

### Description

The term Delphi in the name of the instrument refers to the famous oracle in ancient Greece, which was questioned before all important political decisions. The actual method originates from the USA, where it was developed in the 1950s by American scientists. The Delphi method was developed against the background of military national defence in order to identify possible targets in the USA during the Cold War. The Delphi method was gradually applied in civilian areas and is now frequently used for political and social questions and issues, for the development of science and technology and in the business environment (e.g. marketing, R&D).

The Delphi method is a structured group communication process with the aim of answering questions or finding a consensus on facts about which uncertain and incomplete knowledge naturally exists. Selected experts from various disciplines are involved in this communication process.

The following characteristics are typical for the Delphi method:

- Development of a formalized questionnaire
- Query of knowledge and opinions of the experts
- Ensuring the anonymity of the individual opinions given
- Calculation of a statistical group response
- Information about group opinion back to experts
- repetition of the survey until no additional findings are expected

Accordingly, this method is very well suited for the identification and control of risks due to its characteristics. Especially due to the involvement of experts from different disciplines, the geographical independence and the anonymized survey, the application in the SCRM context makes sense, since as many risks as possible from different companies, functions, etc. can be identified and an evaluation takes place simultaneously due to the feedback effects.

## Basic procedure

In practice, a large number of variants have developed for the Delphi method. Thus, four different types can be distinguished for Delphi surveys, depending on what is to be determined by the application. A distinction is made between Delphi surveys (1) for aggregating ideas, (2) for predicting facts, (3) for determining expert views and (4) for reaching a consensus. This shows that the use of this tool in risk management can be very useful as it covers many relevant requirements.

However, the procedure described below is intended to serve as a guide in the context of risk management, despite its various orientations, as it is the core of every implementation:

**Step 1:** First, the general problem definition (e.g. identification of risks, generation of measures, determination of the status quo, etc.) is operationalized in order to derive concrete criteria, questions, etc., which are presented to the experts.

**Step 2:** The experts are asked to provide their input on the question on the basis of a uniform questionnaire for all. Open questions can be asked to collect general ideas as well as already existing information to be evaluated.

**Step 3:** The returns from the second step are summarized and prepared in an idea list by the department to be carried out (e.g. controlling department). The summarized results, e.g. collected risks, are returned to the experts involved as anonymous feedback.

**Step 4:** The survey is continued, i.e. steps 2 and 3 are repeated until a previously defined criterion is reached and a further round no longer provides any additional information.

## Prerequisites/Aids

The quality and quantity of the results is strongly influenced by the technical and personnel composition of the expert panel. Accordingly, the selection of experts is one of the most important tasks and a prerequisite for successful implementation. The most important selection criteria for potential participants are (1) specialist knowledge of industry expertise and process know-how (2) professional experience or length of service with the company and (3) geographical location of activity. Accordingly, the previous field of activity and position in the companies can be used. In addition, belonging to different functional areas and companies is important. In addition, the participation of external experts, e.g. auditors,

industry analysts, management consultants, etc. is also conceivable and could enhance the results.

The scope of the expert group is not fixed. Basically, it can be said that the more experts involved, the more meaningful and stable the results of the Delphi survey are to be assessed.

A second important prerequisite is the determination of the rounds of questioning, i.e. the number of necessary repetitions. In practice, it has proven to be advantageous to define a termination criterion instead of giving a fixed default of rounds. For example, the procedure can be terminated after the second round if it is obvious that another round no longer provides any new findings or is satisfied with what has been achieved so far. In addition, reasons such as the time available or the human and financial resources available also play a decisive role. Ultimately, the willingness and motivation of the experts must be taken into account.

### Effort

The duration of a Delphi survey varies greatly depending on the concrete design. Dimensions such as the length and complexity of the questionnaire, number of participants, complexity of the evaluation and number of survey waves influence the time at which exploitable results are available. Overall, i.e. with pre- and post-interview for the actual interview, the procedure can therefore take between a few weeks and several months. No special effort is required with regard to technical aids.

### Advantages

- Inclusion of experts from various departments
- Direct evaluation and re-renewal of risks or their analysis through feedback
- Qualitative and quantitative facts can be queried in parallel

### Disadvantages

- There is no exchange of information between the participants
- Failure of experts in subsequent rounds can lead to under-representation of individual specialist areas
- Experts may change their minds after feedback
- Very time-consuming

### Related Literature

Bortz, Jürgen/Döring, Nicola (2006): Forschungsmethoden und Evaluation für Human- und Sozialwissenschaftler, 4. Aufl., Springer, Berlin

Häder, Michael (2009): Delphi-Befragungen, 2. Auflage, Verlag für Sozialwissenschaften, Wiesbaden

Schulz, Maren/Renn, Ortwin (2009): Das Gruppendelphi. Konzept und Fragebogenkonstruktion, Verlag für Sozialwissenschaften, Wiesbaden