative inquiry uses controlled competition to reveal underlying assumptions and different perspectives in a way that encourages critical appraisal of those perspectives. This approach can be very useful when dealing with social issues and a diverse community. Therefore, this paper will explore the proposition that argumentative inquiry is useful for designing a facilitation method for community meetings. The intent is to help with providing input to forecasting the future demand for a community-based social service, which involves balancing a complex mix of trust, appreciation of alternatives and diverse political agendas. Evidence to support this proposition will be drawn from the argumentative inquiry literature, and by presenting a description of the facilitation method as refined over numerous group meetings conducted over a number of years.

Qualitative Forecast Input

2. Weidema [2] offers a useful two-dimensional view of the types of forecasting: long term vs. short term, and generic vs. specific. When relevant variables are difficult to define (as is common for complex situations with long time horizons) a frequently more appropriate forecasting mode [3] is a collaborative one, seeking qualitative inputs from experts and potential users. In such contexts, participatory forecasting, involving a wide range of stakeholders, is considered to be more effective than that involving only experts [4]; Galtung [5] found long-range predictions by experts to be less accurate than those made by the general public.

3. We align more with Popper [6] and the futures studies perspective on forecasting for complex social situations, when dealing with an event which includes a large element of a socially constructed alternatives. When dealing with complex human activity problems, the task of forecasting can be seen as one of making some attempt to appreciate and manage the present influences that are likely to act on some future event. This involves first identifying those influences and then appreciating their dynamic nature. Influences may be from people, nature and/or tradition. Looking at historic trends of past outcomes may help, as might trying to understand a wide range of different perspectives [7]. Having made these influences explicit, argumentation can then turn to appreciating and discussing alternative futures in a manner appropriate for those present. The method for seeking input to a forecast suggested here includes an attempt to communicate, to appreciate and to gain some commitment to agree on alternatives.

Group Intervention

4. The socio-technical systems movement in the 1960s [8] originated a variety of group intervention processes that were considered as alternatives for facilitating the community meetings. These include:

5. The search conference, originated by Emery and Trist [9]: a method by which organizations and communities can examine their likely and preferred futures;

6. The future search method of Weisbord and Janoff [10] which aims to assist diverse communities seek common ground by helping them creating ideal future scenarios, by combining diverse ranges of stakeholder types;

7. Participatory Rural Appraisal, developed by Chambers [11] which encourages the use of local residents to collect information and utilizes methods like semi-structured interviewing, focus group discussions, preference ranking, mapping and modelling, seasonal and historical diagramming;

8. The scenario workshops of Andersen and Jaeger [12], which use a panel of citizens to question experts under their procedural control so as to build up a future scenario.
9. Appreciative inquiry, developed by Cooperrider et al. [13] and Elliott [14] with its 4D's of "discover, dream, design and develop", encourages members of an organisation, typically through structured interviews, to discover what they regard as successes, and to build on that. In the "dream" stage, often run as a large group conference, members work on envisioning a desired future for the organisation.
10. The KJ Method of Kawakita Jiro [15]: an approach adopted by the school of Total Quality Management in Japan, involving the use of small workgroups to generate and evaluate ideas for improving production processes.
11. The meeting techniques developed by Doyle and Straus [16] which attempt to ensure that all participants in a meeting have an opportunity to be heard, and that the meeting process takes all relevant views into account.
12. Warfield's Interpretive Structural Modeling (ISM) [17], a software-aided form of collaborative model building. With ISM, a group models relationships between goals and sub-goals by making a series of binary comparisons using focused argument.
13. Some of these techniques were primarily designed as research methods, while others are methods for planning or problem solving. However, some have fallen into disuse (to judge from the lack of recent citations) for a range of reasons, among which was that they had no explicit guarantor that justified, reasonably consensual, knowledge would be produced.

Argumentative Inquiry

14. The dialectic, reasoned, rhetorical, or argumentation process is about the only non-violent mechanism humans have to construct, refine, apply or challenge diverse perspectives. People who claim to have a new idea or perspective are asked to justify their claims by providing supporting evidence while others are allocated the competitive task of thinking of ways to counter this evidence. Structures for organisational argument have developed over the centuries, typified by the English justice system. This process of organisational argument goes to heart of democratisation of community groups between and with government services. This research attempts to turn this ideal into a routine facilitation process.

15. Forecasting is a social activity and as such alternative perspectives will typically exist. Ignoring these, treating them as unfortunate noise or simply not appreciating that they exist means forgoing an opportunity to use these forces as motivation to better understand a situation – see Churchman [1], Mason [18], Mitroff [19] and Linstone [7]. Put the other way around, a forecast of community needs and wants can be viewed as the end result of an argument between vested interests, which is dependent of what ideas are raised, who got a voice and how well they are communicated. Forecasting as argumentative inquiry aligns with what Crosswhite [20] and Walton [21] call persuasive dialogue reasoning: that is, it assumes you are trying to convince cynical, yet competent, opponents of your claim or vision, prior experience or preferences. The philosophical basis comes from Socrates, Plato and Aristotle's dialectic reasoning, re-visited through Walton [21], Eemeren et al. [22], Perelman and Olbrechts-Tyteca [23] and Habermas [24]. The "guarantor" of a justified knowledge is the establishment of effective rules of verbal competition (or questioning) between the participants. For some communities this competition has to be encouraged but very mildly, in others it needs to be restrained and depersonalised. An argument is not a quarrel. But it is a competitive process of creating knowledge through reasoned debate, in this way it is an inquiry method.

16. Both in the sense of providing good information for making decisions and for assisting with the act of actually making the decisions, setting up a well-managed process of argumentation research appears to have an explicit philosophical basis and is well integrated with the inquiry epistemologies. Tracy and Glidden-Tracey [25] propose three elements that are related to conducting inquiry as a reasoned argument: "(a) focus on underlying assumptions, (b) avoidance of compartmentalizations of inquiry components, and (c) iterative comparisons of assumptions across components." This emphasis on revealing underlying assumptions is an integral part of argumentation and something that makes this approach particularly relevant to forecasting. Ulrich [26] refers to this as making "boundary judgements."

17. Tracy and Glidden-Tracey [25] go on to say that to argue before a critical audience for a specific approach from among identifiable options requires careful thought and more careful articulation of assumptions. This aligns with the extensive management literature on the use of argument in both problem formulation and decision making. For example, Niederman and DeSanctis [27] report that the argument approach leads to a greater combination of both coverage of critical issues and higher satisfaction with the forecast exercise, leading to a greater commitment to implementation. Meyers and Seibold [28] also summarise the extensive empirical research on analysing argumentative processes in everyday commerce, while Fischer and Forrester [29] report on research being undertaken on the role of argument in government policy formulation. They again report that it was helpful in drawing out issues and in improving understanding between parties.

18. As forecast agreements are about communication, the argumentation approach doubles up in this role. Users are more likely to be committed to a new design if they have been involved in a reasonable argumentative process or if their questions are anticipated by reporting the arguments or evidence. If nothing else, the perceptions of the purpose and context of the forecast will be better communicated. The management literature supporting the role of argument to assist communication is even more extensive than the decision-making literature. Meyers and Seibold [28] summarise it by saying that, from the discipline's beginnings in late nineteenth-century as forensics pedagogy, the study of argument has been a rich intellectual tradition in the field of communication.

19. A further attraction of the argument approach is that it makes bias explicit. Pretending to be impartial where repeat experiments were not possible has stressed scientific inquiry [30] and is unconvincing in the political competition of modern communities. Much time and emotion is saved if each actor openly states his or her preference, or claim, up-front, rather than pretending to present impartial questions and then asked to justify this claim in a public arena.

Argumentative Inquiry and Community Groups

20. Given the long history of the use of public debate both in the justice system and in politics, and its importance in democracy it was thought this was a pragmatic approach for designing community group forecasts. However, this needed to be tempered by or fully integrated with what has been learnt about participatory processes [31]. This suggests that community meetings to help with forecasts need to be designed around a process, that after some initial discussion, articulates a set of claims (or one line statements,* propositions, arguments, forecasts) around which some form of debate needs to be managed. Rather than adopt the classic "Western" approach of eventually voting for or against the statement, our experiences suggest that the debate be used to edit the statement until a clear majority are willing to vote either for it or against it. This suggestion came from one of the authors, who has developed a method, entitled the Consensus Group Technique [32] - so named because of similarities to the Nominal Group Technique [33].

21. From one viewpoint, this consensus group technique is the opposite of a survey. With a survey, the questions are fixed: all interviewers must ask each question using exactly the same wording - even if this does not seem relevant to the respondent. The only possible variation, given the way a survey is designed, is in the result - e.g. how many people gave each possible answer to each question. Naturally, these results are expressed numerically, e.g. "37% strongly agreed that they supported

* It was found clearer to use the term *statement* with members of the public, rather than *claim*, *proposition* or *argument*. If worded correctly then they were forecasts.

government policies on education.” A consensus group works in the opposite way: a percentage threshold is fixed (typically around 75%) which indicates consensus. Without this agreement a question, or rather a statement, still needs to be edited. The main use of consensus groups is in assessing public opinion when the underlying concepts are ambiguous - as is the case with many human activity questions.

22. Unlike a focus group, in which the moderator or analyst usually decides on respondents’ behalf the nature of their opinions, the consensus group is essentially participative: it is the participants themselves who decide, not the outside expert. The moderator of a consensus group is there only to aid the process, not to decide on the findings. For this reason, consensus groups are well suited for inclusion in approaches such as Participatory Rural Appraisal (PRA), as developed by Chambers [11] and later broadened into concepts such as Participatory Learning and Action (PLA) [31] and Participatory Rural Communications Appraisal (PRCA) [34].

23. Community group forecasting using argumentative inquiry, which we have labeled the Consensus Group Technique, has been gradually developed and evaluated since the late 1980s. It began within the Australian Broadcasting Corporation (ABC), which then had 54 regional radio stations across Australia that all wanted some audience research done. The ABC, unable to handle the demand, set out to develop a method that the regional managers could use. Their training was mainly in journalism; they had very strong verbal skills, but no education in statistics. Therefore it was necessary to avoid survey methods and focus on developing a group discussion method that could be effectively run by regional staff.

24. The method settled on was to run a discussion in three distinct phases. In the first phase, each member of the gathered group is asked to describe his or her radio listening habits and to evaluate existing programs. Having thus established a starting point based on current behaviour and preferences, the participants move on to a second phase.

25. In this forecasting phase, participants discuss likely and desired futures within the topic area, and what might be the indicators of success. While listening to this discussion, the secretary records a series of tentative (de-personalised) statements (or claims, or propositions), such as, “in future talkback radio will be most effective when it improves listeners’ daily lives in some ways.”

26. In the third phase, the statements are presented to the group to argue over, modify, and sharpen. The secretary, facilitator, or participants may suggest edits to the wording of P(e original statement to clarify it. If it is discovered to embody more than one concept, it is split into several other statements, which are then discussed

separately; the same criteria apply as with the wording of questions in a survey. With some community groups the debate needed stimulating by appointing one member as a “devil’s advocate.” In South-East Asia, many participants were unwilling to express disagreement, and the Nominal Group method of providing anonymous statements written on index cards (before the forecasting phase) proved more effective. When all participants in a group agree that the statement is clearly worded, and the majority agree with it, then it is voted upon. The outcome from the session is a set of statements, with varying levels of recorded agreement.

27. Consensus groups are usually done in sets of three, each involving 10 to 12 participants, a moderator, and a secretary. The principle is that if three completely different groups of people arrive at similar results (and they often do) then these results should be typical of the whole population. Though it is easy to run a consensus group, it is not a simplistic research method, and the skills of moderator and secretary steadily grow with practice.

28. The consensus group technique can also be adapted and extended into a more rigorous format: a linked series of consensus groups, typically done during a full-day session involving both the management and the clients of an organization, in which each group forms a tacit understanding of the other, and they work together in the later stages to produce plans and normative forecasts. We have named this process the co-discovery conference, in recognition of its roots in the search conference of Emery and Trist [9]. We plan to report on the theory and practice of the co-discovery conference at a later date.

An example

29. In order to provide a better understanding of the method, an example is presented, based on work done in Indonesia in 2001. Indonesia is undergoing a reawakening of democracy. The political system is now less biased in favour of the interests of the rich and powerful, there is a relatively high level of press freedom, a new public awareness of the power of democracy, and a growing mutual dependence of the government and the media on each other. Indonesia is no longer classified as one of the very poorest countries: the 2002 UNESCO Human Development Index [35] ranks it 110th of 173 countries for which data are available. With an adult literacy rate of 86.9%, it now has a relatively well-educated population. Around 80% of households have access to radio, and around 50% have television. The average city dweller has access to about 6 daily newspapers, 5 TV channels, and 20 radio stations.

30. Because of the small scale and relatively low cost of radio, it is believed that if a reasonable proportion of Indonesia’s 212 million population can develop a two-way relationship with radio (by providing a channel for direct feedback), then it may be the next most direct route for mediated democracy. Radio Republik Indonesia (RRI)

is the government broadcaster, which has one national network and around 50 local radio stations. For years, RRI was the mouthpiece of the Government; most of its news was supplied directly by the government-controlled Antara news agency. Thus RRI has low credibility in some quarters and now faces competition from a wide range of new commercial radio stations.

31. A major current issue for RRI is how it can adapt to serve the purposes of democracy. Sida (the Swedish aid agency) has been funding a new project to enhance Indonesian democracy through RRI, by inculcating the principles of public service radio. The program is administered by the Media Development Office of Swedish Radio, for which one of the authors is a research consultant. RRI, it seems, had never had much direct contact with members of the Indonesian public and, accordingly needed to develop a set of new directions for responding to the post-Sukarno political and social environment in Indonesia. Therefore the Swedish project placed a strong emphasis on audience feedback. It was in this context one of the authors was asked to use his extensive experience in audience research in developing countries to apply the consensus group technique for this project.

32. The consensus process involves four stages: preparation, discussion, consensus, and summarizing.

33. Preparation

- a. Deciding on how to sub-divide the audience into three contrasting groups. In this Indonesian example, the three groups used were (a) people living in villages, (b) younger/more educated town dwellers, (c) older/less educated town dwellers.
- b. Recruiting a sample of people in the study area. Generally a purposive sample rather than a random sample was used, in order to ensure the representation of various stakeholder types within each group. We found in Indonesia that women needed strong encouragement before they would attend.
- c. Training RRI staff - generally middle managers and journalists - as moderators and secretaries for the group discussions.
- d. Developing an initial agenda, similar to the type of outline used in semi-structured interviewing.

34. Discussion

- a. In collaboration with participants, defining the scope of the discussion, and modifying the agenda.
- b. Initial general discussion (about one hour), facilitated by the moderator. During this time the secretary recorded statements that seemed to be agreed on by several

participants.

- c. A break during which the secretary transcribed those statements onto large sheets of paper.

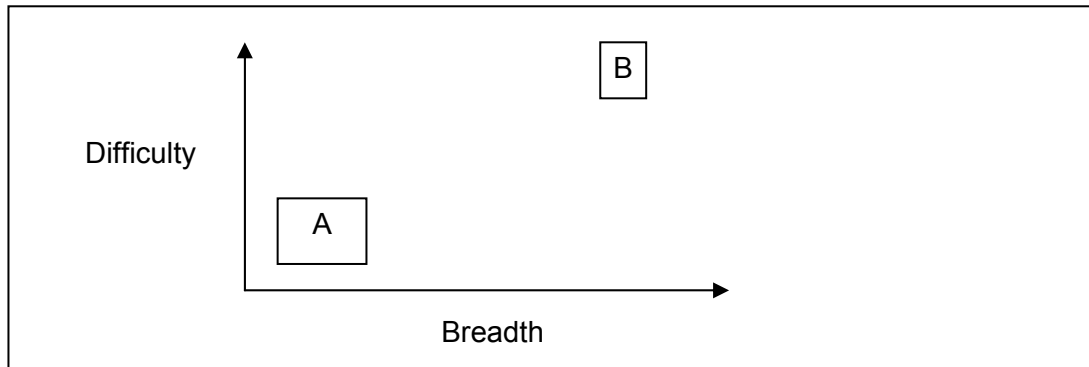
35. Consensus

- a. Each statement in turn was discussed, reworded if necessary, and voted on, first for clarity. Statements that were clear to all participants were then voted on for agreement. Statements that were not clear to everybody were discussed further, and reworded – often radically changed.
- b. When more than three quarters of participants voted in favour of a statement, the final version of the wording was retained. (This was the case for most statements.) Also, when less than one quarter of participants voted in favour of a statement, this was a clearly expressed rejection of the statement, so this wording was also retained.
- c. When between one quarter and three quarters agreed, the reasons for lack of consensus were explored. Often, an attempt was made to split the statement into two, or to retain its purpose but completely reword it. Following this process, very few statements (generally less than 10% of them) do not reach consensus.
- d. Typically, a two-hour group meeting produced around 40 agreed statements, most of which were normative forecasts, or plans for programming or management.

36. Summarizing

- a. The final stage, using the statements produced by all groups, was to align the statements to search for common themes. This was done with a small working party of the moderators and secretaries who had been trained to run the groups. Where necessary, tape recordings of the group proceedings were reviewed, to confirm the meanings and intents of similar statements produced by different groups.
- b. In this alignment process, many statements were found to be common to two or three groups; this overlap increased confidence in the trustworthiness of the findings.

- c. Statements were graphed as points in an “idea space” – a two-dimensional chart of difficulty of execution against breadth of application. Thus one corner of the graph contained statements with a narrow focus which were easy to carry out (e.g. A “move the daily traffic report from 8.15 to 8.25 a.m.”), while the other corner contained statements with a broad focus which were difficult to carry out (e.g. B “replace the entire management of RRI with local staff”). The size of each point on the graph reflected the strength of consensus on that statement (or one with almost identical wording).



- d. Since a real idea-space graph can include 50 or so points, colour coding by topic area can be used to enable the graph to be understood more easily, or a set of different layers can be used, effectively creating a third dimension. The above example is only one of several possible idea-space graphs; another dimension would be that of importance of the statement – in the view of the management and/or the users. Plotting difficulty against importance would enable the identification of some activities which would return high social dividends.

37. Though the above example used a sample of the general population of Indonesia, it is also possible for consensus groups to use other types sample, such as experts in a subject area. In fact, the training of moderators and secretaries in Indonesia began by one of the authors moderating consensus groups with senior RRI staff, to both demonstrate the technique and gather information from these professional experts on further ways in which democracy could be strengthened through radio.

Reflections

38. There are often a few problems of organization, particularly when communication must be done mostly through interpreters. Yet, the participants appear to have learned a lot from every consensus group we have organized. Staff participants have learned a lot about their audience, and gained a sense of empowerment about improving their broadcasting relevance and their work environment. Audience participants become less passive, and can become

ambassadors for the radio network, with their new enthusiasm helping to build the size and quality of the audience. Because participants tend to tell their friends about their experience, and because many participants tend to have wide networks of relationships, the meeting acts as catalyst for another form of dissemination that may be (when second-hand, third-hand, and later retellings are taken into account) almost as widespread as a radio broadcast itself. The message disseminated through this verbal network is that RRI is taking its audience seriously and may no longer be a government mouthpiece. So, as well as helping broadcasters forecast the development of their audiences, the technique is also a method of building audiences.

Conclusion

39. This paper has argued that argumentative inquiry can be re-designed to provide a consensual seeking group facilitation approach that will provide justified input for a complex social forecast. The group's input was sought as part of forecasting the demand for instructional radio from an ex-government controlled radio station given the emergence of democracy in Indonesia. An inverted form of facilitated argument was developed whereby de-personalised statements were openly debated and edited until a recorded degree of consensus was reached.

40. No attempt was made to prove that the method "works"; rather, this paper has attempted to demonstrate the concept of using argument in a manner that still used dialectic tension as the guarantor of justified knowledge but with the minimum of confrontation. It is believed that a practical, non-antagonistic group facilitation method was developed by combining on the ground experience with this well-developed theory of knowledge creation. The guarantor of truth in this case was the competition of ideas. Readers are invited to develop and integrate the ideas in this paper with their own experiences and problem situation.

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