Using Delphi Method for Needs Assessment

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Guest Speakers

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Anil Kumar Chaudhary, Associate Professor, Pennsylvania State University

Julia Van Soelen Kim, North Bay Food Systems Advisor, UCCE Sonoma, Mendocino, Napa

Yulia Lamoureaux, Geography PhD Student, UC Davis

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Agenda

- Presenter Introductions, Overview, & Anticipated Outcomes

- Delphi Method presentation

- Guest Speakers - Diaz and Kumar Chaudhary

- Break (10 min) - 11:00-11:10

- Guest Speakers - Van Soelen-Kim & Lamoureaux

- Participant Reflections and Q/A

- Additional Resources and Training Evaluation

Anticipated Learning Outcomes

Participants will gain understanding of:

1. The different steps involved in Delphi method.
2. How Delphi method is used in needs assessment.
3. How Delphi method can be adapted for different situations.
4. How Delphi method is being used in extension studies.

Introduction

- Needs assessment is an essential step in the program planning, development and evaluation cycle (Warner & Harder, 2020; Etling & Thomas, 1995).
- One of the first priorities for a new extension educator is to conduct a needs assessment to inform their programming (Caravella, 2006).
- Driven by the question "*What do clients need and how can those needs be met?*" (Patton, 1982).
- Extension professionals can use different qualitative and quantitative methods for needs assessment. Needs data can be collected from an expert panel also.

Delphi Method

- A group method for identifying and prioritizing needs.

- Delphi method was established in 1953 to gain the perspectives of military officers regarding war planning decisions.

- Delphi is credited to Norman Dalkey and Olaf Helmer and was pioneered by the US Department of Defense for making predictions about large-scale issues including war and population changes.

(Donaldson & Franck, 2016; Linstone & Turoff, 2002; Taylor-Powell, 2002)

Delphi Method Contd…

- Delphi Method is an "iterative process that involves repeated rounds of questionnaires to a selected group of respondents, considered to be experts in a given subject matter, until consensus is achieved".

- Responses to one round are summarized and developed into the next round questionnaire that seeks agreement or consensus.
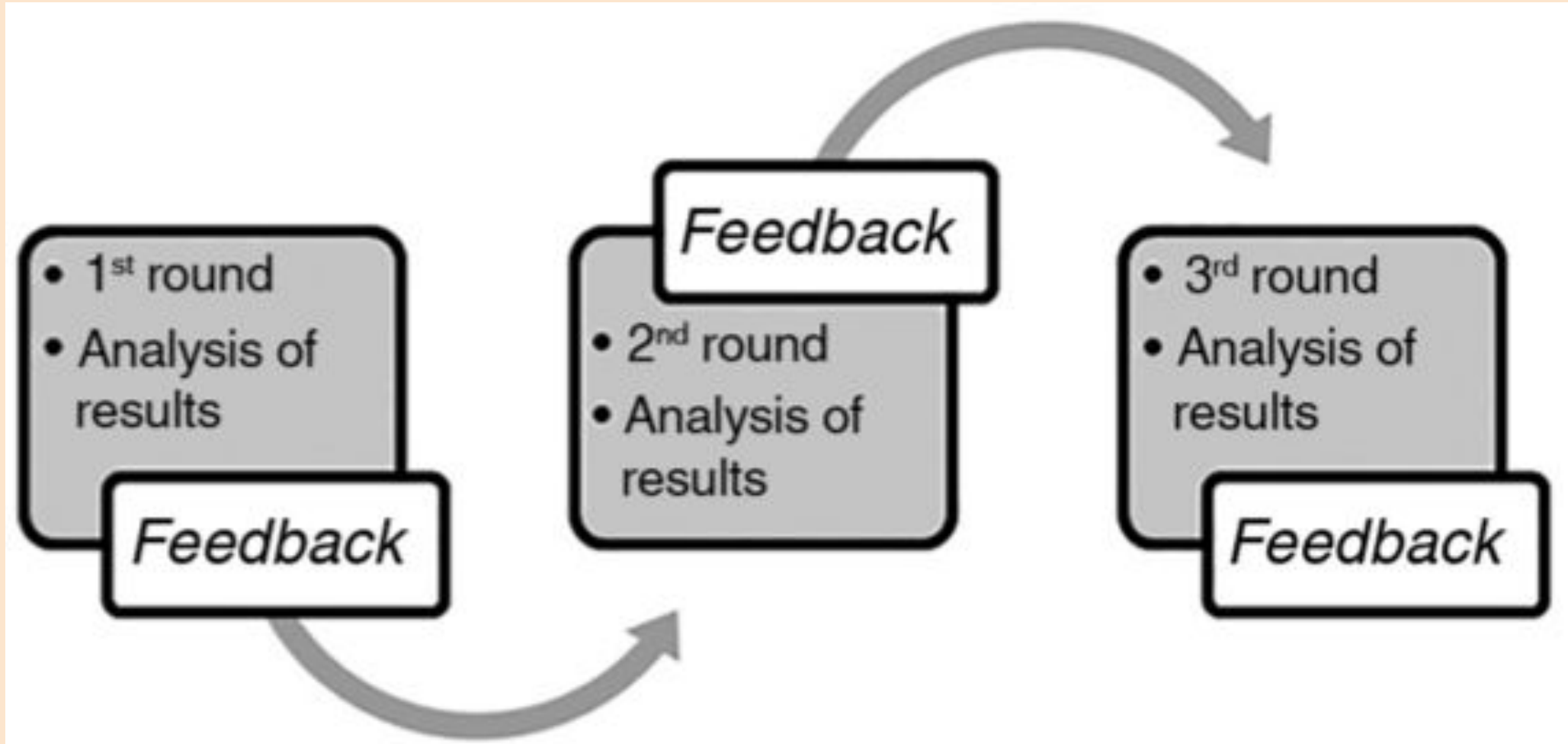
(Taylor-Powell, 2002)

Delphi Method Contd...

- Delphi has been used in Cooperative Extension for needs assessments, program planning, and evaluation.

- This method allows different groups to *identify their own key needs and issues without influence from other groups*.

- One of the main features - having multiple rounds of questions allows participants to consider and potentially revise or refine their original ideas based on the feedback of other participants.

- The Delphi process allows a more focused and thoughtful response than the one-time cross-sectional answers of a focus group or survey.

(Donaldson & Franck, 2016; Linstone & Turoff, 2002; Lorenzo, Balance, & Henson, 2003; Taylor-Powell, 2002)

Steps in Delphi Method

(Taken from John Diaz, 2021)

Steps in Delphi Method

1. Form a team and monitor resources to implement Delphi.
2. Identify the expert panel. *Define "expert".*
3. Contact Delphi panel and solicit participation. Be clear about the purpose.
4. Develop Round 1 Delphi questionnaire. (*Usually open-ended*).
5. Send the first questionnaire and collect returns. *Track nonrespondents and follow up.*
6. Analyze the first-round responses. *Usually sorting qualitative data.*
7. Administer Round 2 questionnaire. Panelists rate items. *Quantitative data.*
8. Analyze Round 2 responses. *Develop consensus definition apriori.*
9. Repeat Round 3. *Consensus is usually achieved in three rounds.*
10. Prepare report and share with participants.

Example Round 1 Questions

- What are the main issues farmers have in adopting regenerative agriculture practices in their farming?
- What is the most important issue facing youth in your county?
- What services do underserved residents in the county require to achieve food security?
- What competencies do UC ANR County Extension Advisors need to successfully evaluate their programs?
- What skills do students graduating from your high school need to be effective leaders in their community?

(Warner & Harder, 2020)

When to Use Delphi

- Panelists are recognized as experts in the topic and have credibility with the broader audience whose needs are being assessed.

- There are at least 13 people to serve on the panel.

- There is enough time available for needs assessment. There will be at least 3 rounds of data collection and analysis.

- Provide group interaction without having to meet face-to-face.

- Avoid direct confrontation of people with opposing views.

(Taylor-Powell, 2002; Warner & Harder, 2020)

Purposes for Which Delphi Can Be Used

- Establishing program objectives

- Planning for budget modifications

- Identifying professional competencies

- Supporting elements of curriculum development

- Exploring perceptions on policy

- Understanding personal motivations and values

- Exploring potential future options

(Taken from Warner, 2014 and 2021)

Fields Where Delphi Method Has been Used

- Cooperative Sector

- Rural Development

- Health Sciences

- Agricultural Education and Communications

- Private Industries

- Nonprofits

- Policy Space

- Agriculture Systems

- Public Health/Community Health

Benefits of Using Delphi Method

- Ability to identify needs without influence from outside groups.

- It is participant-driven.

- Avoidance of travel and meeting costs.

- Not limited by geographic area or time zone.

- Technique driven by participants.

- Participant anonymity and privacy.

- Flexible format.

- Avoidance of conflict among experts who may disagree.

(Taken from Warner & Harder, 2020)

Limitations Associated with Delphi Method

- Participants need stronger reading and analytical skills, which may exclude some experts.

- Need higher level of motivation to complete several rounds.

- Is time-intensive.

- May need other priority setting filters if consensus is not achieved.

(Warner & Harder, 2020)

Delphi Guest Speakers

John Diaz

Anil Kumar Chaudhary

Julia Van Soelen Kim & Yulia Lamoureaux

Guiding Questions for Guest Speakers

1. Share an example of how you used Delphi for needs assessment.

2. What have you found to be the main advantages of using Delphi for needs assessment compared to other methods?

3. Did you face any challenges while using Delphi, and if so, what best practices would you advise to overcome them?

4. Any other important points to keep in mind for using Delphi Method.

References

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Thank You

Questions

Steps in Delphi Method

- Step 1. Ask for nominations for experts to serve on the panel.

- Step 2. Invite nominees to participate in the process.

- Step 3. Round 1: Traditionally an open-ended question on the topic of interest (e.g. What is the great issue facing X in your county?

- Step 4. Round 2: Survey developed based on Round 1 responses. Participants asked to rank order using a rating scale.

- Step 5. Round 3: Survey developed from Round 2 survey. Participants provided summary of ratings for Round 2 and then asked to revise ranking based on the group scores and to clarify reasons.

- Step 6. Round 4: Final summary of rankings. Participants asked to review and revise rankings if needed.

(Taken from Donaldson & Franck, 2016)