Chapter 2.2

How to write effective questionnaires

This chapter includes:

- The importance of skilled questionnaire design
- How to ask questions about attitudes
- Making the most of your questionnaire layout
- The importance of piloting
- Self-completion questionnaires
- Phone research

About this chapter:

In the previous chapter we looked at the range of research techniques available to marketers. At the heart of market research is the interview – whether conducted face-to-face, by phone, by post, by email or the web. At the heart of the interview is a series of carefully worded questions. Question design, together with sampling, coding and analysis, is a highly skilled task best left to experienced and qualified market research professionals.

But the simple act of showing interest in customers can often help to cement lucrative long-term relationships with customers. Marketers and creatives, therefore, increasingly find themselves penning questions for inclusion in customer service questionnaires which may, in truth, fall far short of the standards required for research.

This chapter sets out the proper way to formulate unambiguous questions and dispenses useful advice on posing questions either for self-completion by the respondent or to be administered by an interviewer face-to-face or over the phone.
Chapter 2.2

How to write effective questionnaires

The importance of skilled questionnaire design

Questionnaire design is an extremely skilled craft which is much underrated. The chief reason for this is that we are all ‘experts’ – we ask questions and answer them all day long in the course of our general lives. Furthermore, unlike errors of sample design, errors of question design are not measurable and often go unnoticed. They can also impact on people other than the perpetrator, i.e. interviewers, data processors and respondents, with little risk of discovery.

However, the effects of poor questionnaire design can be enormous. Biases due to question wording and question order are potentially much greater than those from any other source. For example, small changes in wording or in the order of questions can give very different results – so different that different conclusions would be drawn and different action taken.

The basics

The preceding chapter of this Guide (chapter 2.1) contains a short section on designing effective surveys, which covers the fundamental principles; if you haven’t already read this, do so now.
How to ask questions about attitudes

Market research often entails attitude measurement. The ideal attitude measurement technique, besides being reliable and valid, enables us to distinguish groups of people whose attitudes towards an object or an act are:

- Similar to each other
- Different from other groups
  - in a known direction
  - with a known degree of difference

Below are the main methods of asking questions about attitudes so that the result can be measured, followed by a résumé of chief attributes of each method:

- Open-ended questions
- Choices between statements
- Adjective ascription
- Rating scales
  - verbal
  - numerical
  - diagrammatic

Open-ended questions – easy to ask

Open-ended questions range from the simple: “why do you say that?” to more elaborate questions such as: “what do you think are the main problems facing the country today?” They have the advantage of being easy to ask but the disadvantage that the answers are difficult to analyse. The two main consequences of the difficulty of analysis are a large amount of inaccuracy in coding the answers and a high cost for processing and reporting on them.

Choices between statements – possibly misleading

These are questions where respondents are asked to select from a number of alternatives the statement which most closely corresponds to their view, such as: “do you think that on the whole the activities of large companies are a good or bad thing for this country’s economy?” This sort of question can be misleading because it tends to oversimplify issues and many respondents find it hard to choose.
Adjective ascription – less tiring for respondents

The technique of ascribing adjectives to propositions can often be very useful especially in brand image measurement, as shown here:

“Below you will see a list of brands of washing powder and a number of statements. Please show which, if any, of the brands, each statement applies to. You can tick as many or as few brands as you like for each statement. So which do you think ...

(a) “Are kind to hands?”
   “Are not so kind to hands?”

(b) “Get clothes really clean?”
   “Don’t get clothes quite so clean?”

This technique is useful because it enables the researcher to examine both the strength of the image (i.e. the proportion of respondents who mention a brand at all on an image dimension) and the character of the image (i.e. the proportion of all those who mention a brand who mention it in a favourable light).

Adjective ascription is less tiring for respondents than many other methods of image measurement, because it does not require them to rate every brand on every dimension.

The importance of rating scales

There is a marked difference between the ongoing performance of customers who describe themselves as merely ‘satisfied’ from that of customers who say they are ‘very satisfied’. Customers who are satisfied are among the most promiscuous and easily poached, whereas very satisfied customers are denoting their likelihood of remaining loyal purchasers.

Such a marked difference demonstrates one area in which regularly and properly conducted customer satisfaction questionnaires can be of immense value to marketers; it also shows why it is important to ask the right questions and provide for respondents to record their true feelings.

Verbal rating scales – easy and familiar

Verbal rating scales are probably the most common form of attitude measurement used in market research. Questions run something like:
“Below you will see a number of things people have said about Fairy Liquid. Please show how much you agree or disagree with each of them, by ticking a box”.

The scale offered would usually be something like:

“Agree a lot”
“Agree a little”
“Neither agree nor disagree”
“Disagree a little”
“Disagree a lot”

Watch out for these points when using verbal rating questions:

- If the survey is interviewer-administered, include a ‘no opinion’ or ‘don’t know’ category in your coding frame (this need not be shown to respondents)
- Take care to avoid double concepts or double negatives, e.g. ‘public speeches against racism should not be allowed’
- Try not to point all the statements in the same direction (either favourable or unfavourable)
- Scales do not have to be balanced, but if they are not balanced you should have a good reason
- Four- to seven-point scales are usually better than a larger number of categories
- If the survey is interviewer-administered, and a list of statements is being read out, rotate the list between respondents to prevent there being an ‘order effect’

**Numerical rating scales – keep it simple**

With numerical scales the positions on the scale are given numbers, but the numbers should appear only at the end of the scale and not at the beginning:

<table>
<thead>
<tr>
<th>Very suitable</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fairly suitable</td>
<td>3</td>
</tr>
<tr>
<td>Barely suitable</td>
<td>2</td>
</tr>
<tr>
<td>Not very suitable</td>
<td>1</td>
</tr>
<tr>
<td>Not suitable at all</td>
<td>0</td>
</tr>
</tbody>
</table>

Numerical rating can also be achieved by asking people to give marks out of 10 for dimensions. But it is important not to have too long a scale as many of the points may not be used.
Diagrammatic rating scales – a visual assessment

In diagrammatic rating the positions on the scale are expressed not in words or numbers, but in diagrammatic form. Diagrammatic scales can be represented by any of the shapes below, or by anything else you can think of:

Marks on a continuum

![Diagram showing marks on a continuum and boxes with an x]

a ladder

![Diagram showing a ladder with an x]

a thermometer gauge

![Diagram showing a thermometer gauge with an x]

different-sized squares

Semantic differential scales – verbal and visual

Semantic differential scales are a combination of verbal and diagrammatic scales. The concept or product is rated on a diagrammatic scale, the end points of which are defined by opposite pairs of adjectives or phrases, e.g:

“My boss is ...”

1. “Extremely understanding” [ ] [ ] [x] [ ] [ ] “Not at all understanding”

2. “Witty and amusing” [ ] [ ] [ ] [x] [ ] “Boring”

3. “Delegates the right amount” [x] [ ] [ ] [ ] “Doesn’t delegate enough”

Making the most of your questionnaire layout

The way in which a questionnaire is laid out – whether for face-to-face or phone interviewing, or for self-completion – can make a great deal of difference to its success. If the questionnaire is for self-completion on paper you need to give clear instructions as to which questions should be answered next (unless all respondents answer all questions). This is known as the ‘routing’ instructions in the questionnaire. These days though, many questionnaires are administered electronically, either using:
CAPI (Computer Assisted Personal Interviews) when the interview is conducted face-to-face

CATI (Computer Assisted Telephone Interviews) when the interview is conducted over the telephone

CASI (Computer Assisted Self-Completion Interviews), usually when there is a self-completion element to an interview in a CAPI interview

Or

CAWI (Computer Assisted Web Interviews) when the questionnaire is conducted over the web.

Remember: pre-coded questions create a lot less aggravation than open-ended ones and allow everyone to answer the question using the same frame of reference. Pre-code where possible; do not be lazy.

However, it is also advisable to make space available for ‘other’ answers to be written in, in case respondents have answers other than those pre-coded that they want to give. In grid questions, if ‘other’ is allowed for more than one question, ensure space is provided for each question.

**Tips for successful punching/data entry:**

These days, relatively few questionnaires are ‘punched’ or ‘keyed’. Paper questionnaires are often ‘read’ by a digital mark reader or scanning machine and, of course, interviews conducted using CAPI, CATI, CASI or CAWI do not require a data entry stage. If you are using a paper questionnaire which will require a data entry stage you will need to assign ‘columns’ to each question and to allocate ‘codes’ to the answers (see the example questionnaire at the end of this chapter).

**The importance of piloting**

The importance of piloting questionnaires cannot be overstated. Even one or two completed questionnaires can tell you a lot about how to improve your questionnaire. Pilot in the office. Pilot on respondents where possible. However you do it ... pilot! Use piloting to learn more about and improve:

- Question wording
- Question phrasing
- Question order
- Questionnaire layout

  Pre-coded categories – appropriateness

  comprehensiveness

- Questionnaire length
**Self-completion questionnaires**

There are many instances in market research where self-completion questionnaires are a valuable tool, among them:

- Within a personal interview; for example, where a response is required to a long list of attitude statements, or to some sensitive questions
- Separate from an interviewer-conducted interview but completed at a different time (either before or after the interview), such as:
  - where the informant is required to do some ‘homework’
  - where data is required from more than one individual (in a company or household)
  - where data is required about behaviour as it takes place (e.g. purchases)

In the past, the postal questionnaire was the most obvious example of a self-completion questionnaire. However, these days many researchers conduct surveys on the web or via email. While all of the principles we have described above apply to self-completion questionnaires (paper and web-based), there are some major differences which we look at next.

**Getting the most from self-completion research**

Self-completion research is particularly appropriate to direct marketers for the reasons given in the previous chapter on market research by Peter Mouncey (chapter 2.1).

The main disadvantage of self-completion research is that response rates are usually lower than for personal interviewing.

Generally speaking, response rates are higher where the population is interested in the subject of the survey (e.g. a survey by a society among its members) and where the contact is ‘hot’ (e.g. among a specially recruited group of the relevant population).

There are a number of generally recognised tips for maximising response to self-completion research questionnaires, many of them learned from the techniques of direct response marketing, among them:

**Tips for maximising response to self-completion questionnaires:**

- Include a covering letter or email which should:
  - Attempt to interest the informant
  - Explain the purpose of the study
  - If possible give the informant an ‘angle’
  - Stress confidentiality (see especially the section of chapter 2.1 on ethics, standards and the impact of data privacy legislation)
– If you are conducting a survey on the web, tell respondents how long you think it will take to complete the survey (as, unlike with a paper-based questionnaire, they will not be able to see how long the questionnaire is)

- Make the questionnaire as attractive, interesting and relevant as possible, and not longer than necessary. If conducting a survey on the web, make the most of using graphics to maintain interest.

- Despatch one or two reminder letters or emails (ideally with a further copy of the questionnaire) to those who have not replied 7 to 10 days after the initial mailing.

- Consider offering an incentive (e.g. a summary of selected survey findings in the case of a business-to-business survey).

- If it is a postal survey, enclose a reply-paid envelope.

- For business research, despatch on a Monday (using first-class mail if a postal survey) to arrive early in the working week and not on Friday night when it will be consigned to the waste bin!

- For consumer research, Thursday is the favourite despatch day so that the questionnaire arrives in time for the weekend.

- Use typed envelopes for postal research as opposed to computer labels.

- Address the respondent as “Dear Mr Smith” as opposed to “Dear Sir”.

- Mail a preliminary letter/email in advance of the questionnaire.

- If a postal survey, if possible use a personal signature to the covering letter as opposed to a printed facsimile.

- If a postal survey, use a stamped, as opposed to a franked, outer envelope; and a stamped reply envelope as opposed to a preprinted business reply-paid envelope.

Whatever the advice, remember to judge each tip on its merits. If the effect on response rate is likely to be marginal, the additional costs may not be justified.

**Laying out a paper self-completion questionnaire**

If the questionnaire is on paper, remember the whole questionnaire can be read before completion, so the order of questions should be logical and in line with what people expect. That said, however well thought through the order of questions, respondents will be able to answer them in any order they wish (so you cannot ‘hide’ a question at the end that you want the respondent only to answer at the end of the interview, for example).

If the questionnaire is on the web, the program in which it is written can be used to prevent people reading later questions before they have answered earlier ones, and the program can also prevent them from going back to alter earlier responses. There is therefore much more control over question order (equal to that afforded by CAPI, CATI and CASI).
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Here are a few tips for questionnaire layout which apply particularly to postal and other forms of self-completion questionnaire:

- Good appearance is important. Give the impression that you care about standards.
- But – do not make paper questionnaires too glossy. They should look like professional research rather than promotion.
- Spell out ‘routing’ instructions in paper questionnaires in detail. Informants are not aware of the conventions we take for granted with interviewers. (Web-based questionnaires do not need filter instructions as the computer program can automatically take the respondent to the next appropriate question.)
- Include prominent section headings to break up the whole into ‘manageable chunks’.
- Give worked examples for the more complex questions, e.g. attitude batteries and questions involving grids.
- Explain why certain questions are required if they are not obviously related to the main subject of the study, e.g. business classification questions.
- If you preprint computer codes point them out to informants and ask them to ignore them.
- Do not cramp the questions: it is better to be generous with space than to save a sheet of paper.
- Allow space for respondents to amplify their answers should they so wish; otherwise they might feel frustrated/insulted.
- Reassure the respondents that we still need to hear from them even if they can't answer some of the questions.

Open-ended questions are often valuable to give informants an opportunity to express views not catered for elsewhere. But, a self-completion questionnaire cannot probe like an interview. The volume of comment to open-ended questions is less in the self-completion situation. Therefore:

- Pre-code as much as you can. Pre-code all the options or otherwise the pre-coded answers will get too many endorsements relative to those that have to be written in.
- Regarding awareness questions, remember that respondents can mug up on things before completion.

**How critical is questionnaire length for a self-completion questionnaire?**

It is often said that self-completion response rates are sensitive to questionnaire length. This is true only up to a point. If properly designed, a self-completion questionnaire equivalent to a personal interview of 30 to 40 minutes can work perfectly well.
There are sometimes good reasons for deliberately extending the length of a questionnaire beyond that dictated by data needs; for example:

- To make the questionnaire more interesting for the respondent.
- To camouflage the sponsorship. (Remember the informant can read the whole of a paper-based questionnaire before completing it.)
- To include questions which people expect or might want to be asked.
- To include ‘something for everyone’. A questionnaire which immediately filters out a particular group is likely to achieve a lower response from that group, some of whom will regard themselves as not relevant to the researcher.

**Phone research – special considerations**

The phone interview has more in common with the face-to-face interview than with a postal questionnaire. It is quick and capable of great accuracy (especially where interviewers work under direct supervision in central locations).

Here we look at some of the unique features of phone research that have led to its phenomenal growth in recent years:

1. **Phone ownership – now well over 90 per cent**

   Initially, phone interviewing was less widely used than postal methods for consumer research. Its main drawback was that phone ownership was restricted. Now it is more widely used than the post.

   The reason is that use of the phone has become almost universal with penetration now at over 90 per cent of adults. However, bear in mind that with the rise in ownership of mobile phones, some subgroups are less likely to have a landline. Less than 80 per cent of 16 to 24 year olds live in households with fixed line phones, compared with 99 per cent of the over 65s. There is not yet a robust way of sampling solus mobile phone owners.

   Still, for many markets, the phone provides satisfactory access to representative samples of the population.

2. **The perfect tool for interviewing businesses**

   In business-to-business research phone interviewing really comes into its own, since:

   - Virtually all business premises have a phone.
   - Reasonably good sampling frames exist – with phone numbers.
   - A potential respondent is more likely to give up a few minutes on the phone than make an appointment for a personal call.
   - Samples are usually too widely dispersed to make face-to-face interviewing economic for short interviews.
• It is better to rely on a phone call to establish who is the right person to interview than trust a postal questionnaire to reach the right person.

• Business people are used to the phone; it is less likely to inhibit their response than with consumers.

• The phone can set up ‘hot contacts’ for a postal survey by means of a screening phone call. Frequently your sampling frame is establishments (e.g. from Yellow Pages) and you don’t know whether the establishment qualifies or whom to speak to. Phone screening ideally resolves such questions:
  – It defines eligibility
  – It puts you in contact with the correct respondent
  – It enables you to ‘sell’ the survey and thereby improve the response rate

The follow-up self-completion questionnaire will then collect more information than by the phone alone.

3. The risk of being too intrusive

In the case of consumer research, a phone call penetrates the respondent’s home directly and can rapidly cause antagonism and refusal unless appropriate preliminary action is taken to reassure the respondent (e.g. regarding confidentiality). (For issues of confidentiality in market research, see ethics, standards and the impact of data privacy legislation in chapter 2.1; for legal and self-regulatory restrictions on use of the phone, and for the Telephone Preference Service, see chapter 12.2.)

The introduction is therefore all-important and should cover the interviewer’s name, company, location and the method of sample selection.

4. How long for a phone interview?

Generally, the interview should not be longer than 20 minutes. Of course, there can always be exceptions to this, e.g. if the subject is of great interest to the respondent.

5. Overcoming the absence of visual stimuli

With phone research visual stimuli cannot be shown. Questions must sound well rather than read well. In order to make the respondent’s task easier, responses may need to be built into the question and scales may need to be ‘unfolded’ in stages rather than reeled off all at once; for example:

An agree/disagree scale may need to be handled as follows:

“Do you agree or disagree?”

IF “AGREE”

“Do you agree a little or do you agree strongly?”

IF “DISAGREE”

“Do you disagree a little or do you disagree strongly?”
6. **Phone needs even greater clarity**

   During a face-to-face interview the interviewer can build up a rapport with the respondent and easily spot misinterpretation. In a postal questionnaire the informant can work through the questionnaire at his own pace and go back over his answers to check what he has said.

   Neither of these advantages applies to the phone. Hence a phone questionnaire must be particularly clear and unambiguous.

7. **Avoiding the tendency to rush responses**

   There is evidence that respondents feel greater time pressure when being interviewed on the phone than in a face-to-face interview.

   There is thus a tendency for respondents to rush their responses, particularly to open-ended questions, and provision should be made for this in terms of prompts and probes.

8. **Holding a respondent’s attention on the phone**

   With all phone research there is a greater likelihood of serious distraction than for other types of survey.

   Hence, when designing a phone questionnaire, be particularly aware of the need to maintain the respondent’s attention and concentration by keeping his interest.

   The above considerations add up to particular care still being needed for phone surveys.
How the Automobile Association researches its services by post

Here are some extracts from an AA questionnaire into how well it responds to the needs of its members. The questionnaire was sent to members to investigate attitudes about the breakdown service. We have chosen 7 questions from a total of 28 to demonstrate good practice. The questionnaire is accompanied by a clearly worded covering letter which tells the respondent how to answer the questions, ie:

**SECTION 1: BREAKDOWN**

<table>
<thead>
<tr>
<th>Q1. Which one of the following best describes where you broke down?</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>At or near to own home</td>
<td>1</td>
<td>Motorway (hard shoulder)</td>
</tr>
<tr>
<td>At the home of friends/relatives</td>
<td>2</td>
<td>Car park</td>
</tr>
<tr>
<td>On a country road or road in a village</td>
<td>3</td>
<td>At a garage</td>
</tr>
<tr>
<td>In a town/city centre</td>
<td>4</td>
<td>At work</td>
</tr>
<tr>
<td>In a town/city suburb</td>
<td>5</td>
<td>Other location</td>
</tr>
<tr>
<td>Motorway service area</td>
<td>6</td>
<td></td>
</tr>
</tbody>
</table>

**Question 1.** The motorist should have no problem in recognising and identifying the site of the breakdown from these clear and unambiguous options.

**SECTION 4: OPINION OF STAFF – TELEPHONE**

| Q15a. Please could you rate your opinion of the telephone staff on the following features, using a scale of 1 to 10, where 10 is the most positive answer and 1 is the most negative answer |
|---|---|---|---|---|---|---|---|---|
| Efficient | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | Inefficient (48) |
| Courteous/Polite |   |   |   |   |   |   |   |   |   |   | Rude/Abusive (49) |
| Helpful |   |   |   |   |   |   |   |   |   |   | Unhelpful (50) |
| Professional |   |   |   |   |   |   |   |   |   |   | Unprofessional (51) |
| Warm/Friendly |   |   |   |   |   |   |   |   |   |   | Cold/Unfriendly (52) |

**Question 15a.** Example of a simple but effective rating scale.
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Q20. Other than fixing/diagnosing the problem with the car, what else, if anything, did the AA patrol/garage mechanic do, or offer to do? (Tick all that apply)

Rang me to say they were on their way/had arrived
Offered to contact a relative/friend to let them know I had broken down
Let me sit in his cab while he fixed/diagnosed the problem with the car
Carried out general checks on the car/sorted out another minor fault/advised me on other areas of the car which might need attention
Obtained extra parts needed for the car, which he did not have with him
Followed me: home/to my destination/for a while
Organised Relay for my car
Towed me home/to garage/off road
Took me home/to garage in AA van
Advised me on how to avoid the same problem occurring again
Advised me on what work would need to be done on the car for a more permanent repair
Advised me on how to continue driving my car, until a more permanent repair was possible
Other advice/action (Please write in)

No advice given

Question 20. This could have caused problems for respondents had the designer not provided the guidelines between statement and tick box. Note space for respondent to write in additional responses.

Q21. How do you think the service you received from the AA patrol/garage mechanic compared with your expectations?

Much better than I expected
A little worse than I expected
A little better than I expected
A lot worse than I expected
As I expected

Question 21. Another simple rating scale.

Q25e. In what way(s) was the service better or worse than you expected? (Please write in below)

Q25f. What else, if anything, could the AA have done to improve any part of the overall service you received on this occasion? (Please write in below)

Question 25. These open-ended questions appear at the end of the survey. The respondent has had time to reflect and should now be able to compose a constructive and useful answer.

Source: Corinne Green, Automobile Association, 22.8.97
Thanks to Mr Nigel Caulkin – University of Hertfordshire