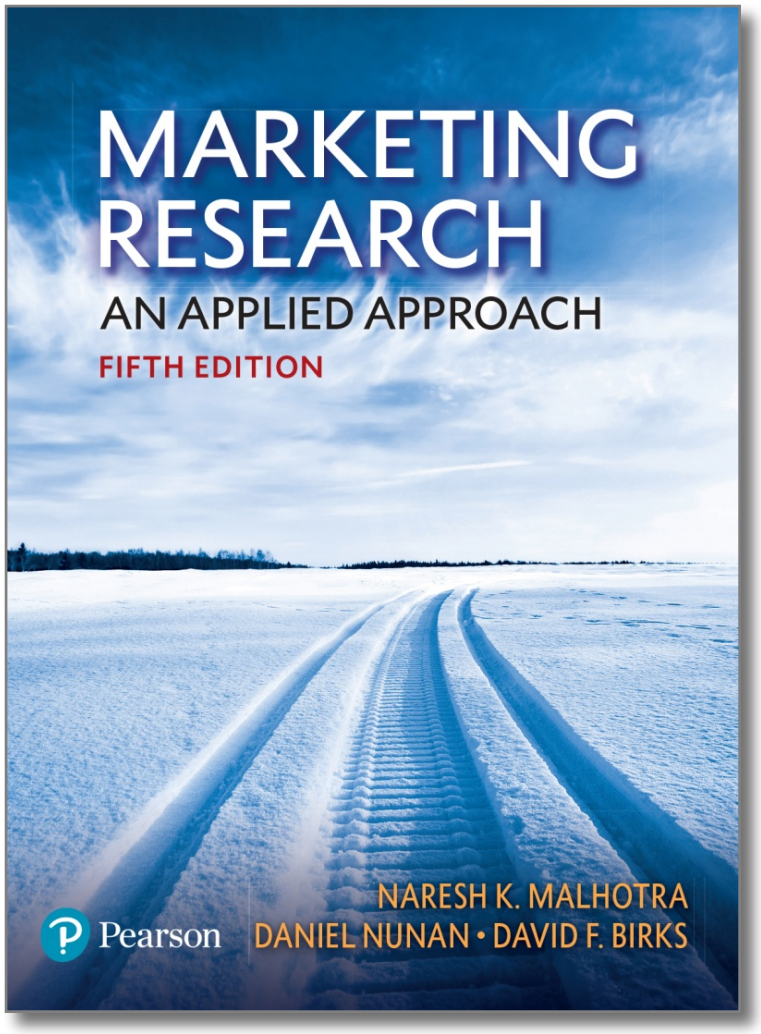
Marketing Research
An Applied Approach
5th edition



Chapter 13

Questionnaire design

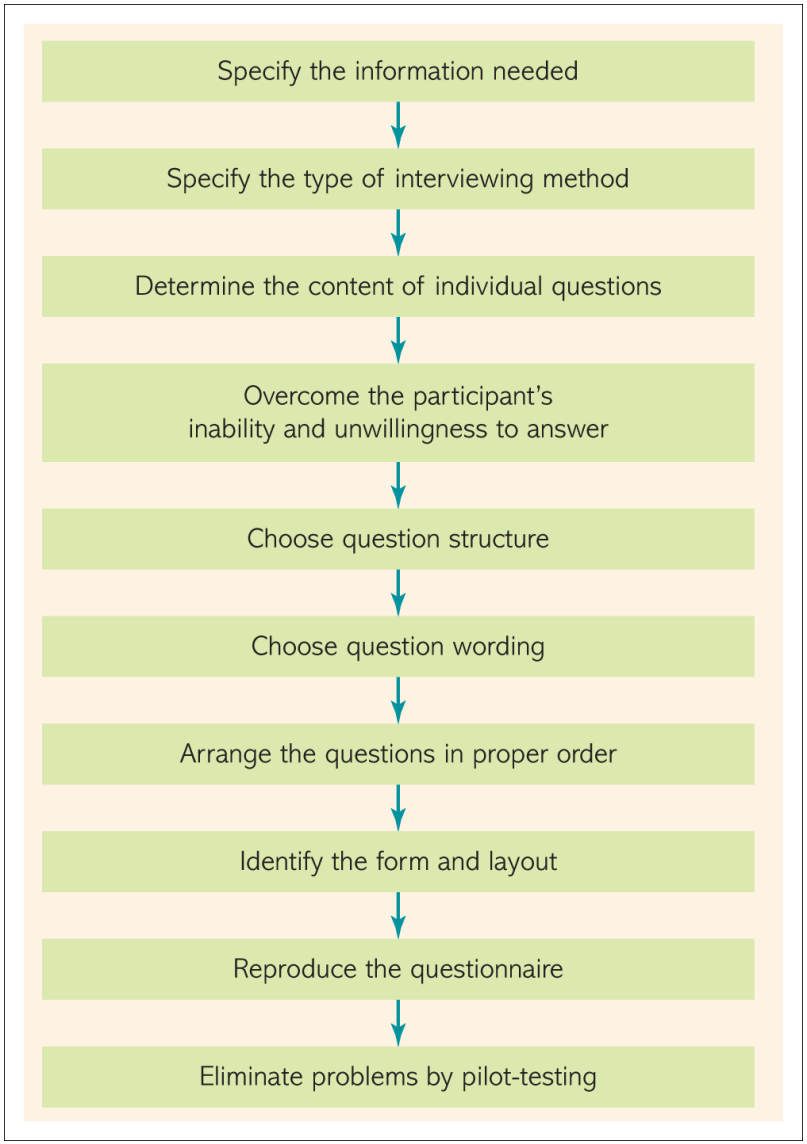
The questionnaire must motivate the participant to cooperate, become involved, and provide complete, honest and accurate answers.

Pearson

QUESTIONNAIRE DEFINITION

- A questionnaire is a formalized set of **questions** for obtaining information from participants.
- Any questionnaire has three specific **objectives**:
  - It must **translate the information** needed into a **set of** specific **questions** that participants can and will answer.
  - A questionnaire must **motivate** and **encourage** the participant to become involved, to cooperate and to complete the task.
  - A questionnaire should **minimize response errors**. The error arises when participants give inaccurate answers or when their answers are mis-recorded or mis-analysed.

QUESTIONNAIRE DESIGN PROCESS



Questionnaire design checklist (1 of 11)

Step 1. Specify the information needed

Step 2. Type of interviewing method

Step 3. Individual question content

Step 4. Overcome inability and unwillingness to answer

Step 5. Choose question structure

Step 6. Choose question wording

Step 7. Determine the order of questions

Step 8. Design the form and layout

Step 9. Publish the questionnaire

Step 10. Eliminate problems by pilot-testing

(1) SPECIFY THE INFORMATION NEEDED

- The first step in questionnaire design is to specify the **information needed**. As the research project progresses, the information needed can become more clearly defined.

- It is also relevant to have a clear idea of the **target participants**. The characteristics of the participant group have a great influence on questionnaire design. The wording and style of questions that may be appropriate for finance directors may not be appropriate for retired persons.

(2) SPECIFY THE TYPE OF INTERVIEWING METHOD

The type of interviewing method influences questionnaire design.

- **Online** and **postal surveys** are self-administered, so the questions must be simple and detailed instructions must be provided;

- In **face-to-face interviews**, participants see the questionnaire and interact with the interviewer; thus, lengthy, complex and varied questions can be asked;

- In **telephone interviews** the participants interact with the interviewer, but they do not see the questionnaire. This limits the type of questions that can be asked to short and simple ones.

Questionnaire design checklist (2 of 11)

Step 1. Specify the information needed

1. Ensure that the information obtained fully addresses all the components of the problem. Review components of the problem and the approach, particularly the research questions, hypotheses and characteristics that influence the research design.
2. Prepare a set of dummy tables.
3. Have a clear idea of the characteristics and motivations of the target participants.

Step 2. Specify the type of interviewing method

1. Review the type of interviewing method determined based on considerations discussed in Chapter 10.

(3) DETERMINE THE CONTENT OF INDIVIDUAL QUESTIONS

Once the information needed is specified and the type of interviewing method decided, the next step is to determine **individual question content**: what to include in individual questions?

Is the question necessary?

- Every question in a questionnaire should contribute to the information needed or serve some **specific purpose** that will help to elicit the desired information from participants.
- If there is no explicit and satisfactory use for data resulting from a question, that question should be eliminated. However questions may be asked that are not directly related to the needed information (neutral questions).

Are several questions needed instead of one? Once we have ascertained that a question is necessary, we must take sure that it is sufficient to get the desired information. Sometime several questions make obtain the required information in an ambiguous manner.

- Consider the question: "do you think Coca-Cola is a tasty and refreshing soft drink? A yes answer will presumably be clear (understood), but what it the answer is no? Does this mean that the participant thinks that Coca-Cola is not tasty, that it is not refreshing, or that it is neither tasty nor refreshing?. Such question is called **double-barreled question** because two or more questions are combined into one.
- To obtain the required information, two distinct questions should be asked: "do you think Coca-Cola is a tasty soft drink? And "Do you think Coca-Cola is a refreshing soft drink?

Questionnaire design checklist (3 of 11)

Step 3. Individual question content

1. Is the question necessary?
2. Are several questions needed instead of one to obtain the required information in an unambiguous manner?
3. Do not use double-barrelled questions.

(4) OVERCOMING THE PARTICIPANT'S INABILITY AND UNWILLINGNESS TO ANSWER

The researcher should attempt to overcome the participants' inability to answer.

- **Is the participant informed? (1)** Participants are often asked about topics on which they are not informed. In situations where not all participants are likely to be informed about the topic of interest, filter questions that measure familiarity, product use and past experience should be asked before questions about the topics themselves.
- **Can the participant remember (2)?** Many things that we might expect everyone to know are remembered by only a few. Evidence indicates that consumers are poor at remembering quantities of product consumed. Soft-drink consumption may be better obtained by asking.

  - How many litres of soft drinks did you consume during the last four weeks? (Incorrect)
  - How often do you consume soft drinks in a typical week? (Correct)

  1. ___ Less than once a week
  2. ___ 1 to 3 times per week
  3. ___ 4 to 6 times per week
  4. ___ 7 or more times per week.

(4) OVERCOMING THE PARTICIPANT'S INABILITY AND UNWILLINGNESS TO ANSWER

- **Can the participant remember (2)?** The inability to remember can lead to errors of **omission**, **telescoping** and **creation**.
- *Omission* is the inability to recall an event that actually took place.
- *Telescoping* takes place when an individual telescopes or compresses time by remembering an event as occurring more recently than it actually occurred. For example a participant reports three trips to the supermarket in the last 2 weeks when one of these trips was made 18 days ago.
- *Creation* error takes place when a participant remembers an event that did not actually occur**.**

- **Is the participant able to articulate? (3)** Participants may not be able to articulate certain **types of responses**.
  - If asked to describe the "**atmosphere**" of a cinema they would prefer to frequent, most participants may be unable to phrase their answers. On the other hand, if the participants are provided with alternative descriptions of cinema atmosphere, they will be able to indicate the one they like the best. If the participants are unable to articulate their response to a question, they are likely to ignore that question and refuse to respond to the rest of the questionnaire. Participants should be given some aids such as pictures, maps and descriptions.

(4) OVERCOMING THE PARTICIPANT'S INABILITY AND UNWILLINGNESS TO ANSWER

- **Is the participant able to articulate? (3)** Even if participants are able to answer a particular question, they may be unwilling to do so because

  - **too much effort is required to provide information:** imagine that the researcher is interested in determining from which shops a participant bought goods on the most recent shopping trip. The researcher could ask the participant to list all the items purchased on the most recent shopping trip, or the researcher could provide a list of shops and ask the participant to indicate the applicable ones.

  - **the situation or context may not seem appropriate for disclosure**: Participants must receive explications about *why certain questions* are realized in *certain contexts.* For example before asking for information on personal hygiene in a survey for a fast-food restaurant should be justified in this way: as a fast food restaurant, we are very concerned about providing a clean and hygienic environment for our customers. Therefore we would like to ask you some questions related to personal hygiene".

  - **no legitimate purpose or need for the information requested is apparent, or the information requested is too sensitive**: explaining why the data are needed can make the request for information seem to be legitimated and may increase the participants' willingness to answer. Sensitive topics include money, family life, political and religious beliefs, etc.... "Why should a firm making breakfast cereal want to know age, income and occupation?. A justification (legittimation) coul be: "to determine how the preference for cereal brands vary among people of different ages, we need information on.....".

(4) OVERCOMING THE PARTICIPANT'S INABILITY AND UNWILLINGNESS TO ANSWER

- **Is the participant able to articulate? (3)**

- In order to increase the willingness of participants, it is good:
  - Place sensitive topics at the end of the questionnaire
  - Preface the question with a statement that the behaviour of interest is common. Before requesting information on credit-cart debt, you may say "recent studies show that most European consumers are in debt".
  - Ask the question using the third-person technique
  - Provide response categories. Do not ask: "what is your household's annual income?". Instead, ask the participant to indicate an appropriate income category.

Questionnaire design checklist (4 of 11)

Step 4. Overcoming inability and unwillingness to answer

1. Is the participant informed?
2. If participants are not likely to be informed, filter questions that measure familiarity, product use and past experience should be asked before questions about the topics themselves.
3. Can the participant remember?
4. Avoid errors of omission, telescoping and creation.
5. Can the participant articulate?

Questionnaire design checklist (5 of 11)

Step 4. Overcoming inability and unwillingness to answer

7. Minimise the effort required of the participants.
8. Is the context in which the questions are asked appropriate?
9. Make the request for information seem legitimate.
10. If the information is sensitive:
    a. Place sensitive topics at the end of the questionnaire.
    b. Preface the question with a statement that the behaviour of interest is common.
    c. Ask the question using the third-person technique.
    d. Provide response categories rather than asking for specific figures.

(5) CHOOSE QUESTION STRUCTURE

• Unstructured questions

Unstructured questions are open-ended questions that participants answer in their own words.

- What is your occupation?
- Who is your favourite actor?
- What do you think about people who shop at organic food shops?

Open-ended questions can be good first questions on a topic. Or they can be useful as a final question in a questionnaire. They allow participants to express specific issues. Their comments and explanations can provide the researcher with rich insights. The main disadvantage is that the coding of responses is costly and time-consuming.

• Structured questions

They specify the set of response alternatives and the response format. A structured question may be **multiple choice**, **dichotomous** or a **scale**.

(5) CHOOSE QUESTION STRUCTURE

MULTIPLE-CHOICE QUESTIONS (1)

The researcher provides a choice of answers and participants are asked to select one or more of the alternatives given.

Do you intend to buy a new watch within the next six months?

____ Definitely will not buy
____ Probably will not buy
____ Undecided
____ Probably will buy
____ Definitely will buy
____ Other (please specify).

•**The response alternatives should include the set of all possible choices**. The general guideline is to list all alternatives that may be of importance and to include an alternative labelled "other (please specify)". The response alternative should be mutually exclusive. Participants should also be able to identify one, and only one, alternative, unless the researcher specifically allows two or more choices. If the response alternatives are numerous, consider using more than one question, to reduce the information-processing demands on the participants.

•**Order bias** is the participants' tendency to tick an alternative merely because it occupies a certain position or is listed in a certain order. Participants may tend to tick the first or the last statement in a list. For a list of numbers (quantities and prices) there is a bias towards the central value on the list. To control for order bias, alternative responses can be positioned randomly for each participant.

(5) CHOOSE QUESTION STRUCTURE

MULTIPLE-CHOICE QUESTIONS (2)

- **Multiple-choice questions overcome many of the disadvantages of open-ended questions** because these questions are administered quickly and where used, interviewer bias is reduced. Also coding and processing of data are much less costly and time-consuming.

- But multiple-choice questions are not without **disadvantages**. Considerable efforts are required to design effective multiple-choice questions. Qualitative techniques may be required to determine the appropriate wording and/or images for response alternatives. Besides, even if an "other (specify)" category is included, participants tend to choose among the listed alternatives.

(5) CHOOSE QUESTION STRUCTURE

DICHOTOMOUS QUESTIONS

A dichotomous question has only two response alternatives such as yes or no, or agree or disagree.

Do you intend to buy a new watch within the next six months?
_____ Yes
_____ No
_____ Don't know.

•**The underlying decision marketing process may reflect uncertainty that cannot be capture by dichotomous questions.** For example, two individuals may be equally likely to buy a new car within the next six months if the economic conditions remain favorable. One individual who is being optimistic about the economy, will answer "yes" while the other, feeling pessimistic, will answer "no".

•**Another issue is whether to include a neutral response alternative.** If it is not included, participants are forced to choose between yes and no even if they feel indifferent. On the other hand, if a neutral alternative is included, participants can avoid taking a position on the issue, thereby biasing the results. The guideline can be the following one: if a substantial proportion of the participant can be expected to be neutral, include a neutral alternative.

•**Dichotomous questions are the easiest types of questions to code and analyse. But there is a problem. The response can be influenced by the wording of the question.** To illustrate 59,6% of participants in a survey agreed with the statement "individual are more to blame than social conditions for crime and lawlessness in this country. On a matched sample using an opposite statement "Social conditions are more to blame than individuals for crime and lawlessness in the country", 43,2% agreed.

(5) CHOOSE QUESTION STRUCTURE

SCALES. To illustrate the difference between scales and other kinds of structural questions, consider the question about intentions to buy a new watch.

Do you intend to buy a new watch within the next six months?

Definitely will not buy	Probably will not buy	Undecided	Probably will buy	Definitely
1	2	3	4	5

Questionnaire design checklist (6 of 11)

Step 5. Choosing question structure

1. Open-ended questions are useful in exploratory research and as closing questions.
2. Use structured questions whenever possible.
3. In multiple-choice questions, the response alternatives should include the set of all possible choices and should be mutually exclusive.
4. In a dichotomous question, if a substantial proportion of the participants can be expected to be neutral, include a neutral alternative.
5. Consider the use of the split-ballot technique to reduce order bias in multiple-choice questions.
6. If the response alternatives are numerous, consider using more than one question to reduce the information-processing demands on the participants.

(6) CHOOSE QUESTION WORDING

Question wording is the translation of the **desired question content** and **structure** into words that participants can clearly and easily understand.

Deciding on question wording is perhaps the most critical and difficult task in developing a questionnaire. If a question is worded poorly, participants may refuse to answer it, or answer it incorrectly. To avoid these problems, we offer the guidelines we are going to describe.

(a) Define the issue. A question should clearly define the issue being addressed.

- **Define the issues in terms of who, what, when and where.**
  - **Which brand of shampoo do you use? (Incorrect)**
  - **"Who"** in this case refers to the participants. It is not clear if the researchers is referring to the brand the participant uses personally or the brand used by the household.
  - **"What"** is the brand of shampoo. But what is more than one brand of shampoo is being used? Should the participant mention the most-preferred brand, the brand used most often, the brand used most recently, or the brand that comes to mind first?
  - **"When"** is not clear: does the researcher mean last time, last week, last month, last year, or ever?
  - As for **"where"** it is implied that the shampoo is used at home, but this not stated clearly.
  - A better wording for this question could be: **Which brand or brands of shampoo have you personally used at home during the last month? In case of more than one brand, please list all the brands that apply. (Correct)**

(6) CHOOSE QUESTION WORDING

(b) Use ordinary words. Ordinary words should be used in a questionnaire. Most participants do not understand technical marketing words.

'Do you think the **distribution** of soft drinks is adequate'? (Incorrect)

'Do you think soft drinks are readily available when you want to buy them'? (Correct)

(c) Use unambiguous words. The words in a questionnaire should have a single meaning that is known to the participants. A number of words that may appear to be unambiguous have different meanings for different people. These include "usually", "normally", "frequently", "often", "regularly", "occasionally" and "sometimes".

In a typical month, how often do you visit a boutique?

_____ Never
_____ Occasionally
_____ Sometimes
_____ Often
_____ Regularly (Incorrect)

The words used to describe category labels have different meanings for different participants. Three participants who visit a boutique once a month tick three different categories; occasionally, sometimes and often.

In a typical month, how often do you visit a boutique?

_____ Less than once
_____ 1 or 2 times
_____ 3 or 4 times
_____ More than 4 times (Correct)

(6) CHOOSE QUESTION WORDING

(d) Avoid leading or biasing questions. A leading question is one that clues the participant to what answer is desired or lead the participants to answer in a certain way**.**

Do you think that patriotic French people should buy imported cars when that would put French workers out of employment?
_____ Yes
_____ No
_____ Don't know (Incorrect)

The question would tend to lead participants to a "no" answer. A better question could be:

Do you think that French people should buy imported cars?
_____ Yes
_____ No
_____ Don't know (Correct)

(e) Avoid implicit alternatives. An alternative that is not explicitly expressed in the option is an implicit alternative. Making an implied alternative explicit may increase the percentage of people selecting that alternative, as in the following two questions:

1. Do you like to fly when travelling short distances? (Incorrect)
2. Do you like to fly when travelling short distances, or would you rather drive? (Correct)

In the first question the alternative of driving is only implicit but in the second question it is explicit. The first question is likely to yield a greater preference for flying than the second question.

(6) CHOOSE QUESTION WORDING

(f) Avoid implicit assumptions. Questions should not be worded so that the answer is dependent on implicit assumptions about *what will happen as consequence*. Implicit assumptions are assumptions that are not explicitly stated in the question, as in the following example:

1. Are you in favour of a balanced national budget? (Incorrect)

2. Are you in favour of a balanced national budget if it would result in an increase in the personal income tax? (Correct)

Implicit in question 1 are the consequences that will arise as a result of a balanced national budgets. There might be a cut in defence expenditure, an increase in personal income tax, a cut in health spending. Question 2 is a better way to word this question.

(g) Avoid generalisations and estimates. Questions should be specific, not general. Questions should be worded so that the participant does not have to make generalisations or compute estimates

'What is the annual per capita expenditure on groceries in your household'? (Incorrect)

'What is the monthly (or weekly) expenditure on groceries in your household'? *and* 'How many members are there in your household'? (Correct)

Participants (first questions) could determine the annual expenditure by multiplying the monthly expenditure by 12. Then they should divide the annual amount by the number of persons in the household. This calculation could be difficult. A better way of obtaining the required information could be to ask the participants two simple question as above.

(6) CHOOSE QUESTION WORDING

(h) Use positive and negative statements.

•Many questions are presented as statements with which participants indicate their degree of agreement or disagreement.

•Evidence indicates that the response obtained is influences by the directionality of the statement: whether they are stated positively or negatively. In these cases, it is better to use dual statements, some of which are positive and others negative.

•An example of dual statements was provided in the summated Linkert scale below.

Instructions
Listed below are different beliefs about the Odeon cinema. Please indicate how strongly you agree or disagree with each by using the following scale:

1 = Strongly disagree, 2 = Disagree, 3 = Neither agree nor disagree, 4 = Agree, 5 = Strongly agree

	1	2	3	4	5
1 I like to visit Odeon cinemas		✓			
2 The Odeon sells poor-quality food		✓			
3 The Odeon presents a wide variety of film genres			✓		
4 I do not like Odeon advertisements				✓	
5 The Odeon charges fair prices				✓	
6 Booking a seat at the Odeon is difficult	✓				
7 The acoustics at Odeon cinemas are excellent				✓	
8 Odeon staff serve their customers very well				✓	
9 The Odeon is a great place for families to enjoy films		✓			

Questionnaire design checklist (7 of 11)

Step 6. Choosing question wording

1. Define the issue in terms of who, what, when and where.
2. Use ordinary words. Words should match the vocabulary level of the participants.
3. Avoid ambiguous words: usually, normally, frequently, often, regularly, occasionally, sometimes, etc.
4. Avoid leading questions that cue the participant to what the answer should be.
5. Avoid implicit alternatives that are not explicitly expressed in the options.
6. Avoid implicit assumptions.
7. participant should not have to make generalisations or compute estimates.
8. Use positive and negative statements.

(7) ARRANGE THE QUESTIONS IN PROPER ORDER

Questionnaire designers must be aware of the logical connections between questions.

(a) Opening questions. The opening questions can be crucial in gaining confidence and cooperation of participants. These questions should be *interesting*, *simple* and *non-threatening*. Questions that ask participants for their opinion can be good opening questions because most people like to express their opinions. Though classification questions seem simple to start questionnaire, issues such as age, gender and income can be seen as very sensitive issues.

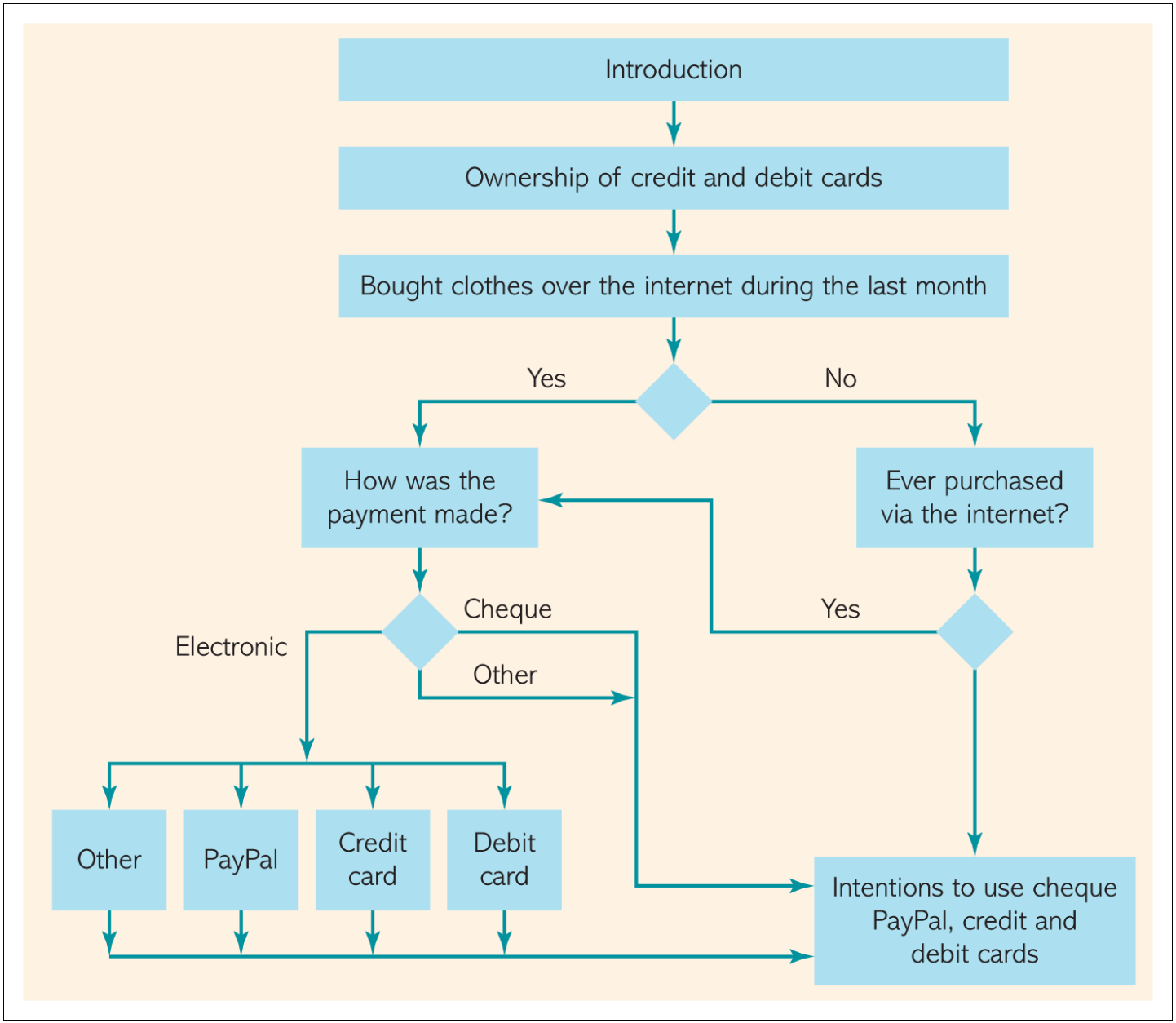
(b) Type of information. The type of information obtained in a questionnaire may be classified as: (1) basic information; (2) classification information and (3) identification information. *Basic information* relates directly to the research problem. *Classification information* consisting of socio-economic and demographic characteristics is used to classify the participants, understand the results and validate the sample. *Identification information* includes name, postal address, e-mail address and telephone number. As a general guideline, basic information should be obtained first, followed by classification and finally identification information.

(7) ARRANGE THE QUESTIONS IN PROPER ORDER

(c) **Difficult questions**. Difficult questions or questions that are sensitive, embarrassing, complex or dull should be placed late in the sequence. After rapport has been established and the participants become involved, they are less likely to object to these questions.

(d) **Effect on subsequent questions**. Questions asked early in a sequence can influence the responses to subsequent questions. Going from general to specific is called *funnel approach*.

(e) **Logical order.** Questions should be asked in a logical order. Branching (ramificare) questions should be designed with attention to logic, making the question experience more relevant to individual participants. A simple way to account for all contingencies is to prepare a flow chart of the logical possibilities and to develop branching questions.



Questionnaire design checklist (8 of 11)

Step 7. Arrange the questions in proper order

1. The opening questions should be interesting, simple and non-threatening.
2. Qualifying questions should serve as the opening questions.
3. Basic information should be obtained first, followed by classification and finally, identification information.
4. Difficult, sensitive or complex questions should be placed late in the sequence.
5. General questions should precede the specific questions.
6. Questions should be asked in a logical order.
7. Branching questions should be designed carefully to cover all possible contingencies.
8. The question being branched should be placed as close as possible to the question causing the branching, and the branching questions should be ordered so that the participants cannot anticipate what additional information will be required.

(8) IDENTIFY THE FORM AND LAYOUT

- The format, spacing and positioning of questions can have a significant effect on the results, particularly in self-administered questionnaires.

- It is a good practice to divide a questionnaire into **several parts**. The questions in each part should be numbered, particularly when branching questions are used. **Numbering of questions** also makes the coding of response easier. If the survey is conducted by post, the questionnaire should preferably be pre-coded.

- **Pre-coding**: means assigning a code to every conceivable response before data collection.

Questionnaire design checklist (9 of 11)

Step 8. Design form and layout

1. Divide a questionnaire into several parts.
2. Questions in each part should be numbered.
3. If hard copies of the questionnaire are used, coding should be printed on the forms to facilitate manual data entry.

(9) REPRODUCE THE QUESTIONNAIRE

- In the design of an online questionnaire, variations of language, branching, graphics and visuals and the survey experience can be almost tailored to individual participants.

- In surveys where there are hard copies of questionnaire, how a questionnaire is **reproduced** for administration can influence the results. For example, if the questionnaire is reproduced on poor—quality paper or is shabby in appearance, participants will think that the project is unimportant and the quality of response will be affected.

- **In face-to-face interviews** and **postal surveys**, when a printed questionnaire runs to several pages, it should take the form of a booklet (opuscolo) rather than a number of sheets of paper clipped or stapled together.

- **Vertical response columns** should be used for individual questions. It is easier for interviewers and participants to read down a single column rather than reading sideways across several columns.

- The tendency to **crowd questions** together to make the questionnaire look shorter should be avoided. Overcrowded questions with little blank space between then can lead to errors in data collection and yield shorter and informative replies.

- Directions or instructions for individual questions should be placed as close to the questions as possible.

Questionnaire design checklist (10 of 11)

Step 9. Publish the questionnaire

1. The questionnaire should be designed to be visually engaging.
2. Vertical response columns should be used.
3. Grids are useful when there are a number of related questions that use the same set of response categories.
4. The tendency to crowd questions to make the questionnaire look shorter should be avoided.
5. Directions or instructions for individual questions should be placed as close to the questions as possible.
6. If hard copies of the questionnaire are to be used, a booklet format should be used for long questionnaires.

(10) ELIMINATE PROBLEMS BY PILOT-TESTING

- Pilot-testing refers to testing the questionnaire on a small sample of participants to identify and eliminate potential problems.

- A pilot-test **should be extensive**. All aspects of the questionnaire should be tested, including question content, wording, sequence, form and layout, question difficulty and instructions.

- The participants in the pilot-test should be similar to those who will be included in the actual survey in terms of background characteristics, familiarity with the topic and attitudes and behaviors of interest. Participants for the pilot-test and for the actual survey should be drawn from the same population.

- **Pilot-tests** are best done by face-to-face interviews, even if the actual survey is to be conducted by online, postal or telephone methods, because interviewers can observe participants' reactions and attitudes.

- After the necessary **changes** have been made, another pilot-test could be conducted by online, postal or telephone methods if those methods are to be used in the actual survey.

- A variety of interviewers should be used for pilot-tests. The pilot-test sample size varies from 15 to 30 participants for each wave. Protocol analysis and debriefing are two commonly used procedures in pilot-testing. Finally, the responses obtained from the pilot-test should be coded and analysed.

Questionnaire design checklist (11 of 11)

Step 10. Eliminate problems by pilot-testing

1. Pilot-testing should always be done.
2. All aspects of the questionnaire should be tested, including question content, wording, sequence, form and layout, question difficulty, instructions and rewards for taking part in the survey.
3. The participants in the pilot-test should be similar to those who will be included in the actual survey.
4. Begin the pilot-test by using face-to-face interviews.
5. The pilot-test should also be conducted by online, postal or telephone if those methods are to be used in the actual survey.
6. A variety of interviewers should be used for pilot-tests.
7. The pilot-test sample size is small, varying from 15 to 30 participants for the initial testing.
8. Use protocol analysis and debriefing to identify problems.
9. After each significant revision of the questionnaire, another pilot-test should be conducted, using a different sample of participants.
10. The responses obtained from the pilot-test should be analysed to check the set-up of charts and tables
11. The responses obtained from the pilot-test should not be aggregated with responses from the final survey.