CHAPTER TWO

DESIGNING EFFECTIVE QUESTIONNAIRES

Basic Guidelines

At the heart of survey research is the questionnaire development process. The key considerations in this process, including the placement of questions within the survey instrument and their format in terms of the method of implementation (telephone, mail-out, web-based, intercept, or in-person interviews), form the basis of this chapter. The discussion of these issues takes place within the context of sample questions and exhibits derived from actual questionnaires and survey instruments that we have implemented in our professional sample survey projects. This chapter discusses certain general, macro-questionnaire development considerations; chapter 3 delves more deeply into specific questions—or a microlevel examination of questionnaire development.

Be aware that no questionnaire can be regarded as ideal for soliciting all the information deemed necessary for a study. Most questionnaires have inherent advantages as well as inherent flaws. The researcher must use experience and professional judgment in constructing a series of questions that maximizes the advantages and minimizes the potential drawbacks. The guidelines detailed in this chapter recognize that there are a large number of considerations that the researcher must address in the process of questionnaire development. Sound questionnaire construction is a highly developed art form within the practice of scientific inquiry.

In the initial stages of the survey research process, it is important to determine the relevant issues that bear on the purpose of the research. Because social science research spans so many disciplines, it is impossible for any researcher to be fully knowledgeable in all the fields of study that might call on survey research services and skills. In addressing the complex multidisciplinary nature of survey research in the social sciences, the researcher can respond in two ways.

First, the principal investigator often seeks to construct a team of experts who jointly plan and implement the research study. This team represents both technical expertise and substantive knowledge of the political, socioeconomic, and cultural environment associated with the project. Second, with or without such a research team in place and as a prelude to the development of survey questions, the investigators must gather preliminary information about issues of importance from interested parties and key individuals. These issues will derive in whole or in part from the three types of information elaborated on in chapter 1: descriptive, behavioral, and preferential. This preliminary information is best generated in a group setting where issues and problems of relevance to the study can be debated, discussed, and refined openly and constructively. Foremost among these preliminary information-gathering techniques is the focus group, a semistructured discussion among individuals deemed to have some knowledge of or interest in the issues associated with the research study. Group participants are brought together in roundtable discussions run by a group leader or moderator. The discussion that ensues should contribute significantly to an understanding of the key substantive issues

necessary for the development of the questionnaire. A full discussion of the use of focus groups in the survey research process is presented in chapter 4.

At the conclusion of this preliminary information-gathering stage, the key issues that have emerged must be outlined and specified. This list of issues should be submitted to members of the discussion groups for clarification, confirmation, and perhaps further explanation. After this review, the researchers can prepare a draft questionnaire or survey instrument. If the research study has been commissioned by public agencies or private clients, as is frequently the case, the draft questionnaire should be reviewed by these parties for content and to ensure that the questions are consistent with the objectives of the study.

Once the researcher is satisfied with the draft questionnaire, the next step is to conduct a pretest—a small-scale implementation of the draft questionnaire that assesses such critical factors as the following:

Questionnaire clarity: Will respondents understand the questions? The researchers may find that certain ambiguities exist that confuse respondents. Are the response choices sufficiently clear to elicit the desired information?

Questionnaire comprehensiveness: Are the questions and response choices sufficiently comprehensive to cover a reasonably complete range of alternatives? The researchers may find that certain questions are irrelevant, incomplete, or redundant and that the stated questions do not generate all of the important information required for the study.

Questionnaire acceptability: Such potential problems as excessive questionnaire length or questions that are perceived to invade the privacy of the respondents, as well as those that may abridge ethical or moral standards, must be identified and addressed by the researchers.

The sample size for the pretest is generally in the range of twenty to forty respondents; however, for very large sample surveys, it is not uncommon for a pretest to contain a larger sample. The researcher is not really interested in statistical accuracy at this point; rather, interest centers on feedback concerning the overall quality of the questionnaire's construction. Accordingly, the researcher will select respondents from among the working population but need not be concerned about selecting them through a random sampling procedure (chapter 9) or in accordance with sample size requirements (chapter 8). Because statistical inferences are not the primary intent of the pretest, the researcher can be particularly sensitive to cost and time considerations—hence, the relatively small number of respondents. For example, a study that attempts to obtain information about teenagers might conduct a pretest using one or two high school classes. The members of the classes would very likely be individuals in the appropriate age category, and the classes could be surveyed quickly, conveniently, and efficiently. Clearly not all teenagers are high school students; therefore, the high school classes would not necessarily represent the exact characteristics of the respondents in the final study. However, this degree of precision in the selection of pretest respondents is not required. The only requirement is that the pretest respondents bear a reasonable resemblance to the study's actual general population.

Following the pretest, the researchers must revise the questions as needed. They may want to perform a further pretest if these revisions are extensive. Otherwise the final questionnaire can be drafted and prepared for implementation in an actual study.

Introducing the Study

A questionnaire is a conversation, and, like most other conversations, it builds on itself, beginning with an introduction. It is important to inform potential respondents about the purpose of the study in order to convey its importance and alleviate any concerns that potential respondents are likely to have. From the researcher's point of view, there is a need to convince potential respondents that their participation is useful to both the survey's sponsor or client and the respondents themselves. Any concerns that respondents may have regarding time and inconvenience, confidentiality, and safety should be allayed. The respondent must be assured that all answers are valuable—that there are no “correct” or “incorrect” responses.

An introductory statement should contain certain components. First, the organization or agency conducting the study should be mentioned (unless that information itself would be biasing). The introduction should state the relationship between the sponsoring institution and the potential respondent. A great deal of credibility can be gained for the study if the sponsor is a governmental body that in some way represents the respondent. An introduction that contains a reference similar to the following can be quite successful in establishing credibility: “The City of Chicago is conducting a survey of residents in order to assess community opinions about services provided by your local police department.”

A general statement establishing the objectives and goals of the study and the significance of the results to the respondents themselves should follow the client reference. Potential respondents are more likely to participate when they perceive that the study's findings will have a direct impact on their well-being—for example: “It is the purpose of this study to identify those needs that the residents of the city feel should be addressed in order to maintain a peaceful and secure community.”

The basis of sample selection should be made clear so that the respondent understands that there are no hidden agendas or undisclosed motivations behind the questionnaire. The characteristics the respondent possesses that led to his or her inclusion in the sample should be clearly delineated—for example: “Chicago is particularly interested in the opinions of new residents, and as such you have been selected at random from a list of new residents of the city.”

The respondent must be assured that his or her participation is valued and that answers are neither correct nor incorrect. He or she must be assured that participation is strictly protected in terms of

confidentiality—for example: “You should know that there are no right or wrong answers and that your responses will be treated confidentially. Survey results will in no way be traceable to individual respondents.”

Because of the more personal nature of telephone, intercept, and in-person interviews, the interviewer should, as a matter of courtesy, identify himself or herself by name and obtain permission to proceed with the survey questions.

A telephone, intercept, or in-person interview preamble might also include some estimate of the time required in order to complete the questionnaire. In the case of a mail-out questionnaire, the respondent should be able to judge this by direct observation of the instrument received in the mail.

A mail-out questionnaire should also include brief return mail instructions, such as, “Please drop your postage-paid, preaddressed response in the mail by June 15.”

Exhibit 2.1 is an example of a mail-out or web-based introduction that addresses the issues discussed above. Verify that the preamble contains the essential information. Exhibit 2.2 is an example of a telephone interview introduction. Once again, cross-check the highlighted issues against the example.

Because of the personal, physical presence of the researcher in face-to-face interviewing, exhibit 2.2 can be revised into a somewhat less formal, more conversational format in this type of questionnaire administration. Exhibit 2.3 reflects these changes.

Dear Omaha Resident [applicable respondent characteristic]:

We need your help [participative value]! The City of Omaha [organization identification/credibility] is conducting a survey of all households in the city [basis of sample selection]. The information you provide will be useful in helping your City Council provide services and programs to meet the needs and wishes of the residents [goals and objectives of study].

Please take the time to complete the enclosed questionnaire. There are no correct or incorrect responses, only your much-needed opinions [responses neither right nor wrong]. This form contains an identification number that will be used for follow-up purposes only. All responses will be treated confidentially and will in no way be traceable to individual respondents [confidentiality] once the survey

process has been concluded. Please drop your postage-paid, preaddressed envelope in the mail by June 24 [return mail instructions].

Thank you for your assistance. We care what you think [participative value].

Sincerely,

Joan W. Jensen

Mayor [credibility]

EXHIBIT 2.1. MAIL-OUT INTRODUCTION.

Good evening (afternoon/morning). My name is Joseph Sparks [interviewer's name]. The City of Lincoln [organization identification/credibility] is currently conducting a survey of Lincoln residents [applicable respondent characteristic] concerning the future development of library facilities for the city [goals/objectives of study].

Your household was selected at random [basis of study selection] to provide information and opinions regarding library facilities in the city of Lincoln.

We would greatly appreciate a small amount of your time [time] and your input on this important issue [participative value]. There are no correct or incorrect responses, so please feel free to express your opinions [responses neither right nor wrong]. Your responses will be treated confidentially and will in no way be traceable to you [confidentiality].

May I ask you a few short questions [time/permission]?

EXHIBIT 2.2. TELEPHONE INTRODUCTION.

Hello, my name is Emily Norton [interviewer name]. The City of Lincoln [organization identification/credibility] is conducting a survey of its residents [applicable respondent characteristic] concerning the city's future development of library facilities [goals/objectives of study].

Your household was randomly selected [basis of sample selection] to provide information and opinions about library facilities.

Would you be willing to answer a few short questions [time/permission] on this important issue [participative value]? Please feel free to express your opinions, because there are no correct or incorrect responses [responses neither right nor wrong].

The questionnaire form we complete today will not be marked in any way that would identify you [confidentiality].

EXHIBIT 2.3. IN-PERSON INTRODUCTION.

Sequence of Questions

The order in which questions are presented can affect the overall study quite significantly. A poorly organized questionnaire can confuse respondents, bias their responses, and jeopardize the quality of the entire research effort. The following series of guidelines for sequencing questions has been created to enable researchers to develop a well-ordered survey instrument.

Introductory Questions

The first questions should be related to the subject matter stated in the preamble but should be relatively easy to answer. Introductory questions should elicit a straightforward and uncomplicated opinion or derive basic factual—but not overly sensitive—information—again, as would a conversation. The main purpose of the early questions is to stimulate interest in continuing with the questionnaire without offending, threatening, confusing, or boring the respondent.

For a study designed to determine customer satisfaction among residents of a water district in Southern California, the authors developed a questionnaire that began with the following questions:

Q1. How long have you been a customer of the Applewood Water District?

_____ Less than 1 year

_____ 1 year and under 3 years

_____ 3 years and under 5 years

_____ 5 years and under 10 years

_____ 10 years and under 15 years

_____ 15 years and under 20 years

_____ 20 years or more

Q2. In what area of the Applewood Water District do you live?

_____ Canyon District

_____ Foothill District

_____ Beach District

Q3. On a scale of 1 to 5, where 1 = very good and 5 = very poor, how would you rate your overall satisfaction with the Applewood Water District as your water service provider?

_____ Very good

_____ Good

_____ Neither good nor poor

_____ Poor

_____ Very poor

The first two questions are of a basic, factual nature. The third question, although eliciting an opinion, is uncomplicated; however, it is germane to the key focus and sufficiently stimulating to secure the respondent's continued interest.

Sensitive Questions

Certain questions deal with sensitive issues, such as religious affiliation, ethnicity, sexual practices, income, and opinions regarding highly controversial ethical and moral dilemmas. It is recommended that these questions be placed late in the questionnaire, for two fundamental reasons.

First, if respondents react negatively to such questions and decide to terminate their participation in the questionnaire, the information obtained on all previous questions may still be usable in the overall

survey results, because enough information may have been obtained to warrant acceptance of the interview as a completed survey with only a few questions remaining unanswered. Second, if rapport has been established between the interviewer and the respondent during the course of the survey process, there is an increased likelihood that the respondent will answer sensitive questions that come late in the questionnaire.

Related Questions

Questionnaires generally have a certain frame of reference, as indicated by their goals and objectives. Within this overall context, there are several categories of questions. For instance, the questionnaire soliciting opinions from water district customers contained questions relating to communication, water rates, conservation, outdoor watering, desalination, water recycling, social media, and demographic data.

Proper questionnaire design dictates that related questions be placed together within the questionnaire so that the respondent can focus and concentrate on specific issues without distraction. In order to facilitate this, it is sometimes appropriate to separate categories of questions by providing a distinct heading that characterizes each section. In terms of communication issues regarding the Applewood Water District website, the following question sequence can be considered to be an acceptable one.

Q1. Have you ever visited the Applewood Water District website?

1. _____ Yes

2. _____ Have access to Internet but have not visited website → GO TO Q3

3. _____ Do not have access to the Internet——→GO TO Q4

9. _____ Do not know → GO TO Q4

Q2. [IF Q1 = 1] On a scale of 1 to 5, with 1 being very good and 5 being very poor, how would you rate the user friendliness of the website? Would you say:

_____ Very good

_____ Good

_____ Neither good nor poor

_____ Poor

_____ Very poor

Q3. [IF Q1 = 2] Do you think that you would use the website more if a chat function were available that allows you to ask questions directly to a customer service representative?

1. _____ Yes

2. _____ No

9. _____ Do not know

If these same questions were to be commingled with questions from other categories, the resulting questionnaire would be much less likely to produce clear, well-formulated responses. You should be able to verify this by examining this less acceptable question order:

Q1. Do you feel that water costs too much, too little, or priced about right?

_____ Water costs too much

_____ The cost of water is just about right

_____ Water costs too little

Q2. Does your landscaping include a lawn?

_____ Yes

_____ No

Q3. Have you ever visited the Applewood Water District website?

_____ Yes

_____ Have access to Internet, but have not visited website

_____ Do not have access to the Internet

While it is generally desirable to arrange questions pertaining to a particular subject in the same section of the questionnaire, it is also important to be cognizant of creating a patterned series of responses. Consecutive questions that tend to evoke reflexive responses, given without adequate thought, should be minimized.

Note that the sequence of questions in exhibit 2.4, which is part of a commercial business survey, could well produce an automatic, unidirectional set of responses unless the respondent is sensitized to the subtle but important differences among the questions. This process of sensitizing will tend to minimize the risk of reflexive responses and is accomplished in this example by italicizing the essential distinctions.

What types of additional businesses, if any, do you feel are needed in the City of Poway to help serve your business needs? (Please check no more than three types of businesses.)

Types of Businesses

_____ Food/market

_____ Food/specialty store (bakery, deli, etc.)

_____ Restaurant/dinner house

_____ Restaurant/other (specify)

_____ Retail/department store

_____ Retail/specialty store

_____ Professional

_____ Services/supplies/equipment

_____ Light industry

_____ Other (specify) _____

_____ Other (specify) _____

_____ Other (specify) _____

What types of additional businesses, if any, do you feel are needed in the City of Poway to help serve the needs of your employees? (Please check no more than three types of businesses.)

_____ Food/market

_____ Food/specialty store (bakery, deli, etc.)

_____ Restaurant/dinner house

_____ Restaurant/other (specify)

_____ Retail/department store

_____ Retail/specialty store

_____ Professional

_____ Services/supplies/equipment

_____ Other (specify) _____

_____ Other (specify) _____

_____ Other (specify) _____

What types of additional businesses, if any, do you feel are needed in the City of Poway to help serve the needs of your customers? (Please check no more than three types of businesses.)

Types of Businesses

_____ Food/market

_____ Food/specialty store (bakery, deli, etc.)

_____ Restaurant/dinner house

_____ Restaurant/other (specify)

_____ Retail/department store

_____ Retail/specialty store

_____ Professional

_____ Services/supplies/equipment

_____ Other (specify) _____

_____ Other (specify) _____

_____ Other (specify) _____

EXHIBIT 2.4. SERIES OF QUESTIONS DEMONSTRATING SENSITIZING OF RESPONDENTS.

Alternative approaches to minimizing this risk of patterned responses may include the more frequent use of open-ended questions (without fixed alternative responses), questions that change the order of the fixed responses from question to question, or questions that vary substantially in terms of wording or length. The potential disadvantages of such tactics are that the respondent's thought focus may be disrupted or the respondent might become confused, thereby defeating the purpose of grouping these questions in the first place. Because several considerations must be balanced in the grouping of questions, the pretest becomes of paramount importance to identify the potential for inadvertently eliciting response patterns and to minimize any such impact on the study.

Logical Sequence

There is frequently a clear, logical order to a particular series of questions contained within the survey instrument. For instance, an appropriate time sequence should be followed. If questions are to be posed concerning an