

Deliberative multi-criteria evaluation

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A process that has been developed to address the effective incorporation of multiple decision-makers into a multicriteria assessment (MCA) process is known as deliberative multi-criteria evaluation (DMCE) (Proctor and Drechsler, 2006). DMCE is a technique combining multi-criteria analysis with a deliberative procedure – the Citizens' Jury – that allows for structuring of the decision-making process and effective interaction and deliberation from multiple decision-makers. The objective of the DMCE process is to provide a fair and equitable decision making framework that takes into account stakeholders (those who will be affected by the decision) preferences and priorities and factual information on the impacts and outcomes of the different options that are to be considered in the decision making process. At the end of the DMCE process it is often the increase in the understanding and learning of the issues, trade-offs and different points of view that are seen as the major outcomes rather than just the selection of a preferred option.

The Citizens' Jury has its origins in Germany in the late sixties with the *planungszelle* (planning cell) technique (Dienel 1988). The first Citizens' Jury was conducted in 1971 in the United States (Crosby 1999). This approach has had widespread use in particular in deciding health issues in Europe (Lenaghan 1999) and in environmental issues in both Europe (O'Connor 2000) and the United States (Crosby 1999). It has had growing use in Australia (James and Blamey 1999, Robinson et al 2002, Niemeyer and Blamey 2003, Western Australian Department of Infrastructure and Planning 2005).

The Citizens' Jury is based on the model that is used in the judicial system for assessing the guilt of people charged with a criminal offence. For those juries concerned with a public decision-making process (such as the allocation of health funds or the identification of protected areas), the typical jury has ranged from ten to around twenty participants. The jury is given a specific charge which is well worded, clear and direct. Ideally the process uses a facilitator and the jury is given sufficient time to deliberate, ask questions and call witnesses. This may take several days. A process of great complexity and that requires many witnesses may take much longer. Witnesses are chosen based on their expert knowledge and can and should be selected to represent differing viewpoints. The jury should be comfortable that adequate time has been given to all viewpoints. The final outcome is usually a consensus position reached by the jury often documented in a report to the relevant agency that has established the jury.

The steps in the Citizens' Jury process are as follow (adapted from Jefferson Center 2004):

1. *Jury selection.* There are several processes that have been recommended to select the jury with the most common one involving a random selection of the relevant and potential participants (often chosen on the basis of the issues that they represent and also demographic characteristics) usually via a telephone survey to ascertain their willingness to participate. The jury is then selected based on demographic and attitudinal characteristics to best reflect a sub sample of the relevant stakeholders.
2. *Witness selection.* Experts are selected to represent all issues and perspectives of the argument. Experts are to give information to the jurors so that they can make fully informed decisions.
3. *Charge.* The charge is what the jury has to decide upon and should not be either too broad nor too narrow. Unlike a criminal jury is it not usually reflected in a 'yes' or 'no' answer but usually takes the form of a series of questions to be addressed. The charge provides the essential focus for the jury.
4. *Hearings.* The hearings represent the meetings attended by the jurors and are presided over by an independent facilitator (judge) with the expert witnesses providing information and answering questions as necessary. The rules of procedure are clearly established at the start and time is given to allow the jurors to get to know each other and take part in discussions and deliberations. This process may take several days or one meeting or separate meetings.
5. *Recommendations.* At the end of the process the jury must provide the agreed recommendations and reasons for these recommendations.

Citizens' Juries allow for an effective approach of interaction between decision-makers and analyst and for conducting an iterative process. In general however, citizens' juries have not addressed the problem of structuring the decision-making problem that faces decision-makers. A logical progression to overcome both these problems and to enhance the advantages of both is to combine the two

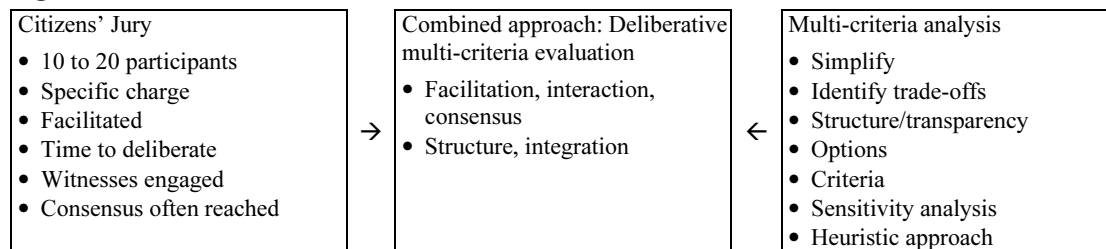
approaches (Figure 4.2).

Deliberative multi-criteria evaluation (DMCE) combines the facilitation qualities of the Citizens Jury process with the analytical and integrating qualities of the multi-criteria analysis technique by giving the jury the charge of coming to agreement on the weightings for the decision criteria. As the weightings typically vary for different jurors, the deliberative process and discussions are prompted by those with wide disparities in their weights to argue their case. Expert witnesses can be called in for each weighting issue where big disagreements exist to give more information. The MCE software can then be displayed iteratively as the jurors agree to change their weightings and a sensitivity analysis can also be conducted iteratively to determine if the variation in the weightings makes any difference to the overall ranking of the different options under investigation.

The steps in the DMCE process are as follows:

1. Choose the stakeholders (jurors) as outlined in the previous section, 'Choosing the stakeholders'.
2. Meeting 1: Stakeholders develop and agree on objectives, scenarios for evaluation and criteria to measure scenarios; and stakeholders individually and independently weight the criteria.
3. The Impact Matrix is developed to show scenarios, criteria, indicators and impacts.
4. Weightings are analysed to assess where the big discrepancies are so that experts can be called in to the next meeting to discuss and explain those criteria with wide variations in preferences for different stakeholders.
5. Meeting 2: A facilitated process starts with weightings identified for each stakeholder displayed to all the participants so that each can see the initial priorities of every individual. The outcomes of the MCA software results are also displayed. The deliberation process is then initiated by the facilitator calling on those with opposing priorities to defend and explain their positions. Expert witnesses are then called in to present the facts related to the criterion/criteria that they are covering and can answer questions from the stakeholders. The weighting process is then repeated and results displayed to the stakeholders. Further discussion and deliberation can follow and software interactions displayed. The discussions may also show that some of the criteria are superfluous or some of the options require modification. Further iterations can occur until no more changes to the weights, criteria or options are made. Before a final outcome is reached it may be necessary to carry out more research or investigation if the criteria and/or options have been modified as part of the process.

Figure 4.2 Deliberative multi-criteria evaluation



References

Proctor W, Drechsler M, 2006, "Deliberative multicriteria evaluation" *Environment and Planning C: Government and Policy* **24**(2) 169 – 190 (<http://www.envplan.com/abstract.cgi?id=c22s>)