QUESTIONNAIRE SURVEYS AND INTERVIEWS

Surveys are a popular method of collecting evaluative data. Surveys are used to measure people's opinions, attitudes, beliefs, behaviors, reactions, and attributes in response to specific questions. They can provide distributions of some characteristics in a population. This usually can be accomplished by surveying only a portion of the people (or units) in that population.

Surveys have several advantages. They are moderate in cost and it is relatively easy to reach large numbers of the population. They allow for anonymity of responses. Evaluators can also ask fairly complex questions about respondents' attitude and behaviors. Data can be requested from records and other sources. Surveys can be conducted using mail, personal interview, telephone, Internet, or administered in a group setting, such as workshops or classrooms. Each method has its own advantages and disadvantages.

MAIL SURVEY

A mail survey is the most frequently used type of survey in evaluation of agricultural extension and rural advisory service programs and requires the fewest resources.

Advantages of using a mail survey:

- Can be used with a large sample size and/or with a widely dispersed population or one that is not accessible by telephone or personal interviewing.
- Provides a visual display of questions
- Is free of interviewer bias.
- Enables respondents to give thoughtful answers and control the pace of responses.
- Are relatively inexpensive.

Limitations of using a mail survey:

- The questionnaire must be short and carefully designed.
- The response rate depends on the number of contacts made with the respondent and the timing of the mailing.
- There is little control over the completeness of the responses.
- Those who reply may not be representative of the target population.
- Pretesting of the questionnaire is necessary to avoid costly mistakes.
- It requires a literate population and a reliable postal system.

Basic Steps in Implementing a Mail Survey

Step 1. Prepare survey material. Design a written questionnaire, using an identification number on each questionnaire to track returns. The appearance of a mailed questionnaire is of utmost importance. A mailed questionnaire must "sell" itself to the respondent in order to be returned. Therefore, considerable care should be taken in designing the format of the questionnaire.

- A simple booklet can be constructed by folding an 8 ½ by 11-inch paper in half.
- Make questions fit the page so that the respondent does not need to turn the page to answer a question.
- Provide easy-to-follow directions on how to answer the questions.
- Arrange questions and answers in a vertical flow. Put answer choices under, rather than beside, the questions.

Step 2. Pretest instrument to assure validity and reliability.

Step 3. Select survey population, develop sampling frame, and determine sample.

Step 4. Develop a mailing schedule: a) Two weeks before mailing the survey, send an advance letter; b) mail the questionnaire, including a cover letter and a stamped, self-addressed envelope; c) send a postcard a week or so later, thanking those who responded and reminding those who did not to return their surveys; d) three weeks after mailing the first questionnaire, send a follow-up letter stating that a response has not been received; include a replacement questionnaire and a stamped, self-addressed envelope.

PERSONAL INTERVIEW SURVEY

Personal or face-to-face surveys are conducted by talking individually to respondents and systematically recording their answers to each question. Personal interview surveys administered in person are common method of survey data collection in the developing countries.

Advantages of a personal interview survey:

- It can be used with a highly dispersed population.
- It is suited for populations for which a representative sample cannot be drawn.
- It can be used where there is a low literacy rate.
- There is a high degree of control over who answers the survey.
- The interviewer can increase the willingness of respondents to answer questions.
- Visual aids can be used to facilitate understanding of survey questions.
- Questions can be fairly complex.

Limitations of a personal interview survey:

- It can be expensive and time-consuming.
- Interviewers must be carefully selected and receive adequate training.
- It requires a good supervisor.
- It requires appropriate training and close supervision.

Basic Steps in Implementing a Personal Interview Survey

Step 1. Develop survey material, including:

- an advance letter if names and addresses are available;
- an introductory letter explaining the purpose of the survey;
- an interviewer's instruction manual;
- sampling information for interviewers; and
- the questionnaire.

Step 2. Identify and train a staff of interviewers.

Step 3. Mail letters/circulars describing the survey and telling them to expect a visit from an interviewer. Also, Notify public officials about the survey.

Step 4. Conduct interviews. A supervisor should be available while the survey is being carried out to handle any problems that may arise.

Step 5. The supervisor should meet regularly with interviewers to answer any questions interviewers may have. Costly errors, misunderstandings, and cheating by interviewers can be detected at this time.

Step 6. After interviews are completed, the questionnaires are returned to the survey supervisor.

Interviewer bias is a major challenge in collecting quality data. Although it may be impossible to eliminate interviewer bias, it can be minimized.

- Training of interviewers prior to data collection.
- Being familiar with the research instrument.
- Maintaining a neat and professional appearance.
- Following sampling instructions properly.
- Being honest with the respondent.
- Asking questions exactly as written.
- Recording responses accurately.
- Checking for completeness of survey information.

Initiating contact:

- Introduce yourself; show your identification/ID or credentials.
- Remind respondent of the notification letter he or she received a few days earlier.
- Explain the purpose of the survey.
- Assure respondent that his/her answers are voluntary and will remain confidential.
- Explain how respondents were chosen.
- Explain "burden" and benefits (e.g., how long survey will take, how results will be used, incentives, potential benefits to them or the community)

Guidelines for interviewing:

- Select a mutually convenient time for interview.
- To avoid distractions, try to conduct the interview without distractions.
- Establish rapport by expressing appreciation of the respondent's responses and willingness to participate.
- Read questions as they appear in the questionnaire and record answers accurately.
- Do not express your opinions.
- If an answer to an open-ended question is incomplete or appears irrelevant, probe to get a clearer response.
- If a respondent refuses to answer a question, do not insist on getting an answer. It may jeopardize the entire interview, and doing so is inconsistent with the voluntary nature of their participation in the study.

TELEPHONE SURVEY

A telephone survey consists of a written questionnaire that is read to selected individuals over the telephone. The survey sample is often selected from a telephone directory or other lists. People on the list are interviewed one at a time over the phone. Responses are recorded by the interviewer either on paper or a digital tool (e.g., computer).

Basic Steps in Implementing a Telephone Survey

Step 1. Find suitable facilities and equipment necessary to implement the survey. Computer-aided telephone survey software is available. Make sure data collection staff is familiar with the survey software.

Step 2. Decide on a sampling design, including the method of respondent selection within a sampling unit. Choose the method to generate a pool of telephone numbers that will be used in sampling.

Step 3. Prepare survey material: An advance letter if names and addresses are available; the questionnaire (keep it short by asking only necessary questions); a cover sheet to record identification number and a call-sheet; and help sheets for the interviewer.

Step 4. Train interviewers on: background information about the survey; basics of telephone interviewing; how to use equipment; and how to fill out questionnaires and call-sheets.

Step 5. Develop an interview schedule. Assess when you will be likely to contact respondents, during working or non-working hours. (This will vary by country, occupation, local customs, etc.) For most surveys, approximately 30 minutes is sufficient to complete an interview. Decide how to handle refusals.

Step 6. Make calls. Decide on the number of calls to make to each number. In some surveys, six to seven calls are customary. Make callbacks.

Note: *Telephone questionnaires depend on oral communication, so special attention must be paid to designing a questionnaire that will assist the interviewer as much as possible in holding the respondent's attention. Design and construction of the questionnaire are based on utility rather than aesthetics.*

INTERNET OR ONLINE SURVEY

Internet or online surveys are similar to personal surveys except the mode of communication is via computer using the Internet. Internet or online surveys were a novelty until the late 1990s. Only a few households had e-mail connections and they were very slow with dial-up modems. Today, many households have high-speed internet access. University students, school teachers, professional workers and employees—all have access to the Internet and this method is gaining popularity.

Compared to mail surveys, Internet and online surveys, e.g., SurveyMonkey, have more power and flexibility due to the potential for incorporating built-in features such as:

- dropdown menus;
- slider scales;
- pictures or photos to illustrate scales;
- color, animation, sounds;
- video; and
- feedback screens and hotlinks.

GROUP-ADMINISTERED QUESTIONNAIRE

A group-administered questionnaire is handed directly to each participant in a group at the end of a workshop, seminar or program. Respondents answer the questions individually and return them to the person conducting the evaluation.

Basic Steps in Implementing a Group-administered Survey

Step 1. The questionnaire is prepared following the guidelines for constructing a survey instrument. However, the objectives and instructions for completing the questionnaire are explained to the participants by the instructor, supervisor, or agent. He or she also should tell attendees that their participation is voluntary, and assure them that their responses will remain confidential.

Step 2. The questionnaire is distributed to each participant to be filled out individually.

Step 3. The questionnaire is collected and checked for completeness.

CREATING QUALITY SURVEYS BY AVOIDING ERRORS

Sometimes surveys produce inaccurate results due to data collection errors. Accuracy means that survey results closely represent the population from which the sample has been drawn. Inaccuracy can be caused by several types of errors, including coverage error, sampling error, selection error, frame error, non-response error, or measurement error.

Although not all error can be eliminated, the evaluator can minimize the potential for various types of error by taking specific actions throughout the evaluation development and implementation process. Table 4 summarizes the type of errors and how to minimize them.

Table 4: Types of Survey Errors and Ways to Control Them

Type of Error	Cause of Error	Control of Error
Coverage error	The sampling frame does not include all units of the population.	Redraw list from which the sample is drawn to include all elements of the population.
Sampling error	A subset or sample of all people in the population is studied rather than conducting a census.	Increase the size of the sample; use random sampling; purge list of duplicate entries.
Selection error	Some sampling units have a greater chance of being chosen than others are.	Use random sampling
Frame error	List is inaccurate or some sampling units are omitted.	Use up-to-date, accurate list.
Non-response error	Subjects can't be located or they fail to respond. Sometimes people who do respond to a survey are different from sampled individuals who do not respond.	Dillman (1994) suggests the use of a social exchange concept to improve response rate, i.e., increase respondents' perception of possible rewards (e.g., provide token incentives), decrease perceived costs (e.g., time) and encourage trust (e.g., promote trust by showing trustworthy sponsorship) so that rewards outweigh costs. Miller and Smith (1984) suggest the following strategies: • Compare early and late respondents. If no difference is apparent, results can be generalized. • Contact 10% of non-respondents and compare these data with the respondents. If no difference is apparent, results can be generalized.

Type of Error	Cause of Error	Control of Error
		• Compare respondents to non-respondents on known characteristics. If no difference is apparent, the results can be generalized.
Measurement error	A respondent's answer is inaccurate or vague. This may be due to: unclear questions or instructions; socially correct responses, respondent not knowing the correct information, or deliberately lying.	• Choose appropriate method of data collection for your evaluation. • Write clear, unambiguous questions that people can and want to answer. • Train your interviewers carefully. • Use valid and reliable instruments.

GENERAL GUIDELINES FOR QUESTIONNAIRE DESIGN:

The overall aim of questionnaire design is to solicit quality participation. Response quality depends on the trust the respondent feels for the survey, the topic, the interviewer and the manner in which the questions are worded and arranged. Consider whether the questionnaire is going to be mailed, given directly to respondents, used in a telephone survey, or used in personal interviews. Before you begin, it is essential to know what kind of evidence you need for the evaluation, how the data will be analyzed, and how the information will be used.

Before you begin…

- Make a list of what you want to know and how the information will be used.
- Check to make sure the information is not already available somewhere else.
- Eliminate all but essential questions.
- As you write questions, try to view them through the eyes of the respondents.

Guide to Writing Questions and Designing a Questionnaire

1. The title and accompanying graphic of the questionnaire should appeal to the respondents.
2. The type used should be large and easy to read.
3. The questionnaire should appear professional and easy to answer.
4. The introduction should identify the audience, describe the purpose of the survey, and give directions about how to complete the questionnaire.
5. Questions should not appear crowded. Each question should be numbered and sub-parts of a question should be lettered.
6. Questions should be arranged in a logical order, with general questions preceding more specific ones. Easy-to-answer questions come first, followed by increasingly complex, thought-provoking, or sensitive questions. Personal or potentially threatening questions should be placed at the end. A request for demographic information should be included near the end of the questionnaire.
7. Sufficient space should be left for answering open-ended questions.
8. Clearly indicate where branching occurs and where general questions resume.
9. Key words should be boldfaced or capitalized to minimize the possibility that they are misread.
10. The questionnaire should end with a "Thank You."

WRITING QUESTION ITEMS

The questions used in a questionnaire are the basic components that influence the effectiveness of your survey. Writing good questions is not easy and usually takes more than one try. Consider what information to include, how to structure the questions, and whether people can answer the questions accurately. Good survey questions are focused, clear, and to the point. Questionnaire writers should consider question specificity, meaning, length, and potential bias when writing individual questions.

Specificity: Every question should focus on a single, specific issue or topic.

> **Poor:** Which brand of coffee do you like best?
>
> **Better**: Which one of these brands are you most likely to buy – Folgers, Starbucks, or Maxwell House?

The objective of the questions above is to measure consumer purchasing preference. The first question lacks focus; consumers may like a particular brand, but may not buy it because of its high price.

Meaning: The meaning of the question must be completely clear to all respondents. Clarity ensures that everyone interprets the question the same way.

> **Poor:** When was the last time you went to the doctor for a physical examination on your own or because you had to?
>
> **Better:** How many months ago was your last physical examination?

The first question could be interpreted in weeks, months, years, or by date.

Length: Keep questions as short as possible. Short questions are easier to understand and answer, and are less subject to error by interviewers and respondents. Long questions are more likely to lack focus and clarity.

> **Poor:** Can you tell me how many children you have, whether they're boys or girls, and how old they are?
>
> **Better**: What is the age and sex of each of your children?

A respondent may answer the first question ambiguously. For example, "I have two boys and a girl. They are 5, 7, and 10 years old." It is not possible to determine the ages of each child from this response.

Bias: Questions should be written to avoid bias.

> **Poor:** Is it true that our agents always work long hours?
>
> **Better:** On average, how many hours per week do extension agents work in their jobs?

TYPES OF INFORMATION

Questions can be formulated to elicit four types of information: 1) knowledge, 2) beliefs, attitudes and opinions, 3) behavior, and 4) attributes. Any one, or a combination, of these types can be included in a questionnaire.

Knowledge questions include what people know and how well they understand something.

Example: What is the major cause of accidental deaths among children inside the home?

Belief, attitude and opinion questions solicit people's perceptions, their thoughts, their feelings, their judgments, or their ways of thinking about the topics or issues of interest.

Example: Should the Clearwater Regional Education Center in Minor County continue to offer college-level and/or continuing education courses and programs? Why/why not?

Behavioral questions ask people about what they have done in the past, what they do now, or what they plan to do in the future.

Example: Have you or your family ever taken classes at the Clearwater Regional Education Center in Minor County?

Attributes are a person's personal characteristics, such as age, education, occupation, and income. Attribute questions ask respondents who they are, not what they do.

Examples:

Where do you currently live?

How many children do you have?

What percentage of your household income comes from off-farm employment?

There are basically two distinct types of questions asked in a survey – closed-ended questions and open-ended questions.

Closed-ended questions

Closed-ended questions have pre-determined categories of responses from which the respondent can choose. When asking closed-ended questions, make sure to include all alternative response categories. Sometimes an "other" category is provided, with space for respondent to specify. For some questions, respondents must choose only one response; for others, they may select as many as are relevant.

Examples of Closed-ended Questions

1. Have you or members of your family taken classes at the Extension Center this year?
   ___Yes ___ No

2. To what extent do you agree or disagree with the new land tax policy? Circle one.

   Strongly disagree Disagree Neither Agree Strongly agree

3. Approximately, how much did you spend on fertilizer during 2011?

   ___None ___$1 -100 ___$101-200 ___$201 and more

Open-ended Questions

Open-ended questions allow respondents to answer in their own words rather than select from predetermined answers.

Examples of Open-ended Questions

1. How do you plan to use the information acquired during this training?
2. What do you think should be done to improve the 4-H program in this county?
3. How much did you spend on fertilizer in 2011? _______

PRE-TESTING EVALUATION INSTRUMENTS

Pre-testing means trying the method and the instruments before actual data collection in the field. It is usually associated with quantitative methods, though qualitative and participatory methods can be pre-tested as well. The pre-testing process avoids costly errors and wasted effort. When possible, pre-testing should be done in circumstances similar to those anticipated during the evaluation. If feasible, use the same sampling plan you will use during the evaluation to select a mini-sample.

In pre-testing, we ask questions such as**:**

- Are the issues to be discussed, the questions to be asked, and/or the words to be used clear and unambiguous?
- Is the technique or instrument appropriate for the people being interviewed or observed?
- Are instructions for the interviewer or observer easy to follow?
- Are the techniques and/or forms for recording information clear and easy to use?
- Are procedures standardized?
- Will the technique or instrument provide the necessary information?
- Does the technique or instrument provide reliable and valid information using the criteria of the chosen data collection approach?

You may find that you have to modify the technique or instrument after field testing. If extensive revisions are made, a second field test may be necessary.

Students and beginning practitioners frequently ask, "which one is better, mail, telephone or online/Internet?" Advantages, disadvantages, and basic steps for implementing each are described below.

Which one to choose… mail, personal interview, telephone or Internet survey?

Coverage is an issue for online and telephone surveys. Not all people have access to the Internet or telephone service. Mail surveys may not be appropriate for contexts in which mailing addresses or postal services are not reliable, or target segments of the population cannot read or write. The context of your evaluation, the nature of evaluation questions to be answered, and the resources available for data collection may dictate the choice of method. Each method has advantages and disadvantages. These must be considered, along with characteristics of the context, costs, time available, purpose, and other factors, when choosing an appropriate survey type.

Mail is the method of choice when: (a) size of sample is large, (b) visual display of questions is needed, (c) educational level of respondents is high, (d) respondents are dispersed in a large geographical area, and (e) the budget is low. If designed properly, the surveys can generate valid and reliable information. A mail survey, however, should be avoided if the target population has low education, survey questions are open-ended, postal services are inadequate or weak, or sampling frames are inadequate or not available.

Online or Internet survey is better when: (a) e-mail addresses of respondents are available, (b) respondents have access to the Internet, (c) sample size is large and the budget for data collection is low, and (d) survey needs to be completed in a short time.

Telephone survey is the method of choice when: (a) respondents are widely dispersed geographically, (b) speed in data collection is essential, (c) sample size is small, and (d) cost is not a big factor. Telephone surveys may yield a higher response rate than mail surveys. To some extent, interviewers can explain questions not understood by the respondents. Telephone surveys, however, should be avoided if we need to ask long and complex questions and/or bias against people without telephones cannot be tolerated. The cost may be higher than a mailed questionnaire, it requires good interviewing skills, and there is a natural bias in favor of those with listed numbers and those who are usually in their homes. It requires clear and simple questions. If a respondent is unfamiliar with the organization or caller, there might be indifference and/or poor cooperation.

Group administered surveys are used when: data are to be gathered under group situations like at the end of workshop, seminar, classroom, etc. This approach has two major advantages: (a) there is little or no cost in reaching respondents and (b) the purpose behind asking for the information can be clearly explained. The disadvantages include: (a) limited generalizability of information to a larger population, (b) it takes time away from the regular program, (c) group mood or setting at the time may affect responses, and (d) it does not allow for long term reactions and changes.

Evaluators could use "mixed-mode surveys" to collect some data by mail and some by telephone when (a) one method won't get an adequate response rate and/or (b) faced with sampling problems. Dillman (1994) warns that mixed-mode surveys should be avoided when key evaluation questions involve attitude and/or social desirability.

As program evaluators, we should put special effort into holding all of the above four types of errors to acceptable levels while designing the evaluation.

FOCUS GROUP

Focus groups often are used in marketing research to find out what a particular component of the public needs or wants, and what they will consume. In recent years, this technique frequently has been used to identify community needs and issues, to obtain citizens' perceptions on a defined area of interest, to generate program alternatives, and to assess the impacts of a particular program on individuals and communities. Focus group interviewing uncovers information on human perceptions, feelings, opinions, and thoughts.

A focus group typically is composed of seven to ten participants, with members selected because they have certain characteristics in common, or interests that relate to the topic of the focus group (Krueger and Casey, 2000).

> A focus group is a small group, typically consisting of 7 to10 people who are relatively homogeneous, which is selected to discuss a specific topic in a non-threatening atmosphere. The focus group is moderated and recorded by a skilled interviewer. A focus group identifies community needs and issues, citizens' attitudes, perceptions, opinions on specific topics, and impacts of a particular program on individuals and communities.

Focus groups should be conducted by a skilled interviewer. The interviewer should create an open environment in the focus group that nurtures different perceptions and points of view, without pressuring participants to vote, plan, or reach consensus. Krueger and Casey (2000) suggest that the discussion needs to be relaxed, comfortable, and potentially enjoyable for participants as they share their ideas and perceptions. The group discussions should be conducted several times with similar types of participants to identify trends and patterns in perceptions. Careful and systematic analysis of the discussions provides clues and insights as to how a product, program, or service is perceived.

HOW TO BEGIN A FOCUS GROUP DISCUSSION

The first few moments in a focus group discussion are critical. In a brief time, the moderator must create a thoughtful, open atmosphere, provide the ground rules, and set the tone of the discussion. Much of the success of group interviewing can be attributed to the development of this open environment. The recommended pattern for introducing the group discussion includes: the welcome, the overview and topic, the "burden for participation," the ground rules, reaffirmation of confidentiality and voluntary nature of participation, and an invitation for participants to introduce themselves.

A program evaluator may consider the following guidelines (Adapted from Krueger & Casey (2000)):

- Consider your purpose: Why do you want to conduct a focus group interviews? Who are the users of this information? Why do they want the information?
- Develop a tentative plan, including resources needed.
- Identify the questions to be asked in the interview, including both primary and follow-up guiding/probing questions.
- Arrange a suitable meeting place in a convenient, preferably neutral, location. It could be a meeting room in the Courthouse, at a local restaurant, or school.
- Identify the audience who will be interviewed. Invite them well in advance. Explain to them the purpose of the meeting and how they can contribute. Reconfirm their availability to participate in the session.
- Identify a trained moderator (and an assistant) to conduct the focus group interview. The moderator must be mentally alert and free from distractions. He or she should help create a warm and friendly environment.
- Arrange the meeting room for the interview. Check the seating arrangements.
- Conduct focus group interviews. The moderator should: again explain the purpose and get written confirmation of consent; reassure participants about the voluntary nature of the study and the confidentiality of their responses; tape record the session; and guide discussion.
- Immediately after the interview, the moderator and assistant moderator discuss common experiences and perceptions that surfaced during the interview. They should review the tape together before the next focus group is conducted.
- Transcribe the taped discussion, then summarize what was said by the participants. Identify and analyze emergent themes. Analysis and interpretations should focus on meaning: What do the findings mean to you? Are the findings of value to the stakeholders? What recommendations are in order?
- Prepare a short report and share the findings with your stakeholders.

Carefully prepare primary and probing guiding questions.

Identify potential questions. Five types of questions are:

- Opening questions (round-robin)
- Introductory questions
- Key questions
- Transition questions
- Ending questions

Use open-ended questions to stimulate discussion.

What did you think of the program?

Where do you get new information about _______?

What do you like best about the proposed program?

Avoid dichotomous questions (those that can be answered with “yes” or “no”).

“Why” questions are rarely asked.

“Why” questions can make people defensive and feel the need to provide an answer.

When you ask “why,” people usually respond with attributes or influences.

It’s better to ask, “What prompted you?” or “What features did you like?”

Use “think back” questions that remind respondents of an experience rather than asking them to speculate on the future.

During discussion, ask uncued questions first, cued questions second.

Cues are the hints or prompts that help participants recall specific features or details. These are often called “probing questions.”

Focus the discussion by using a sequence of questions that proceeds from general questions to those focusing on specific topics or issues of concern.