

An overview of question types 04

Introduction

There are a few basic structures underlying the different ways a question can be asked and the answers recorded. The questionnaire writer should understand these as the choice will impact the task required of the respondent – and the data that is produced. This will influence the types of analysis and ultimately the usefulness of the data in addressing the reason for asking the question.

Question types

The first classification is whether the question is:

- **Open or closed:** can the answer come from an infinite, or certainly unknown range of responses, or only from a closed or finite number of possibilities?

Two further classifications (which can overlap with the above) are whether the question is:

- **Prompted or spontaneous:** are possible answer options shown or not?
- **Open-ended or pre-coded:** is the answer recorded verbatim or against a list of possible answers? (A pre-coded list can only be used with a spontaneous question if it is interviewer administered and hidden from the respondent.)

Open and closed questions

An open question is one where the range of possible answers is not suggested in the question and which respondents are often expected to answer in their own words:

- What did you eat for breakfast today?
- How did you travel here?
- What did you like about this product?

Open questions always seek a spontaneous (ie unprompted) response. In conversation, one person trying to start another person talking about a topic would use an open question. An open question may elicit a short answer (eg the respondent recounting the one or two items they had for breakfast), or it may lead respondents to talk at length using their own words in order to give fully their answer (eg in answer to, ‘Why do you eat that brand of breakfast cereal more than any other?’).

The response format may be open-ended answers recorded verbatim, or with interviewer-administered surveys only, a list of the most commonly given responses may be provided to the interviewer that can be coded. Open pre-coded questions like this require the interviewer to quickly match the response given to one of the codes available. The questionnaire writer must make sure that the code list is clear, comprehensive, unambiguous and easy for the interviewer to navigate.

On the other hand, closed questions tend to bring conversation to a stop. This is because there is a predictable and usually small set of answers that the respondent can give. Any question that simply requires the answer ‘yes’ or ‘no’ is a closed question, and not helpful to opening out a conversation. An evening spent with a new acquaintance with both of you asking only closed questions would be very dull indeed.

In a research interview, closed questions also include any question where the respondent is asked to choose from a number of alternative answers. Thus, any prompted question is a closed question. Examples of closed questions are:

- Have you drunk any beer in the last 24 hours?
- Are you aged under 25?
- Which of these brands of tinned meat do you buy most often?
- Which of the phrases on this card best indicates how likely you are to buy this product?

The first two can only be answered ‘yes’ or ‘no’, and in the last two the respondent is being asked to choose from a list of possibilities.

Closed, and therefore pre-coded, questions are popular with researchers as processing is cheap. A numeric code can be assigned to each answer

beforehand so transformation into the digital format needed for analysis is easy.

A questionnaire that measures behaviour is likely to consist mostly of closed questions ('Which of these brands ...?', 'When did you last ...?', 'How many did you buy?'), whereas one exploring attitudes is likely to have a higher proportion of open questions. From the point of view of maintaining the involvement of the respondent, the interview should consist of a mixture of both types of question (see Figure 4.1).

Spontaneous questions

A spontaneous question is any question for which the respondent is not given a list of possible answers from which to choose. All open-ended questions are by their nature spontaneous, but, as explained earlier, not all spontaneous questions need be open-ended.

Spontaneous questions will be used when the questionnaire writer:

- does not know what the range of responses is likely to be; or
- wants to collect the response in the respondent's own words; or
- wants the respondent to think for themselves without prompting them.

Figure 4.1 Examples of question types

| OPEN QUESTIONS CAN APPEAR AS EITHER OPEN-ENDED OR PRE-CODED QUESTIONS | | |
|---|--------------|---|
| [OPEN QUESTION] | [OPEN-ENDED] | Why do you prefer Product A to Product B? Please write in your answer in your own words |
| | [PRE-CODED] | Why do you prefer Product A to Product B? [INTERVIEWER OR RESPONDENT: CODE RESPONSE AGAINST LIST OF ANSWERS PROVIDED OR ENTER 'OTHER ANSWER' VERBATIM] |
| [CLOSED QUESTION] | [PRE-CODED] | For which of these reasons do you prefer Product A to Product B? Please mark as many reasons on the list below as apply |

In interviewer administered questionnaires, where it is possible to use either an open-ended or pre-coded response format for spontaneous questions, the decision depends on whether it is important to record the response verbatim and whether the full range – or at least the majority – of likely responses is known.

One of the difficulties with spontaneous questions is that they often require more effort on the part of the respondent. Their motivation to think carefully and answer fully is often affected by the mode of interview. With self-completion questionnaires it is easier to disengage than when an interviewer is present. Lack of motivation also depends on how interested they are in the subject and how engaging the questionnaire itself is.

Common uses of spontaneous questions

Spontaneous open questions are frequently used in market research to measure awareness, recall and attitudes, for example:

- brand awareness;
- awareness of brands seen advertised;
- recall of brands or products used or bought;
- advertising content recall;
- attitudes towards a product, or activity or situation;
- likes and dislikes of a product or concept.

With spontaneous questions we are trying to determine what is at the forefront of people's minds (ie information they can easily access). We interpret this as *saliency* in the case of awareness of brands, or as *importance* in the case of attitudes. However, spontaneous responses are unlikely to reflect respondents' full awareness or attitudes. When investigating behaviour, spontaneous questions might tell you what behaviours are front-of-mind, but often the aim with these more factual measures is to get a more complete and accurate response so a prompted question is usually favoured.

Spontaneous brand awareness

This would be the result of the following (or similar) questioning: 'Which brands of breakfast cereal have you heard of?' The objective here is to obtain every brand that the respondent can think of from memory, and so probes asking for 'what else?' or 'any more?' will be used extensively in interviewer-administered interviews. The list of possible brands will usually be

given as pre-codes on the questionnaire for the interviewer to record responses. Frequently the first brand mentioned will be recorded separately, to give a measure of the one most front or 'top of' mind. A challenge with interpreting saliency measures from spontaneous awareness is that brands may be front-of-mind for many reasons – some positive (eg the most likely to be considered for purchase), some negative (eg a controversial brand, or the subject of recent poor publicity).

If the respondent is able to read-ahead (eg in paper self-completion formats) it will not be possible to obtain spontaneous awareness if any brands are mentioned elsewhere in the questionnaire. With online self-completion this limitation can be overcome if the question writer requests controls to be scripted in to stop forward-reading.

Sometimes we wish to know precisely how respondents refer to a brand, in which case the responses will be recorded verbatim. The researcher can then determine whether it is the brand, sub-brand or variant that is mentioned, or what combination of these. This is particularly used in advertising research where it can be important to know precisely what level of branding is being communicated.

If you are asking spontaneous brand awareness where there are a number of variants, be clear in the question whether you are looking for just the main brand name or the variants as well.

Spontaneous advertising awareness

When evaluating the effect of an advertising campaign, spontaneous advertising awareness is usually a key measure. Exactly how this is measured, though, differs between researchers.

One way is to ask spontaneous brand awareness first, followed by a spontaneous awareness of brands seen advertised, followed by content recall of the advertising claimed to have been seen. All questions require spontaneous responses; the first two are likely to be pre-coded with a list of brands, and the third question will be open-ended:

- Which brands of breakfast cereal have you heard of?
- Which brands of breakfast cereal have you seen or heard advertising for recently?
- What did the advertising say, or what was it about? (Repeat for all brands for which advertising has been seen.)

An alternative approach is not to ask brand awareness first, but to ask the respondent to recall spontaneously any advertising for any brand in the category:

- Please describe to me any advertising that you have seen recently for a breakfast cereal. What did it say? What was it about? What brand was that for? (This question is then repeated until the respondent can recall no more advertising.)
- Please tell me any other brands of breakfast cereal that you have seen advertising for.

Advocates of the second approach claim this focus of attention on the advertising means it is less affected by a common effect of big brands dominating memory, whether or not they have been advertising.

Spontaneous attitudinal questions

Typical spontaneous attitudinal questions are:

- What, if anything, do you like about ...?
- What, if anything, do you dislike about ...?
- How do you feel about ...?
- Please describe to me your feelings about ...?

The responses to these questions would most likely be recorded verbatim as open-ended answers. This enables the capture of the full range of answers, which may include some that were not anticipated. This also allows the researcher to see the precise language used by respondents to describe their feelings and attitudes.

Preliminary qualitative research may have been carried out to determine the full range of attitudes held on the issue in question. Or the study may be a repeat of a previous one in which the attitudes were explored and so can now be defined. In these cases, summaries of the main attitudes may be pre-coded on interviewer-administered questionnaires to save the time and expense of coding the responses at the analysis stage. With self-completion questionnaires pre-coding is not a possibility if the attitudes are to be expressed completely spontaneously.

If you don't know the terminology that is likely to be used by respondents, or how they might express their views, use an open-ended spontaneous question.

Prompted questions

Most people find it difficult to articulate everything that they know or feel about a subject, or they forget that they know something, or they have given one answer and aren't prepared to make further effort to think of additional answers. Prompting with a set of options tells the researcher what people know or recognize, rather than what is front-of-mind. Prompting also particularly helps people to recall actions and behaviour which might otherwise be overlooked. From the researcher's point of view, it means that they express their answers in the framework desired by the researcher – it may also reduce some of the variability caused by respondent limitations. The order of items in a prompted list can have a significant effect on the response. This is considered further in Chapter 11 (Writing effective questions).

Often, both spontaneous and prompted measures are obtained: prompted inevitably giving higher percentages than spontaneous, but the size of the differences providing an additional perspective that can lead to insight (eg understanding why spontaneous scores are much lower for one brand than for another despite both having similar prompted levels).

Open-ended questions

An open-ended question is an open question where the response is recorded verbatim. An open-ended question is nearly always also an open question (it would be wasteful to record yes/no answers verbatim). Open-ended questions (also known as 'unstructured' or 'free-response') are used when:

- We genuinely cannot predict what the responses might be.
- We want to avoid being presumptuous in any way (ie by assuming that we know what the range of answers is likely to be).
- We want to know the precise phraseology or terminology that people use (eg if we are looking to understand and replicate consumer language in communications).
- We want to quote some verbatim responses in the report or presentation to illustrate something such as the respondent's strength of feeling. In response to the question, 'Why will you not use that company again?', a respondent may write in: 'They were awful. They mucked me about for months, didn't respond to my letters, and when they did they could never get anything right. I shall never use them again.' Had pre-codes been given on the questionnaire this might simply have been recorded as 'poor service'. The verbatim response provides much richer information to the end user of the research.

Common topics for open-ended questions include:

- likes and dislikes of a product, concept, advertisement, etc;
- spontaneous descriptions of product images;
- spontaneous descriptions of the content of advertisements;
- reasons for choice of product/store/service provider;
- why certain actions were taken or not taken;
- what improvements or changes respondents would like to see.

These are all directive questions, aimed at eliciting a specific type of response to a defined issue. In addition, non-directive questions can be asked, such as what – if anything – comes to mind when the respondent is shown a new idea, and whether there is anything else that the respondent wants to say on the subject.

Open-ended questions suffer from several drawbacks:

- Respondents frequently find it difficult both to recognize and to articulate how they feel. This is particularly true of negative feelings, so asking open-ended questions concerning what people dislike about something tends to generate a high level of ‘nothing’ or ‘don’t know’ responses.
- Without the clues given by an answer list, respondents sometimes misunderstand the question or answer the question that they want to answer, rather than the one on the questionnaire.
- In interviewer-administered surveys they are subject to error in the way and the detail with which the interviewer records the answer.
- Analyzing the responses can be a difficult, time-consuming, and a relatively expensive process.

In addition, some commentators (Peterson, 2000) see verbosity of respondents as a problem with open-ended questions. It is argued that if one respondent says only one thing that he or she likes about a product, but another says six things, the latter respondent will be given six times the weight of the former in the analysis. To even this up, a suggestion is to only count the first response of the more verbose respondent. In practice, steps are usually taken to encourage all respondents to give as much detail as possible by probing.

Probing

With most open questions it is important to extract from respondents as much information as they can provide for a greater depth of understanding

(eg the first reason they give for having bought one brand may be the same for all brands and will not discriminate). The first responses given to open questions are often very bland, and non-directional probing is required to try to fill out the answer.

Probing is very different from prompting, and the two must not be confused. In prompting, respondents are given a number of possible answers from which to choose, or are given clues to the answers (eg prompting them with specific examples: ‘anything else you liked, for example the appearance or taste?’). Probing makes no suggestions. A typical probe for an interviewer administered questionnaire is:

- What else did you like about the product? [PAUSE. THEN PROBE.]
- What else? [CONTINUE UNTIL NO FURTHER ANSWERS.]

The object here is to keep respondents talking in reply to the initial question in their own words until there is no more that they can or wish to say. They are not led in any direction.

Do not use phrases such as, ‘Is there anything else?’ as a probe. That form of probe allows or even encourages the respondents to say, ‘No, nothing else.’ If the probe is, ‘What else?’ this makes a presumption that there is more that the respondent wants to say and puts the onus on the respondent to indicate that he or she has no more to say. This helps the researcher to obtain the fullest answer rather than helping the respondent to say as little as possible. With self-completion questionnaires, probes in the form of additional instructions can also be used but are likely to be less effective than when interviewer administered. Interestingly the size of the space allowed for the answer has been shown to act as a visual probe, encouraging respondents to keep answering for longer (Christian and Dillman, 2004).

It is occasionally possible to anticipate unhelpful answers and ask for these specific responses to be elaborated.

‘Because it is convenient’ is often given as a reason for a particular behaviour – but is rarely helpful. Include an instruction or follow-up question to find out what ‘convenient’ means.

Coding

To analyze the responses, a procedure known as ‘coding’ is used. This can be either done manually or by specialist software. Manual coding first examines a sample of the answers and groups these under commonly occurring

themes, usually known as a 'code frame'. If the coder is someone other than the researcher, that list of themes needs to be discussed with the researcher to see whether it meets the latter's needs. The coder may have grouped answers relating to low price and to value for money together as a single theme, but for the researcher it may be useful to identify these as separate distinct issues. The researcher may also be looking to see if specific responses occur that have not arisen in the sample of answers listed. It may be important for the researcher to know that few people mention this, but to be sure that this is the case the theme must be included on the code frame. When the list of themes has been agreed, each theme is allocated a code and all questionnaires are then inspected and coded according to the themes within each respondent's answer.

Manual coding is a slow and labour-intensive activity, particularly when there is a large sample size and the questionnaire contains many open-ended questions. Most research agencies will include a limit to the number of open-ended questions in their quote for a project, because it is such a significant variable in the costing.

There are a number of computerized coding systems available that are increasingly used by research companies (Esuli and Sebastiani, 2010). Word recognition software, using a range of keyword searching or text recognition, text mining and sentiment analysis, has also helped to automate this process. These reduce but do not eliminate the human input required. Responses to open-ended questions can be input to word cloud software producing a visual summary of the most frequent terms used.

Pre-coded questions

Pre-coded open questions

This type of question is only found where there is an interviewer. The respondent does not see the list of possible responses (these are purely an aide to the interviewer and the researcher), and so answer in their own words. The pre-codes may simply be a brand list, or they may be used in order to categorize more complex responses (see Figure 4.2).

This type of question requires the questionnaire writer to second-guess what the range of responses is going to be. It is usually done to save time and the cost of coding open-ended verbatim responses. It might also be used to provide some consistency of response by forcing the open responses into a limited number of options. It is important to provide a space for the interviewer to write in answers that are not covered by the pre-codes. It is

Figure 4.2 Pre-codes used to categorize responses to open questions

| | | |
|---|--|---|
| Q. Why did you buy that particular brand of mayonnaise? | | |
| DO NOT PROMPT | | |
| IT'S THE ONE I ALWAYS BUY | | 1 |
| THE ONLY ONE AVAILABLE | | 2 |
| THE CHEAPEST | | 3 |
| ON SPECIAL OFFER | | 4 |
| THE FLAVOUR I WANTED | | 5 |
| THE PACK SIZE I WANTED | | 6 |
| OTHER ANSWER (WRITE IN) | | 7 |

unlikely that the questionnaire writer will have thought of every possible response that will be given, and it is not unusual for quite large proportions of the responses to be written in as 'other answers'. However, there is still a danger that interviewers will try to force responses into one of the codes given rather than write in a response that is close to, but does not quite fit, one of the pre-codes.

The richness and illustrative power of the verbatim answer is lost by providing pre-codes, as are any subtle distinctions between responses, but the processing time and cost will be reduced. Consistency with other surveys may also be increased.

Although it was stated earlier that a pre-coded answer format for an open-ended questionnaire is only an option for interviewer-administered questionnaires, there is a variation for online modes. Once the spontaneous response is obtained, a list of pre-determined codes is revealed, and the respondent asked to select the answer they feel most closely corresponds to their verbatim answer. This allows a quick quantitative analysis of the main themes while still retaining the depth of the verbatim answer.

Pre-coded closed questions

Closed questions will tend to be pre-coded. Either a prompt list of possible answers is used or there is a known and finite number of responses that can be given. There are three main types of pre-coded closed questions:

- dichotomous;
- single response;
- multiple response.

Dichotomous questions

The simplest of closed questions are dichotomous questions, which have only two possible answers:

- Have you drunk any beer in the last 24 hours?
 - Yes
 - No

Dichotomous questions such as these are quick to ask and should be easy to respond to, which makes them potentially useful for screening questions.

Single response questions

Frequently the question will offer a number of possible pre-coded responses, but will be seeking only one answer; this is a multiple-choice single-response question. Examples will be:

- Which brand did you buy most recently?
- Which of these types of exercise do you do most often on these days?
- When did you last visit a museum?
- Out of 10, how would you rate this product?

There may be a number of responses which are simply a range of options (eg a brand list or types of exercise), or the responses may form a type of scale (eg a time scale with various options, or a rating scale).

Multiple response questions

Closed questions with more than one possible answer are known as multiple response (or multi-chotomous) questions. Such a question might be:

- Which makes of beer have you drunk in the last month?
- Which of these types of exercise do you do on all these days?

Clearly, there is a finite number of answers; the range of possible answers is predictable; and the question does not require respondents to say anything 'in their own words'. Defining the brands of interest makes this a closed question.

With both single and multiple response questions, you may want to include an ‘other answer’ response option, with the ability to capture that answer verbatim. For example, if you think a brand list may not be comprehensive or where you are asking about behaviour or attitudes where you cannot predict all possibilities. This then looks like you have created an open question where the respondent can respond in their own words, but the provision of a list of possible responses will inevitably mean that most people will try to fit their answer into one of the responses provided, thus effectively making it closed. See also the issue of satisficing covered in Chapter 9.

‘Don’t know’ responses

Questionnaire writers are often unsure as to whether they should include a ‘don’t know’ response to pre-coded questions.

It can be a legitimate response to many questions where the respondent genuinely does not know the answer, and so a ‘don’t know’ code must be included. For example:

- Which mobile phone service does your partner subscribe to?
- When was your house last repainted?
- From which store was the jar of coffee bought?

With other questions it is not always so clear. These tend to be questions either of opinion, where a likelihood of action is sought, or of recent behaviour – which the respondent could be expected to remember:

- Where in the house would you be most likely to use this air freshener?
- What method of transport did you use to get here today?
- Which brand of tomato soup did you buy most recently?

A concern with including a ‘don’t know’ code is that it may encourage respondents to make less effort to think and if there is any uncertainty – or lack of motivation – to answer ‘don’t know’. With interviewer-administered questionnaires, it is argued, the inclusion of ‘don’t know’ legitimizes it as a response. If it is not on the questionnaire, the interviewer will be more likely to probe for a response that is on the pre-coded list before writing in that the respondent is unable or unwilling to answer the question. It may be prudent, therefore, to limit the use of ‘don’t know’ categories to those questions where the researcher believes it to be a genuine response.

However, with any survey that is scripted (eg online, CAPI or CATI) the software may require an answer to be inputted before it is possible to move onto the next question. Providing a ‘don’t know’ answer here can avoid ethical difficulties whereby the respondent will be forced to give an answer that they feel does not fit.

From a learning perspective the level of ‘don’t know’ responses can provide important information about the knowledge of respondents and their ability to answer the question. Isolated ‘don’t know’ responses when an answer should logically be expected to be known might identify respondents who have been mis-recruited against desired selection criteria. Widespread responses of this type might indicate that the information asked is beyond the scope of this research universe (eg asking an employee about the profitability of their employers business), or that the question is poorly worded and not understood by many of the respondents. This is generally information worth knowing and should encourage the inclusion of ‘don’t know’ codes on the questionnaire.

CASE STUDY Whisky usage and attitude

Types of questions

As our usage and attitude study (U&A) is going to be an online self-completion survey, the range of question types available to us is limited.

Open-ended questions: Our principal interest is whether we use open-ended questions or pre-coded questions. Open-ended questions impose additional work on respondents, as well as being more expensive to analyze, so we shall want to keep them to a minimum.

We should consider an open-ended question for spontaneous brand awareness. Our client’s brand, Crianlarich, is not a major brand, and we need to see how well drinkers can retrieve the name from their memory without any prompting. As a relatively young brand, much advertising effort will be put into transitioning it from being a brand that is recognized to one that is front-of-mind. Spontaneous brand awareness is therefore a key measure.

Respondents will have to enter the name, so we shall also be able to see how often it is incorrectly spelled, which can inform us about potential difficulties with online searches for the brand:

- Please enter the names of as many brands of whisky as you can think of.

The order in which the brands are entered will be collected and we shall hope to see Crianlarich appear higher in the order over time.

Had the performance of advertising been the main focus of this study, we would have considered including a second open-ended question asking respondents to describe any Crianlarich advertising that they had seen or heard, to get a measure of take-out. However, as that is not our main focus, we shall be content with one open-ended question.

Open questions: There will be a number of questions which could be open questions, in that they do not demand an answer from a finite list. These could include:

- Which brands have you seen advertised?
- On what occasions do you drink whisky?

These could be recorded using an open-ended response format. However, we can anticipate most of the responses that we are likely to get, so an open-ended question, with its additional burden to the respondent and cost to us, is not worthwhile. Instead for both questions we shall present a list of responses.

Although there would be an 'other, write-in' response, respondents will have been prompted by what is on screen. This will give those answers greater salience which will steer respondents to choosing one of those. This means that answers written in under 'other' cannot be compared in the frequency distribution to those that have been prompted. For the advertising awareness question, our preference therefore is to limit the list to the main dozen or so brands, with no 'other' option, because we will not use that information. It also helps us to keep the competitive set for this question constant over time (there will be a 'none of these' option). The question then becomes:

- Which of these have you seen advertised?

For an 'occasions' question, we could not presume to know the complete set of occasions on which people may drink whisky, however we may only be interested in broad categorizations based on locations rather than precise details. Here, we would set out a list of what we believe to be the main ones, but retain the 'other, write in' response. Although this, technically remains an open question, from which we may learn of other emerging locations at which it is being drunk, we must accept that respondents will tend to select answers from the list we have provided. Those lacking motivation are unlikely to spend effort describing 'other' situations. The question therefore becomes:

- Where have you drunk Scotch whisky out of the home in the last week?
 - In a pub/bar with friends

- In a pub/bar on my own
- In a restaurant
- In a club
- Other. Please describe:

Closed questions: The majority of the questions will be closed, with a number of answer options for respondents to select from. For example:

- whether whisky drunk at home, out of home, or both;
- whether respondents specify the brand to be bought.

Both of these questions have a specific set of possible responses.

Key take aways: overview of question types

- The question writer faces several choices when deciding the underlying structure of a question:
 - Is an open or closed question needed?
 - Is the response elicited spontaneously or through prompting?
 - Is the response recorded using an open-ended (verbatim) format or via a pre-coded list?
- Both **spontaneous** and **prompted** questions have several main advantages and disadvantages:

Spontaneous:

- respondent-led, front-of-mind thinking;
- doesn't constrain answers;
- good for exploring how a respondent thinks/behaves;
- captures the exact language they use.

However:

- Answering usually requires more effort from the respondent and slows the interview.
- Quality of answers can be particularly affected by motivation and engagement.

- When the answers are recorded verbatim an additional analysis process (coding) is needed.
- Recording against pre-coded lists is only possible if interviewer-administered (hidden from the respondent).

Prompted:

- can reduce effects of respondent memory and motivation to answer fully;
- the answer lists can help to clarify the question;
- usually less effort for the respondent;
- easier and quicker to turn into aggregated analysis.

However:

- more knowledge is needed by the question writer (eg developing an appropriate and comprehensive list);
 - more potential for bias introduced by the question writer's suggestions and assumptions;
 - practical challenges with implementation (eg items catching the eye unequally, long lists to read through, etc).
- Most quantitative questionnaires are mainly comprised of closed, prompted questions using pre-coded answer lists. The number of open spontaneous questions is usually limited to reduce respondent fatigue and for more efficient analysis.