



MICA

Minerals Intelligence Capacity Analysis

FACT SHEET

Delphi Surveys

Scope (conceptual model & main characteristics)

The Delphi method is based on structural surveys and makes use of information from the experience and knowledge of the participants, who are mainly experts. It therefore yields both qualitative and quantitative results and draws on exploratory, predictive even normative elements. In the most common form, the opinions sought concern the particular developments that are likely to take place. Delphi surveys are frequently used in Technology Foresight studies and related exercises. Instead of trying to forecast the time scales of particular developments, the surveys can be constructed to help identify and prioritise policy goals, for example.

Delphi surveys are usually performed in two or more 'rounds' in which, in the second and later rounds of the survey, the results of the previous round are given as feedback (Cuhls, 1998). Therefore, the experts answer from the second round on under the influence of their colleagues' opinions, and this is what differentiates Delphi surveys from ordinary opinion surveys. The idea is that the respondents can learn from the views of others, without being unduly influenced by the people who talk loudest at meetings, or who have most prestige, etc. Ideally, significant dissenters from a developing consensus would be required to explain their reasons for their views, and this would serve as useful intelligence for others. Giving feedback and the anonymity of the Delphi survey are important characteristics. Wechsler describes a 'Standard-Delphi-Method' in the following way: 'It is a survey which is steered by a monitor group, comprises several rounds of a group of experts, who are anonymous to each other and for whose subjective-intuitive prognoses a consensus is aimed at. After each survey round, a standard feedback about the statistical group judgement calculated from median and quartiles of single prognoses is given and if possible, the arguments and counter arguments of the extreme answers are fed back...' (Wechsler, 1978, pp. 23f.).

Characteristics of Delphi surveys are therefore specified as (Häder & Häder, 1995):

- they are designed to tackle issues that are formulated as statements and for which only uncertain and incomplete knowledge exists;

- they sample experts' judgments made in the face of uncertainty;
- the experts involved need to be selected on the basis of their knowledge and experience so that they are able to give a competent assessment;
- the method puts emphasis on the psychological processes during communication rather than the quantitative evaluation.
- they try to make use of self-fulfilling and self-destroying prophecies in the sense of shaping or even 'creating' the future.

Delphi surveys are a valuable tool for communication and for exchanging opinions on a topic, making experts' tacit knowledge of the future more explicit. It is also useful for longer-term assessments where extrapolations make no sense. They are conducted anonymously in order not to let anyone lose face in the event of a change of opinion. The methodology is designed to avoid domination by particular individuals.

Range of relevant applications or topics

Delphi surveys can be conducted on any kind of problem or system.

Data needs, databases

Delphi surveys draw on the explicit and tacit knowledge of the experts involved.

Model used (if any, mathematical, geological...)

Not applicable.

System and/or parameters considered

Delphi surveys can be conducted on any kind of problem or system.

Time / Space / Resolution / Accuracy

Temporal and spatial resolution is determined by the description of the task to the experts, but also by their personal experience.

Indicators / Outputs / Units

The output of a Delphi survey is a narrative of a possible future.

Treatment of uncertainty, verification, validation

Not applicable.

Main publications / references

Gordon, T.J. (2009): Delphi.- Ch. 4 in: Glenn, J.C., Gordon, T.J. [Eds.] Futures Research Methodology Version 3.0, The Millennium Project, Washington, DC, <http://www.millennium-project.org/millennium/FRM-V3.html#toc> (accessed 25.05.16).

Gordon, T.J. (2009): Real-Time Delphi.- Ch. 5 in: Glenn, J.C., Gordon, T.J. [Eds.] Futures Research Methodology Version 3.0, The Millennium Project, Washington, DC, <http://www.millennium-project.org/millennium/FRM-V3.html#toc> (accessed 25.05.16).

Häder, M., Häder, S. (1995): Delphi und Kognitionspsychologie: Ein Zugang zur theoretischen Fundierung der Delphi-Methode.- ZUMA-Nachrichten, 37(19 November 1995): 8-34, <http://www.ssoar.info/ssoar/handle/document/20888> (accessed 23.05.16).

Wechsler, W. (1978): Delphi-Methode, Gestaltung und Potential für betriebliche Prognoseprozesse.- Schriftenreihe Wirtschaftswissenschaftliche Forschung und Entwicklung, 18: 255p., München (Florentz).

Related methods

Stakeholder Focus Groups

Genius Forecasting

Idea Networking

Expert Panels

Operational tools

Not applicable.

Key relevant contacts

Not applicable.