# Figure 3.7. SAMPLE SURVEY DESIGN/EXECUTION: Pretesting Questionnaires

The information on pretesting questionnaires in this Figure 3.7 has been adapted from materials provided through the courtesy of Statistics Canada; it is reproduced here by authority of the Minister of Industry, 1996, Statistics Canada.

## PRETESTING QUESTIONNAIRES

*Based on the paper "Informal Testing as a Means of Questionnaire Development" by Dawn D. Nelson (U.S. Bureau of the Census, Demographic Surveys Division). Published in Statistics Sweden's* Journal of Official Statistics *(Vol. 1, No. 2, 1985, pp. 179-188).*

Contents



### General

- A pretest involves a relatively small number of field interviews carried out for the purpose of detecting and correcting problems in a proposed questionnaire and depends mainly upon subjective evaluations for suggestions on improving the questionnaire.
- Pretesting is a fundamental step in the process of developing a questionnaire.
- Pretesting is a relatively simple and inexpensive technique of improving questionnaires.

### Use of Pretests

- Pretests are particularly useful for discovering poor question wording or ordering, errors in questionnaire layout or instructions, and problems caused by the length of the questionnaire or the respondent's inability or unwillingness to answer the questions.
- Pretests also are used to assess the feasibility of using a particular concept in a questionnaire, to determine if the questions seem to elicit appropriate responses, and to suggest additional questions or response categories that can be precoded on the questionnaire.
- Pretests can obtain relevant information which might affect the final questionnaire design (*e.g.*, a preliminary indication of the interview length and refusal problems).

### The Sample for the Pretest

- The pretest sample can range in size from 20 or 25 respondents to 100 or more respondents.
- If the main purpose of the pretest is to discover wording or sequencing problems, only a minimum number of interviews may be required.
- More interviews (50-100) are generally necessary to determine precoded answer categories based on open-ended responses obtained in a pretest.
- The maximum number of interviews may be needed if the results will be used to select items for inclusion in attitude scales
- Respondents generally are selected purposively rather than randomly. Convenience and low cost are usually the main factors in selecting a location for the pretest.

### Design Issues

(a) **The questionnaire composition**

- The entire questionnaire or only a portion of it may be tested. When only one test is planned, it is advisable to use the entire questionnaire even if some of the questions were adopted from other surveys.
- When a series of tests is planned, one or more of the pretests may be devoted to a particular portion of the questionnaire that is expected to be troublesome. The last test in the series should use the entire questionnaire to show how the various sections work together.
- Two or more versions of the question (or answer) wording or order may be tested.

(b) **The interviewing method**

- If there is to be only one test, the questionnaire probably should be administered in the same manner as planned for the main survey (*e.g.*, interviewer-administered in person or by telephone). Interviewers and observers can be used as a source of feedback.
- As part of a series of tests in which the pretest will be used only for a preliminary indication, a different method may be justified to save time and/or costs.
- A pretest of a mail questionnaire is more effective if interiewers are used. Interviewers could be used to deliver the questionnaire and, afterwards, to discuss any problems.

(c) **The selection and training of interviewers**

- There are advantages in selecting skilled, experienced interviewers for pretests. With such interviewers, it is more likely that question misunderstandings or difficulties will be due to questionnaire design deficiencies rather than to the interviewer. They can also provide considerable assistance in improving the questionnaire based on their experiences with other surveys.
- There are disadvantages in using experienced interviewers. For example, they may be able to handle situations that will cause problems for less experienced interviewers in the actual survey. Also, they may be more efficient, resulting in misleading estimates of the length of the interview. Interviewers with varying experience and skill levels may be the best choice for a pretest.
- The interviewers should be well-trained on how to obtain information that will be useful in refining the questionnaire. They should be thoroughly instructed on the concepts and definitions used in the questionnaire, as well as on the proper way to administer the questionnaire.
- The questionnaire designers and researchers sometimes serve as interviewers.

### Observational Feedback

The questionnaire designers should observe as many interviewers as possible. Other ways of providing feedback for use in evaluating a questionnaire include:

(a) **Frame-of-reference probing**

- The interviewers probe to ascertain whether certain words, phrases or situations are understood by different respodents in the manner intended by questionnaire designers.
- Involves asking respondents some additional questions, which may be structured or unstructured, to investigate the meaning of their original responses to the questionnaire.
- Unstructured questioning usually works best at the end of the interview, while structured questions may be incorporated into the questionnaire in the appropriate place or asked at the end.



(*continued overleaf*)

(a) **Frame-of-reference probing**

- Usually a respondent will only tolerate probes on a few questions (2 to 4); the number of probes per question must also be limited.

(b) **Observation of interviews**

- Observation of face-to-face interviews or monitoring of telephone interviews is one of the most easily employed evaluation techniques.
- Observers are extremely helpful because they can watch (or listen) to the interaction between the interviewer and respondent.
- Observers look for whether the interviewer asked the question exactly as worded and in the correct sequence, or omitted the question; whether the respondent needed an explanation, answered adequately, etc.
- A variety of interviewers and observers should be used to avoid biasing the results.
- An alternative method is to tape-record interviews; this allows for more detailed analysis.

(c) **Interviewer debriefings**

- An interviewer debriefing is an organized discussion of the questionnaire involving the interviewers and the designers/researchers. Individual interviewer debriefings may be held but group debriefings are more common.
- Debriefings may be held on a daily basis throughout a pretest, or a single debriefing may be conducted at the end of the test. More frequent debriefings allow changes to be made throughout the testing.

## Operational Issues

- The questionnaire must be administered properly.
- The persons conducting and observing interviews should understand the objectives of the pretest and the importance of not *arbitrarily* varying the questionnaire wording and administration. However, they may need to reword questions or to ask other questions when it is suspected that a response is inaccurate, inappropriate, or insufficient. This should be noted as part of the feedback system to provide further insight into potential questionnaire problems.
- "On the spot" revisions to the questionnaire can be made. Because of the small number of people and questionnaires involved, any problems uncovered can be discussed at the end of one day's interviewing and changes made before interviewing begins the next day. These changes and the rationale for making them should be recorded for later use in evaluating the questionnaire's performance.
- The lines of communication among the questionnaire designers, interviewers, observers, and other project staff should be well established to enhance the feedback during the test.
- Personnel involved in the evaluation should actively participate in the operational phase of the test, and the entire process should be carefully documented throughout the testing.

## Evaluating the Results

- Much of the evaluation in a pretest is simply the use of common sense in reacting to problems identified by the feedback system.
- Tabulations of the number of "Don't Know," "Refused" or "Not Applicable" responses to a question, in addition to inconsistent and missing responses, often identify various questionnaire problems.
- The pretest often only indicates that there is a problem; it does not provide the "correct" solution. For example, if a question is not answered frequently in a pretest, there may be a problem with the wording. Unless the interviewers or observers found out why the question was not answered, the questionnaire designer might not have enough information to rephrase the question in a way that will elicit more responses.
- Thorough documentation of the evaluation process and resulting questionnaire changes should be made for use by future researchers.

## Time and Cost Considerations

- The amount of time required to conduct a pretest varies according to a number of factors, including:
  1. the number of cases and interviewers;
  2. the length of the interview;
  3. the travel distance between respondents in face-to-face interviewing;
  4. whether materials must be sent to a printing company;
  5. whether interviewer instructions, training materials, debriefing guides, and observer forms need to be written; and
  6. whether materials have to be mailed to the interviewing site.
- The following factors contribute to the cost of the pretest:
  1. interviewing and field staff salaries;
  2. other salares (*e.g.*, for questionnaire designers, observers);
  3. travel and expenses for interviewers and observers;
  4. forms design and/or reproduction of questionnaires; and
  5. postage if materials need to be mailed to the field and telephone charges for telephone interviews.

1 Discuss, from a *statistical* perspective, the statement (about the sample for a pretest) near the bottom of column 1 overleaf on page 3.51: *Respondents generally are selected purposively rather than randomly.*

2 The advantages and *dis*advantages of using *experienced* interviewers for a pretest are given in the first two paragraphs of (c) in column 2 overleaf on page 3.51. What terminology is associated with the same matter in the assessment of *industrial* measuring processes, particularly in the automotive industry? Explain briefly.

3 What practical *difficulties* do you consider are likely to arise from the *observation of interviews.* as described in (b) in column 3 above? Justify your suggestions briefly.

- Comment briefly, from a *statistical* perspective, on the word 'Observational' in the section title **Observational Feedback** near the bottom of column 2 overleaf on page 3.51.