

Designing of Questionnaire for Household Surveys

(Indian Experience)

Formal standardised questionnaires: A formal standardised questionnaire should be designed for testing and quantifying the hypotheses. Then the data also can be analysed statistically. Such questionnaires are generally characterised by:

- prescribed wording and order of questions, to ensure that each respondent receives the same stimuli
- prescribed definitions or explanations for each question, to ensure interviewers handle questions consistently and can answer respondents' requests for clarification if they occur
- prescribed response format, to enable rapid completion of the questionnaire during the interviewing process.

Given the same task and the same hypotheses, six different people will probably come up with six different questionnaires that differ widely in their choice of questions, line of questioning, use of open-ended questions and length. There are no hard-and-fast rules about how to design a questionnaire, but there are a number of points that can be borne in mind:

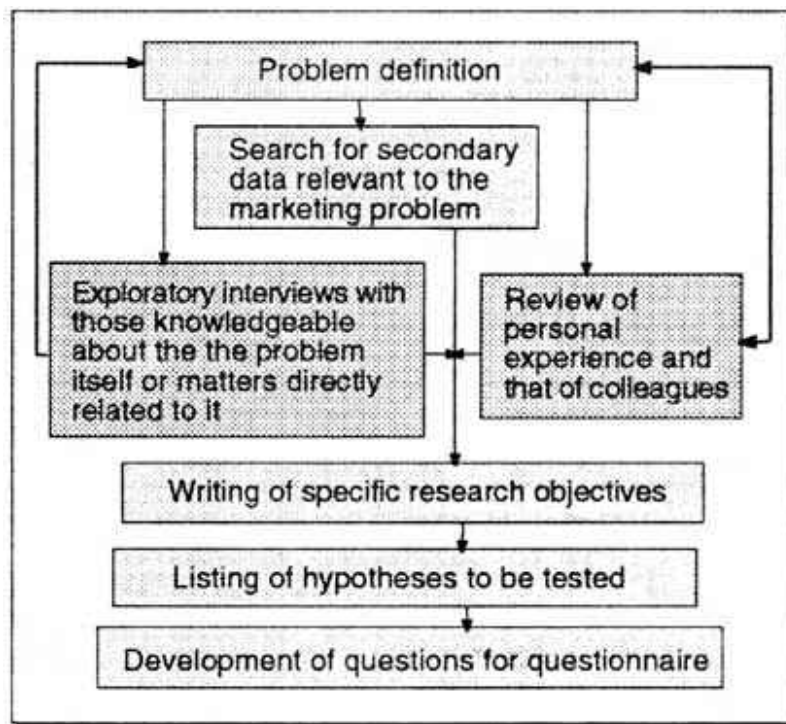
1. A well-designed questionnaire should meet the research objectives. This may seem obvious, but many research surveys omit important aspects due to inadequate preparatory work, and do not adequately probe particular issues due to poor understanding. To a certain degree some of this is inevitable. Every survey is bound to leave some questions unanswered and provide a need for further research but the objective of good questionnaire design is to 'minimise' these problems.
2. It should obtain the most complete and accurate information possible. The questionnaire designer needs to ensure that respondents fully understand the questions and are not likely to refuse to answer, lie to the interviewer or try to conceal their attitudes. A good questionnaire is organised and worded to encourage respondents to provide accurate, unbiased and complete information.
3. A well-designed questionnaire should make it easy for respondents to give the necessary information and for the interviewer to record the answer and it should be arranged so that sound analysis and interpretation are possible.

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4. It would keep the interview brief and to the point and be so arranged that the respondent(s) remain interested throughout the interview. Each of these points will be further discussed throughout the following sections.

Figure 4.1 shows how questionnaire design fits into the overall process of research design that was described in chapter 1 of this textbook. It emphasises that writing of the questionnaire proper should not begin before an exploratory research phase has been completed.

Figure 4.1 The steps preceding questionnaire design



Even after the exploratory phase, two key steps remain to be completed before the task of designing the questionnaire should commence. The first of these is to articulate the questions that research is intended to address. The second step is to determine the hypotheses around which the questionnaire is to be designed.

It is possible for the piloting exercise to be used to make necessary adjustments to administrative aspects of the study. This would include, for example, an assessment of the length of time an interview actually takes, in comparison to the planned length of the interview; or, in the same way, the time needed to complete questionnaires. Moreover, checks can be made on the appropriateness of the timing of the study in relation to contemporary events such as avoiding farm visits during busy harvesting periods.

Preliminary decisions in questionnaire design

There are nine steps involved in the development of a questionnaire:

1. Decide the information required.
2. Define the target respondents.
3. Choose the method(s) of reaching your target respondents.
4. Decide on question content.
5. Develop the question wording.
6. Put questions into a meaningful order and format.
7. Check the length of the questionnaire.
8. Pre-test the questionnaire.
9. Develop the final survey form.

Deciding on the information required

It should be noted that one does not start by writing questions. The first step is to decide 'what are the things one needs to know from the respondent in order to meet the survey's objectives?' These, as has been indicated in the opening chapter of this textbook, should appear in the research brief and the research proposal.

One may already have an idea about the kind of information to be collected, but additional help can be obtained from secondary data, previous rapid rural appraisals and exploratory research. In respect of secondary data, the researcher should be aware of what work has been done on the same or similar problems in the past, what factors have not yet been examined, and how the present survey questionnaire can build on what has already been discovered. Further, a small number of preliminary informal interviews with target respondents will give a glimpse of reality that may help clarify ideas about what information is required.

Define the target respondents

At the outset, the researcher must define the population about which he/she wishes to generalise from the sample data to be collected. For example, in marketing research, researchers often have to decide whether they should cover only existing users of the generic product type or whether to also include non-users. Secondly, researchers have to draw up a sampling frame. Thirdly, in designing the questionnaire we must take into account factors such as the age, education, etc. of the target respondents.

Choose the method(s) of reaching target respondents

It may seem strange to be suggesting that the method of reaching the intended respondents should constitute part of the questionnaire design process. However, a moment's reflection is sufficient to conclude that the method of contact will influence not only the questions the researcher is able to ask but the phrasing of those questions. The main methods available in survey research are:

- personal interviews
- group or focus interviews
- mailed questionnaires
- telephone interviews.

Within this region the first two mentioned are used much more extensively than the second pair. However, each has its advantages and disadvantages. A general rule is that the more sensitive or personal the information, the more personal the form of data collection should be.

Decide on question content

Researchers must always be prepared to ask, "Is this question really needed?" The temptation to include questions without critically evaluating their contribution towards the achievement of the research objectives, as they are specified in the research proposal, is surprisingly strong. No question should be included unless the data it gives rise to is directly of use in testing one or more of the hypotheses established during the research design.

There are only two occasions when seemingly "redundant" questions might be included:

- Opening questions that are easy to answer and which are not perceived as being "threatening", and/or are perceived as being interesting, can greatly assist in gaining the respondent's involvement in the survey and help to establish a rapport.

This, however, should not be an approach that should be overly used. It is almost always the case that questions which are of use in testing hypotheses can also serve the same functions.

- "Dummy" questions can disguise the purpose of the survey and/or the sponsorship of a study. For example, if a manufacturer wanted to find out whether its distributors were giving the consumers or end-users of its products a reasonable level of service, the researcher would want to disguise the fact that the distributors' service level was being investigated. If he/she did not, then rumours would abound that there was something wrong with the distributor.

Putting questions into a meaningful order and format

Opening questions: Opening questions should be easy to answer and not in any way threatening to THE respondents. The first question is crucial because it is the respondent's first exposure to the interview and sets the tone for the nature of the task to be performed. If they find the first question difficult to understand, or beyond their knowledge and experience, or embarrassing in some way, they are likely to break off immediately. If, on the other hand, they find the opening question easy and pleasant to answer, they are encouraged to continue.

Question flow: Questions should flow in some kind of psychological order, so that one leads easily and naturally to the next. Questions on one subject, or one particular aspect of a subject,

should be grouped together. Respondents may feel it disconcerting to keep shifting from one topic to another, or to be asked to return to some subject they thought they gave their opinions about earlier.

Question variety: Respondents become bored quickly and restless when asked similar questions for half an hour or so. It usually improves response, therefore, to vary the respondent's task from time to time. An open-ended question here and there (even if it is not analysed) may provide much-needed relief from a long series of questions in which respondents have been forced to limit their replies to pre-coded categories. Questions involving showing cards/pictures to respondents can help vary the pace and increase interest.

Closing questions

It is natural for a respondent to become increasingly indifferent to the questionnaire as it nears the end. Because of impatience or fatigue, he may give careless answers to the later questions. Those questions, therefore, that are of special importance should, if possible, be included in the earlier part of the questionnaire. Potentially sensitive questions should be left to the end, to avoid respondents cutting off the interview before important information is collected.

In developing the questionnaire the researcher should pay particular attention to the presentation and layout of the interview form itself. The interviewer's task needs to be made as straightforward as possible.

Questions should be clearly worded and response options clearly identified.

Prescribed definitions and explanations should be provided. This ensures that the questions are handled consistently by all interviewers and that during the interview process the interviewer can answer/clarify respondents' queries.

Ample writing space should be allowed to record open-ended answers, and to cater for differences in handwriting between interviewers.

Physical appearance of the questionnaire

The physical appearance of a questionnaire can have a significant effect upon both the quantity and quality of marketing data obtained. The quantity of data is a function of the response rate. Ill-designed questionnaires can give an impression of complexity, medium and too big a time commitment. Data quality can also be affected by the physical appearance of the questionnaire with unnecessarily confusing layouts making it more difficult for interviewers, or respondents in the case of self-completion questionnaires, to complete this task accurately. Attention to just a few basic details can have a disproportionately advantageous impact on the data obtained through a questionnaire.

Use of booklets The use of booklets, in the place of loose or stapled sheets of paper make it easier for interviewer or respondent to progress through the document. Moreover, fewer pages tend to get lost.

Simple, clear formats	The clarity of questionnaire presentation can also help to improve the ease with which interviewers or respondents are able to complete a questionnaire.
Creative use of space and typeface	In their anxiety to reduce the number of pages of a questionnaire there is a tendency to put too much information on a page. This is counter-productive since it gives the questionnaire the appearance of being complicated. Questionnaires that make use of blank space appear easier to use, enjoy higher response rates and contain fewer errors when completed.
Use of colour coding	Colour coding can help in the administration of questionnaires. It is often the case that several types of respondents are included within a single survey (e.g. wholesalers and retailers). Printing the questionnaires on two different colours of paper can make the handling easier.
Interviewer instructions	Interviewer instructions should be placed alongside the questions to which they pertain. Instructions on where the interviewers should probe for more information or how replies should be recorded are placed after the question.

In general it is best for a questionnaire to be as short as possible. A long questionnaire leads to a long interview and this is open to the dangers of boredom on the part of the respondent (and poorly considered, hurried answers), interruptions by third parties and greater costs in terms of interviewing time and resources. In a rural situation an interview should not last longer than 30-45 minutes.

Principles of Questionnaire Construction

Target the vocabulary and grammar to the population be surveyed.

- For studies within a specific organization, use the jargon used in that organization.
- Be careful to avoid language that is familiar to you, but might not be to your respondents. Avoid unnecessary abbreviations.

Avoid ambiguity, confusion, and vagueness.

- Make sure it is absolutely clear what you are asking and how you want it answered. For example, if you just ask "What is your income?" The respondent doesn't know whether you mean weekly or monthly or annual, pretax or after tax, household or individual, this year or last year, from salary only or including dividends, interest, etc.
- Avoid indefinite words or response categories. For example, "Do you jog regularly?" What does "regularly" mean?

Avoid emotional language, prestige bias and leading questions

- Watch out for loaded words that have a history of being attached to extreme situations. For example, avoid questions like "What should be done about murderous terrorists who threaten the freedom of good citizens and the safety of our children?"

- Avoid leading questions like "You don't smoke, do you?" or "I assume you would agree that the teachers do a heroic job for our children".
- Avoid loading questions with extra adjectives and adverbs, like "Should the mayor spend even more tax money trying to keep the streets in top shape?"

Avoid double-barreled questions

- Make each question about one and only one topic. For example, don't ask "Does your company have pension and health insurance benefits?" because if their company has only one of those benefits, it is unclear whether the respondent will say "yes" or "no".

Don't assume the respondent is an expert on themselves (unless you have no choice)

- Suppose you want to test the idea that students give better evaluations to teachers who tell a lot of jokes in class. The wrong way to investigate this is to ask "Do you rate a teacher higher if the teacher tells many jokes?" because this assumes that the student is completely conscious of everything they do and why. The right way is to ask the student two separate questions: "How would you rate the following teacher?" and "How many jokes does the teacher tell in class?" (even better is to count the jokes yourself rather than rely on the student's estimate). Then statistically correlate the answers, to see if students that have teachers that tell many jokes also tend to rate them highly.

Avoid asking questions beyond a respondent's capabilities

- People have cognitive limitations, especially when it comes to memory of past events. Asking "how did you feel about your brother when you were six years old" is probably useless.
- It is pointless to ask people about things that are not natural ways for them to think. For example, don't bother asking "How many gallons of gasoline did you buy for your car last year?".

Avoid false premises

- Asking "What is the most important thing we should do stop the economy from deteriorating any further?" assumes that the economy is deteriorating, which the respondent may not agree with. This puts the respondent in a tough spot. It would be better to rephrase as "What is the most important thing a government can do to strengthen its economy".

Avoid asking about future intentions (if you can)

- Hypothetical questions like "If a new grocery store were to open down the street, would you shop there?" are notoriously unrelated to actual future behavior.

Avoid negatives and especially double negatives

- Negatives like "Students should not be required to take a comprehensive exam to graduate" are often difficult for many respondents to process, especially if they agree with the predicate, because then they are disagreeing with *not* doing something, which is confusing!
- Double negatives like "It is not a good idea to not turn in homework on time" yield very unreliable data because people are unsure about whether to put a "yes" or "no" even if it is clear in their minds whether turning homework in on time is a good idea.

Question Placement

- It's a good idea to put difficult, embarrassing or threatening questions towards the end of the interview when the interviewee has gotten more comfortable. This has two benefits. First, it makes them more likely to answer, and, second, if they get mad and leave, at least you've gotten most of your questions asked!
- Put related questions together to avoid giving the impression of lack of meticulousness

Open-ended versus Closed-ended Questions

An open-ended question is one in which you do not provide any standard answers to choose from. For example, these are all open-ended questions:

1. How old are you? _____ years.
2. What do you like best about your job?

A closed-ended question is one in which you provide the response categories, and the respondent just chooses one:

1. How old are you?
 - (a) 12 - 15 years old
 - (b) 16 - 25 years old
 - (c) 26 - 35 years old
 - (d) 36 - 45 years old
 - (e) practically dead
2. What do you like best about your job?
 - (a) The people
 - (b) The diversity of skills you need to do it
 - (c) The pay and/or benefits
 - (d) Other: _____ (write in)

There are lots of reasons for choosing one form over the other. Here are some of the issues:

	Advantages	Disadvantages
Closed-ended	<ul style="list-style-type: none"> • Easy and quick to answer • Answers across resps easy to compare • Answers easier to analyze on computer • Response choices make question clearer • Easy to replicate study 	<ul style="list-style-type: none"> • Can put ideas in resp's head • Resps w/ no opinion answer anyway • Resps can feel constrained/frustrated • Many choices can be confusing • Can't tell if resp. misinterpreted the question • Fine distinctions may be lost • Clerical mistakes easy to make • Force respondents into simple responses
Open-ended	<ul style="list-style-type: none"> • Permit unlimited number of answers • Resps can qualify and clarify responses • Can find the unanticipated • Reveal resps thinking processes 	<ul style="list-style-type: none"> • Resps give answers w/ diff. level of detail • Answers can be irrelevant • Inarticulate or forgetful resps are at disadvantage • Coding responses is subjective and tedious • Requires more resp. time and effort • Intimidates respondents • When resp omits a response, can't tell if its because of belief or just forgetfulness

Piloting the questionnaires

Even after the researcher has proceeded along the lines suggested, the draft questionnaire is a product evolved by one or two minds only. Until it has actually been used in interviews and with respondents, it is impossible to say whether it is going to achieve the desired results. For this reason it is necessary to pre-test the questionnaire before it is used in a full-scale survey, to identify any mistakes that need correcting.

The purpose of pretesting the questionnaire is to determine:

- whether the questions as they are worded will achieve the desired results
- whether the questions have been placed in the best order
- whether the questions are understood by all classes of respondent
- whether additional or specifying questions are needed or whether some questions should be eliminated
- whether the instructions to interviewers are adequate.

Usually a small number of respondents are selected for the pre-test. The respondents selected for the pilot survey should be broadly representative of the type of respondent to be interviewed in the main survey.

If the questionnaire has been subjected to a thorough pilot test, the final form of the questions and questionnaire will have evolved into its final form. All that remains to be done is the mechanical process of laying out and setting up the questionnaire in its final form. This will involve grouping and sequencing questions into an appropriate order, numbering questions, and inserting interviewer instructions.