Research in definition of Delphi qulitivation research tool

Saee Ersi Iraj [1,] Ghorbanifar Mohammad [2 *,]

Amou Akbardokht Amiri Maasoumeh [3]

1. Associate Professor of Sociology, Department of Sociology, Faculty of Humanities, Islamic Azad University of Abhar, Zanjan, Iran.

2. PhD student entrepreneurship organizations, groups, Entrepreneurship, School of Humanities, Islamic Azad University of Qazvin, Qazvin, Iran.

3. Masters in English Literature, Department of English, Faculty of Humanities, Islamic Azad University Central Tehran Branch, Tehran, Iran.

Abstract

Foresight research tool of Delphi, one of the most convenient and most widely used tool that was developed in the 1950s. This study is within the framework of quality tools. Group communication process to be made that the interaction of people expert in the field as a whole, to provide problem-solving. In Iran, this method is well known but rarely can be set found that this method is used to design future scenarios or for foresight. One of the main reasons for this problem (like many others) with little familiarity with this method is not very deep managers. This study details the types such as Delphi Delphi classic, politics, and the Committee is decided. . One of the milestones in the history of Foresight, Delphi method was developed in RAND Is that the experts City Ayasantamonika From States California a door theme problems social And Political a door Early Decade Sixty Consultation Had have been. It took more questions RAND experts on the future of military technology, political issues and finding suitable solutions. But today the extent of use of this tool in all research areas covered and given the importance of this subject in the study introduces Delphi and Delphi and implementation phases of the study are important considerations in setting a questionnaire and a variety of methods, along with the strengths of the and weaknesses are pointed out. It should be noted that Delphi tool has several basic characteristics of these features of the anonymity of those involved in the study, repetition and feedback form information.

Keywords: Delphi, Foresight, experts, Communications Group, classical, policies, decisions, and teamwork.

A Monthly Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories

International Journal in Management and Social Science

http://www.ijmr.net.in email id- irjmss@gmail.com   Page 383

1. Introduction

The word is derived from the name of a famous temple in Delphi Delphi Greek, because they predict the future priests of the city, such as Foresight experts are now exploiting this method.

Expansion and the emergence of Delphi method seeks to promote activities related to the prediction of technologies that began in 1944, took place. In the history of the United States Navy commissioned a project called America rand RAND the aircraft company "Douglas" was defined to predict future technologies with military applications. The project is the study of intercontinental weapons payment.

Delphi method called scientific research is the first in late 1950 by a company called Rand (RAND) for scientific review experts in California and in military defense project design and development, but for security reasons was not published until 12 years later. Olaf Helmer, Nicholas Researcher, Norman, and was developed by Delphi. It is also the first civilian use planning, economic development was proposed.

In total, Delphi, from the mid-1960s was known as an important scientific method and is now available for a wide range of future-oriented and complex questions, and in a wide range of fields and disciplines are used. Delphi was the first in the United States.

In 1959, Helmer and Rescher Two of the Project RAND researchers an article entitled, "philosophical theory of knowledge in science inaccurate", the idea that science in areas where it is still scientific laws is underdeveloped, relying on the opinions of experts be allowed.

2.Definition of Delphi from elite' perspective

This technique is considered as one of the methods in futures studies is always a solution to many of the challenges of the future. The tool is considered elite. Now the question is how the views of the experts used and especially how to combine the contributions of a number of important, useful statement be developed.

From the perspective of Delphi surveys, appraisals of man as a legitimate and useful inputs to make predictions ones. Sometimes individual experts can be at risk of a unilateral approach, while expert groups can also be influenced by the willingness leader, the revision on the ideas of their previous reluctance. In order to overcome such drawbacks, Delphi method, theoretical and methodical instructions during the 50s and 60s AD RAND Corporation developed.

According to Delphi word refugee in 1968 of a dependence-inducing their methods of Divination is a mysterious aspect. But what is provided by the two, the way to improve predictions help to make full use of the available information is inadequate.

Delphi, based on dialectical approach, the thesis research tool (a belief or opinion), antithesis (opinion Opposite) and finally Synthesis (a new consensus) formed their synthesis into a new thesis.

According to Helmer (1997) Delphi useful communication tool among a group of experts that will facilitate the formulation of the votes of members of the group.

Wissema (1982) also emphasized the importance of Delphi tool, as a way to "an exploration of unilabiate"refers to anticipate future technologies. He adds that Delphi has designed tools that enable discussions among experts is possible, so that the arrival of the impact of social interaction behavior usually occurs in the discussions leading to a hedge against the Find ideas and opinions is, prevent.

Baldwin(1975) also believes that in terms of the inadequacy of the available scientific knowledge among decision-makers, they have to decide experts are relying on direct perception or opinion.

3. Tools for Delphi

Tools "Delphi" survey is one of the favorite tools is futurists. In this way, using the instructions structured, accurate predictions are made.

Delphi tools, in order to establish a proper interaction between individuals is real opinions.

Collecting the views of experts on numerous occasions by successive obtained from the questionnaires. Each iteration, a period of shows.

The basic idea of this approach is that respondents without being influenced by celebrities and reliable placed, the views of others.

Obscurity and anonymity of individuals and feedback, two irreducible element of Delphi tool.

Delphi tool or technique is the basis of scientific experts in each field about predicting the future. Therefore, unlike survey research methods, validity Delphi not to the number of participants in the research that the scientific validity depends experts participating in the study. Delphi research participants from 5 to 20 people make up the minimum number of participants depends on how the design of research. The board (panel) made up of experts in the interaction between members is done by the president or the supervisory board.

Internal communication participants are anonymous and opinions, predictions and tend to be attributed providers. The publication of this information without identification is done providers.

4. The importance of creating tools Delphi

Although there are significant differences in the application of the Delphi technique, usually Delphi study with a questionnaire designed by a small team and sent to a larger group of experts begins. Questionnaires are set in such a way that it is possible to infer and understand the problem raised by the audience, their individual reactions of day. When he returned questionnaires, response spectrum and the reasons for their responses professionals expressed are examined and shorthand. At this point remove items that are not related to the objectives of this research through interactions within groups of common negative issues (related to the field of social psychology) is avoided. After that, a summary report will be sent for specialists. Experts are allowed to modify their answers based on the results of the second round of researchers is re-evaluated.

In this way, over time and with the progress of work, the audience views the issue of compliance will be discussed. This process will continue until a consensus is reached in the comments or determines that the experts agree.

The most important thing in Delphi tool to overcome the disadvantages of conventional committees. According to Fowles (1978), of anonymity, in feedback and responses Delphi the most important characteristics are based on statistics.

Delphi is a statistical method to predict the future is not rigid. Lack of sampling, the uncertainty of future events and the lack of clearly defined processes for conducting Delphi studies, only a few of the things that differentiates Delphi from controlled scientific methods.

But Delphi study is especially valuable for issues that do not have an accurate analytical techniques. For example, when the data are insufficient or lacking certainty or when there is no actual samples or when collecting people and talk about something difficult. Since Delphi technique on anonymity, controlled feedback and response from the Department of Statistics relies, so the VIPs in discussion groups or to conform avoids pressure groups, using this technique, an authentic consensus of experts can be achieved.

5. The tool targets applications Delphi

The main objective of Delphi, predict the future, but in terms of decision-making and increase its effectiveness, judgment, facilitate problem-solving, needs assessment, goal setting, help to plan, set priorities, to predict the future, creativity, organization Communications Group, a group gathered information, education the respondent, policies, and resources specialization group consensus or agreement also used.

6. Terms of Delphi tool

The requirements for the use of Delphi to the experts and opinions of large groups, in reaching agreement on the results, there is a complex problem, large or incompleteness disagreements between discipline and knowledge, availability of professionals with experience and expertise, the geographically

dispersed, the need for anonymity in data collection, lack of time limits and the absence of cost - effectiveness is another.

7. The use of Delphi
A one-dimensional issue specific forecasts in the future

8. To create a consensus
A) Prevent overcome communal thinking and silence the minority orientation
B) Generating creative ideas

9. Practices
Delphi tool can be in communication studies, research medical system, management and applied economics.

10. types of Delphi
In the majority of Delphi is divided into four categories:
Classical
Decision
Political
Group - expert workshop

10-1.Delphi Classic
Classic Delphi includes features such as anonymity specialists, repeat or restate, Feedback control, statistical reports and focus group responses consensus and sometimes adjusted to meet the needs of researchers that is modified Delphi classic name.

10-1-1. steps
Recognition of the issue and the subject of
Determining the expertise required
Expert Selection
Preparation and distribution of the questionnaire
Preparation and distribution of the questionnaire
Analysis of the questionnaires
Determine whether the responses of experts has been established?
If stability is not achieved, the feedback responses in the questionnaire.
Analysis of the second questionnaire.
Determine whether the call is established experts?
If the expert answers stability is not achieved before the process is repeated to achieve stability.
If the attainment of stability in response experts. Information will be presented in the final report.

10-2. Political Delphi
Often used on social and political issues and their implementation involves collection of personal information by experts and in a few rounds. The aim is to achieve a consensus obtain different solutions in line with this objective, the Delphi method is used as a tool for developing ideas.

10-2-1. Features
If you wish to be anonymous individuals
Repeat
Controlled feedback

Comments on the opposite category
Structured debate

10-2-2. steps
Recognition of the issue and the subject of
Determining the expertise required
Selected experts are a heterogeneous group of respondents
Preparation and distribution of the questionnaire
Analysis of the scale (range of comments)
Writing the second phase, if necessary
The second analysis questionnaire (range of comments)
Holding a dialogue group or workshop

10-3. DecisionDelphi
Used to make decisions about social issues. Delphi making a decision-making group to define reality.

10-3-1. features
Missing pseudo name (pseudo-anonymity means that from the beginning of the study, experts are known to each other, but their responses to the questionnaire remains unknown.)
Repeat
Controlled feedback
Statistical analysis solutions
Stability and convergence answers about a specific topic

10-4. Delphi Group / Expert Workshop
One-day workshop will be held for the purpose of obtaining results rapidly to decision-making on issues that have serious consequences.
This type of Delphi, only the anonymity of the traditional Delphi is very different.

10-4-1. Features
1. Dialogue group one day
2. Repeat
3. Controlled feedback
4. Statistical analysis solutions
5. Stability and convergence answers about a specific topic

10-4-2. steps
Problem identification and definition of the subject
Determine the desired expertise
Selected experts are a heterogeneous group of respondents
Production and distribution of the questionnaire
The analysis of the first questionnaire (the whole of comments)
Writing the second step in if needed
The analysis of the second questionnaire (the whole of comments)
Hold a group discussion or workshop
It is noteworthy that Delphi to other types such as numeric, date, adjusted and real time segmentation resulting from the interpretation and application in wide positions.

11. The implementation of Delphi

1. Select Expert
2. Inventory adjustments
3. Feedback
4. Consensus

And "Fowl" has proposed the following steps:

1. The implementation and monitoring of Delphi.
2. Select one or more Board (panel) to participate in the activity. The delegation's members are usually experts and experts in the field of research.
3-launches activities for the first round questionnaire.
4. The written questionnaire (inferential and ambiguities ...)
5. Send the questionnaire to staff members
6. reached based on the answers in the first round
7. Prepare the second questionnaire (with revisions required)
8. The second round questionnaire for faculty members
9. reached based on the answers in the second round (steps to ensure sustainability in all respondents continued)
10. The report prepared by the analyst

The most important thing in this process, understanding the objectives of the application of the Delphi participants. In the absence of proper understanding of the participants will be faced with irrelevant answers. Respondents must have sufficient information on the relevant field and be familiar with the literature discussed the issue. But it may not necessarily very high expertise in the relevant field is required. The minimum number of panel members to reach a reliable ideally depends on the design of the research. According to "Berkhof" even groups of four, they cannot function properly.

11-1.Choose expert

One of the keys to the success of Delphi, careful selection of its participants. As results of Delphi dependent on the knowledge of the group members, invite people are believed to be costly ideas is essential. Each of participants representing a large population while Delphi studies, but parties are not representative of the population as individuals are invited.

After making a list of experts, with each of them must be communicated separately. At this stage, should be. Relationship first by phone, then sent a letter formally inviting them to do.

Identify experts, Delphi was a key factor here, as the achievement of the objectives depends on careful selection of participants. Delphi has focused on extracting comments from experts in a short time and results depend on the expertise in knowledge, quality and accuracy of work and their continued involvement in the course of the study. In other words, success is by using a sample of Delphi. Delphi expert should have good knowledge of the subject matter, the process involved in the argument and affect outcomes; however, inexpert and interested individuals are also included.

Respondents were relatively neutral and information reflect the knowledge and understanding of them. In addition to the interest and commitment of the participants to the subject, continuing involvement is also required in all rounds, although providing Delphi with discussions on respectful of different opinions and interests and will engage members to the cause.

No strong law and there is no explicit about how to choose and the number of professionals and their number depends on factors homogeneous or heterogeneous sample, Delphi purpose or scope of the problem, the quality of the decision, to study the research team at the office, internal and external validity, the time of collection data and available resources, the scope of the problem and accept the answer and the number of participants is usually less than 50, and often 15 to 35 people.

In some medical papers, Delphi method for sampling have reported 10 to 20 people, which increases the sample size sampling, data collection problems, and finally, the complexity of reaching a consensus,

analysis, and review the results; however, the larger the sample size, the number of judgments increased confidence increases and their composition.

Some researchers note that it is usually 30 to provide sufficient information and duplicate responses were increased, and new information is added. But others stressed little empirical evidence about the effect of the number of participants is available on the credibility and confidence in the consensus process.

11-1-1. in the identification and selection of experts from different methods are used:

Step one - preparing for the elections:
1. To identify strings, control activities, employment, government offices
2. Identification organizations
3. Identify and Academies Associated Press

Step two - Determine the population with
Write the names of people related disciplines and skills.
Write the names of people related organizations
Write the names of academics and practitioners Associated Press

Step three - the introduction of additional experts
Contact the experts listed above
Introduce other professionals and contact them

Step four - rank specialists
Create four subgroups for each of the disciplines
Classification of experts according to the relevant listings
Ranking specialists in each list on the basis of their competence

Step five - Invite Professionals
Invite experts for each panel of each discipline
Invited experts in each subgroup based on ratings
Identifying the target population
Stop selected and drag out the size of each panel of experts to achieve sampling
In the majority of cases, sampling the target, but the absence of identified experts, also used the snowball sampling. If known professionals and frequent, random sampling is used. Some papers, Delphi has criticized the lack of random sampling, but representative sample of no importance, but Panelists quality is more important than their number.

11-2. Inventory adjustments
Secondly, the questionnaire. On the basis of written questionnaires, interview preparation and will be completed without interviewer. In fact, the indirect method and multiplayer questionnaire to gather expert opinions.
Highlights include the following questionnaire:
1. The type of information required and the importance of precisely known.
2. The questionnaire should be concise as possible.
3. Additional questions should be avoided.
Stacy and Curtis prepared a questionnaire with 20 questions found that no desirable result.
In a question, not as two separate matter, because subtle changes in words may affect the response.

Two-choice questions should be "yes - no". Questions should be anatomical.
At the end of the questionnaire, should allocate part to offer individual respondents.
For every expert, sent a questionnaire related to his specialty.

11-3. feedback

Questionnaire to a group of specialists available, are provided. The response of this group can be faults and defects with incorrect interpretations of questions designed to find potential should be noted that the result of the first questions that a statistical analysis of the questionnaires to the experts in the second largest feedback is. Address after experts will be asked for its views because the keyword. The results should be faster than the response time of Khash quality feedback Delphi studies by experts and feedback increases.

11-4. consensus

Delphi tool, there are no clear criteria to represent consensus and convergence and the maximum change in opinions, in the first period and the second happens and researchers gathered results from the first questionnaire and its analysis are. Usually held 4 courses for consensus and convergence return necessary and sufficient. Product signs Delphi consensus and end of the study, the majority of participants in two consecutive quarters is a constant call.

12. The decision of approval

In this section, prepared and published the final results are shared and professionals in results.

13. Evaluation Delphi

Given that Delphi tool is flexible and easy to spread and accepted offers a valuable solution to problems, nevertheless has significant methodological weaknesses, such as "Who is the main source of specialist information", "Each specialist what should be the basis or foundation "is.

14. The data analysis

The main data used in Delphi studies of measures (mean, median and mean) and dispersion index standard deviation and interquartile range has the advantage of better median and in the meantime, although the average is applicable. In some papers, the Middle questionnaire was designed based on Likert scale is strongly recommended. The facade is also suitable for Delphi data report and recommended that the Delphi process integration or convergence tend to show that a single point. Therefore, the use of results around a point or two points is appropriate and in principle may be misleading use of the mean and median. In general, as usual, to analyze the results of Delphi, in the first round, unstructured content analysis to identify key themes in the questionnaire, the results of which carried the initial unstructured questionnaire to the questionnaire made structure, forms the basis for the next rounds. The second round started out using quantitative methods, the techniques and grading (median and quartiles) used in the third round and subsequent rounds, central and dispersion parameters are used.

15. Findings

The tool outputs Delphi is nothing more than a theory. It is equally important that the views of participants is valid credentials. Comments and opinions of the participants on the basis of
Statistical relationships and not on the basis of majority and minority summarized.

16. Strengths and weaknesses Delphi tool

16-1. strengths Delphi tool

1. Change your point of views experts without they lose their prestige.
2. Delphi questionnaire can be reviewed over and over again.
3. Questionnaire based on the information needs of researchers in question is set.
4. Questionnaire, there is access to more skilled.
5. Delphi consensus offers a clear reason.
6. Delphi, a good way to judge are questions that need clarification.
7. Psychologically, most people cannot on their responses to a questionnaire, rest assured and are in need of external boundary. The mean score of others, be brought at a later stage in a questionnaire could support role to play.

16-2. weaknesses Delphi tool

1. Delphi method requires rigor in the selection and preparation of questionnaires to participants.
2. Delphi questionnaire respondents limit
3. Delphi questionnaire may be misleading
4. The length of the process may be the reason for the cancellation.
5. It is likely that the Delphi method, the predetermined criteria, will guide participants to obtain certain views.
6. Some important comments will be ignored.
7. Many experts in their field to advance to exaggerate the value of their investment to another category (the problem of bias)
8. Some researchers believe that the Delphi method than other methods more correct answers not had disc displacement and agreement obtained in this way also the result of pressure on the participants unusual ideas that are.

17. The benefits for Delphi

Quickly create consensus
No geographical restrictions for participants
The ability to cover a wide range of experts
Avoid thinking overcome sectarian groups
The predictive power of one-dimensional complex issues
Delphi means cheap, versatile, objective, non-threatening and easy to identify and understand, and the widespread use of comments, a strong consensus of views, especially in cases of lack of clarity and lack of empirical evidence provides and the cost and time requirements for Delphi depends on the purpose, the means and the number of participants, but in some expensive sources noted.
Great flexibility of approach, used in various fields, using different communication approaches and possible use in a wide geographical area, the need for training interviewers, obscurity, presenting arguments in recognizing and understanding the underlying theme of Delphi is another benefit. Another benefit, consensus of opposition groups, the validity of the content and design of the program with the support of the participants and especially the lack of influence of the ideas and character of certain individuals in the Comments group, freedom from any pressure, of the panel and the provision of integrity facilitate the with impartial see honesty express ideas and options rarely possible. The feedback between rounds stimulating new ideas and the spread of knowledge that will lead to more innovation and training participants. This technique of wasting time and energy for decisions to prevent irrelevant or biased, because Delphi forecast and systematically carried out by an analytical method.

18. Limitations of Delphi tool

Delphi tool is also subject to criticism. Most criticism of the Sackman(1974) took place, during which the procedure is deemed unscientific and Armstrong(1978) is skeptical about the accuracy of the method. Martino (1978) and others, concerns have classification tools Delphi as follows:

Future degradation of the audience questionnaires, the future (and past) the importance of what is not happening, so you might want to slow the importance of knowing future events exists in them.

Simplistic motivations specialists tend to be unbound and separated from other developments with respect to future events themselves. Visualization and comprehensive picture of the recipient (Holistic)of upcoming events where the impact of comprehensive changes are not easy. In this situation, not caring interplay of events that can happen in the future is likely. In these cases, the analysis of the interaction [4] can be useful.

Specialties misleading basically, some of the experts are predicting strong participants. An expert with the desire to see personal expertise, may your predictions in the context of a specific templates that may not be the best predictor.

Irregularities in the implementation: different routes (underestimate the difficulties of applying this method in common and naive) that can skew your work and participants are open enough attention.

SD Format: Format instrument could be suitable for some participants.

Manipulation of the results: Answers can hope that in the next round to tend to certain direction, manipulated by the performers.

The main limitations of this technique requires effort and hard work, garlic is that it is slow and time-consuming. Also important in terms of methodology has flaws that may actually discredit it, so that artificial Delphi originally tried to close the opinions of experts in each of the statistical distribution around the middle and the words may be apparent consensus or the pressure to conform to happen rating or feedback comments impact on group consensus.

The Delphi technique is only the beginning of simply trying to gain consensus and the consensus of opinion is not necessarily accurate and may result in the identification of a series of public statements or collective rather than a particular item of information. Because in Delphi assumption, equity participants the knowledge and experience, but in practice, this assumption may not be correct. Especially on specific topics usually unequal distribution specialists, and some experts with deep knowledge about the matter, while other not have much knowledge on the subject. Therefore, people who have deep knowledge, crucial topics are not able to determine the outcome of a series of phrases or will be public. On the other hand, many experts biased source of information and consistency with the possibility of skewed data.

Retell or repeat feature can also enable researchers to shape the replies or comments. Other restrictions, lack of motivation due to the support and acceptance of the other members and meet face to face. Frequently the lack of commitment hastily in Anonymity also noted that Delphi may not only occur in all studies with anonymous questionnaires. In addition to the collapsed panel of experts, likely to get low response rates, tired of the subject, there is no criteria specified in the definition of key expert consensus level and group size, low impact development researchers plan further research and the likelihood of favorable events than other constraints.

19. Validity and Reliability

Unfortunately, the validity and reliability of Delphi management is not easy, so that Delphi has been criticized because of the lack of evidence of reliability. In other words, if information or similar questions to be, obtaining the same results is not certain, however, that Delphi users, confirmed the accuracy of the technique.

This technique has been criticized in relation to the narrative, as the researcher has not affected the development process or tool to navigate while on the validity of an effect, however, if the participants in the study, representative group or field of interest their content is guaranteed credit. Perhaps above all

qualitative research with quantitative approach Delphi imports, and should not be judged using the criteria of transferability, reliability, usability and verified for validity and reliability of the results is correct.

20.Recommendations
Given that several steps have to be able to reach a consensus and the probability that the right answer and improvements in Delphi tool to increase following steps are recommended.

20-1. Grading Experts
If the number of questions and few participants, all participants will be able to answer your questions. But if the number of participants is high, this method would not be appropriate.
In this way for each questionnaire, participants will be asked to calibrate your attention to the following points.
1. Are you an expert in this field Are You?
2. Do you sometimes in this field do you work?
3. Do you because of your words made you have information in this regard?
4. Are you aware you put it among non-specialists?
5. Do you have the background information?
All questions should be sent to all participants and for each question section as a "self-grading" attached. . This method has some disadvantages, such as:
Possible for many of the questions, there is no expert.
This method is not efficient because each participant should read all questions.
It is possible that some people good and useful suggestions they give up participating in the study because they accept low level of ignorance about the subject of the query must cut their credit.

20-2. lock and key method
In this way, managers try that participant's ability to adapt to the conditions of questions.
Only questions sent to respondents that their information is linked together.
Example:
1. Which of the profession that best describe you?
Scientist, engineer, writer, publisher, businessman, factory workers retailers' politician acting teacher and...
2. Of which group you know?
Non-specialist
And such questions
In other words, respondents are asked to nominate themselves. Before the questionnaire sent, so descriptive information of people who have offered their classification and the points awarded to each respondent. After this phase, respondents Based on the classification and the most important questions people are selected to be sent to them. The number of the elect could be the same for all questions that this number will be determined by consideration of budget and facilities. It is also possible to select those that have 90 percent earn the most points.

20-3. free-text search
This Match lock is associated with the difference that the questionnaire expertise unlimited participants and is working perfectly. Participants summary of personal information that includes a description of the resolution of past activities, interests, and so is their published works to send the project manager. Therefore, a database of this information is formed. After the questions are set, the set of keywords associated with the questions. These keywords will search in the database. Each respondent will receive a score based on the results of their searches. Similarly, participants are scoring.

20-4. limiting the questions and respondents

This method allowed the experts questions about their interest and questions that are skilled to respond to them, and respond to choose. After enough information was provided, if carefully selected experts with their questions, some useful links may be removed.

20-5. valuation based on past performance

That is another way of selecting experts from the average of correct predictions respondents' case based on different topics prepared. People who have more correct predictions, is selected as a visiting expert.

This method also has shortcomings: First, you must be prepared in different time zones and also ensure that a forecast has occurred or not, is difficult.

20-6.Expert Group

The experts will be asked questions about the future, respond to, questions about the future, only those that have a more correct answer is provided. This method also has disadvantages. First, the test questions for the experts, must be designed with great care to be free of ambiguity. The other is that many participants may not own such a good pilot.

20-7.Connect tree

In this method, respondents are asked questions successive trustee to respond to each of them with respect to your question requires more detailed knowledge.

Delivered this way, complexity and precision that is required when asking questions.

21. Conclusion

Delphi is one of the tools to achieve a flexible tool to collect data research and consensus among experts about the issue is complex. This means that within the framework of qualitative methodology is a group communication process in a manner that makes up the consensus of experts as a whole, to solve the problem of providing. This targeted communication with feedback information and knowledge, judgment and assessment groups the opportunity to review the judgments and to provide a degree of confidentiality of individual responses will be provided. To achieve results in unclear, uncertain and with little empirical evidence is very helpful. As a result, Delphi tool has several basic characteristics of these features of the anonymity of those involved in the study, repetition and feedback form information. This tool is a set of questionnaires or sequential phases with controlled feedback that tries to consensus among a group of experts specializing in a particular subject achieve. The disadvantage of this device, we can time, the possibility of consensus apparent lack of motivation due to face-to-face that reminded careful thinking and careful planning in the use of this technique.

Delphi surveys or questionnaires is similar in terms of ethical considerations. Participant's anonymity should be preserved as much as possible, and their responses should not be specifically identifiable to others, but to determine how to complete the questionnaire, tend to have a discussion with others, is impossible.

References

Ahmadi, Fazlullah. Nsryany, Kh. Abazari, propeller. (1387). In research tool, spring and summer. Iranian Journal of Medical Education, Delphi technique:

Ahmadi, N. (1388). Introduction and Review of the Delphi method. Monthly Social Sciences, No. 22, December.

Bahrami, Mohsen. Futures thinking, opportunities and challenges, Amirkabir University ofhttp://www.iranforesight.ir .

Chu H, Hwang GJ. (2008). A Delphi-based approach to developing expert systems with the cooperation of multiple experts. Expert Systems with Applications ; 34(4): .40-2826

Dempsey PA. Dempse ADy. (2000) Using nursing research: process, critical evaluation, and utilization. 5th ed. Lippincott Williams and Wilkins Co.

Dunham R. The Delphi technique. 1996. [Cited 2002Mar 24]. Available from: http://www.medsch.wisc.edu/adminmed/2002/orgbehav/delphi.pdf

Earth, GR. (1382) Research Methods in Management, Academic Press center of Islamic Azad University.

Excellent, AR. Conduct research Delphi method, Tehran, Yusuf publication.

Fry M, Burr G. (2001) Using the Delphi technique to design a self-reporting triage survey tool. Accid Emerg Nurs; 9(4): .41-235.

Habibi A, Sarafrazi A, Izadyar S. (2014), "Delphi Technique Theoretical Framework in Qualitative Research" The International Journal Of Engineering And Science (IJES). Volume3 Issue4 Pages .13-08.

Hatami, Reza. Family psycho social needs assessment morality and the ways to emphasize the Delphi technique.

Kauko, Karlo., Palmroos, Peter. (2014) The Delphi method in forecasting financial markets An experimental study. International Journal of Forecasting 30:2, 327-313Online publication date: 1-Apr-.2014.

Kennedy HP. (2004). Enhancing Delphi research: methods and results. J Adv Nurs. Mar; 45(5): .11-504

Khaza'i, Said. (1384). Methods of futures studies. Defence Industries Training and Research Institute, Center for Futures Studies and Technology of Defense, Department of Information and Research Services, September.

Landeta J., (2006), "Current validity of the Delphi method in social sciences", Technological Forecasting and Social Change, Vol. 73, No. 5, pp: .82-467.

Langlands RL, Jorm AF, Kelly CM, Kitchener BA. (2008) First aid for depression: a Delphi consensus study with consumers, carers and clinicians. J Affect Disord ; 105(3-1): 65-157. Epub 2007Jun .14

Meijering,J.V., J.K. Kampen, H. Tobi (2013), Quantifying the development of agreement among experts in Delphi studies ,Technological Forecasting and Social Change, Volume 80, Issue 8, October 2013, Pages 1614-1607.

Mohammad Hosseini, Siamak. Monavari, Mehdi. Nourooz message. (1383). Literature and methodology of futures thinking, futures thinking Speeches and Lectures The first workshop, printing,

Nazmi, Amir. (1385). Goals in foresight, futures studies Conference, Technology and eyes Andaztvsh, Tehran, Amir Kabir University, June

Pooragha, Ali. Paladin, Fatima. (1386). Jasmine strategy of foresight, principles, requirements and methodologies, Issue 9, Spring.

Powell C. (2003) The Delphi technique: myths and realities. J Adv Nurs; 41(4): .82-376

Sarmad, Venus. Businessman, Abbas. Hejazi, a goddess. (1383). Research Methods in the Behavioral Sciences, Publishing aware.

Skaran, Uma. (1380). Research methods in management, translator, doctor Mohammad Saeb, doctor Mahmoud Shirazi, State Management Training Center.

Skulmosky G, Hartman FT, Krahn J. (2007) The Delphi method for graduate research. Journal of Information Technology Education; 6: .21-1

Tabaraee, HR. Mozaffaripour, Ehsan. Atai, Pedram. Futurism Technologies in Japan, observing technology research group affiliated with the research group of Young Scholars Club.

A Monthly Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories

International Journal in Management and Social Science

http://www.ijmr.net.in email id- irjmss@gmail.com   Page 395