

## **Questionnaire Design**

**A Guide to Successful Market Research Practice**

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**The questionnaire is the most commonly used instrument of collecting primary data.**

### **Functions of the Questionnaire**

- ✘ maintain the respondent's cooperation and involvement
- ✘ communicate with the respondent
- ✘ help the respondent to complete the questionnaire
- ✘ avoid bias
- ✘ make the interviewer's task easier
- ✘ provide a basis for data processing

### **NOTE**

Clarity in the questionnaire (and the planning behind it) is rewarded by clarity in the results.

### **Questions are the key to the research**

They should be developed **carefully** and **skilfully**

They should be comprehensive

They should be in language the respondent understands

They should be neutral and unbiased, to encourage the respondent to answer truthfully

They should not be too complicated

### **Testing Questionnaires**

Initially tests should be carried out internally,

then piloted externally on a small sample.

Revisions may then be made if required.

## **Rules for Questionnaires**

- Restrict requests for information to what can be clearly remembered by respondents.
- Questions should not contain more than one question and should mean the same thing to all respondents.
- Avoid leading questions.
- Keep questions in a logical order.
- Test all questions to ensure:
  - a) questions cannot be misrepresented;
  - b) responses will fulfil the purposes and the objectives of the survey.
- Response methods should be simple and constant as far as possible.

## **Types of Questions**

Open

Closed

## **Open Questions**

Open questions - “Why did you buy Brand X”

- the interviewer is expected to write down all responses
- any answer is acceptable, difficult to classify
- allows spontaneity by the respondent
- more time-consuming during interviews
- require more effort on behalf of the respondent

## **Closed Questions**

Only answers offered on the questionnaire are acceptable.

This type of question makes classifying the answers much simpler.

However they can be much more difficult to write correctly and to test.

## **Types of Closed Questions**

- **Bipolar** - e.g. needs YES or NO answer
- **Multiple choice** – from a set list
- **Scales**, offering a range of responses, numeric, descriptive or Likert
- **Line Scaling**
- **Ranking**

## **Bipolar Questions**

Yes / No

Male / Female

Agree / Don't Agree

Smoke / Don't smoke

These are simple to set, simple to ask,  
simple to analyse.

### **Multiple Choice Questions**

- Must be answered from a set list
- In an interview situation these may be prompted or spontaneous
- Prompted means using either lists or cards, each with one answer, and offering each as a choice in random order

### **Scales**

Scales offer a range of responses

e.g. “excellent, good, fair, poor, diabolical”

or “on a scale of 1 to 5”

or using a **Likert scale**, which has 5 basic answers.

- strongly agree;
- agree;
- neutral (don't know) (Neither agree or disagree);
- disagree;
- strongly disagree.

### **Likert Scales**

The responses to Likert scaled answers can be given positive & negative values and are then easy to score for analysis.

The system is easy to construct and gives reliable quantitative information about ‘feelings’

### **Line Scaling**

**This is an increasingly popular approach, to offer respondents a scale of seven from good to bad, (or from true to false), respondents may mark the level chosen on a horizontal line.**

**It allows the analyser to judge to the nearest half point. The disadvantage is that the respondent may have little idea of what the intermediate points actually mean.**

### **Ranking**

**This is useful when assessing a level of appreciation, or preference.**

**Respondents number a list of options according to their preference.**

**This may be full ranking, all items to be ranked, or it may be partial ranking, where only a sub-set of the list,**

**e.g. their five favourite items, are ranked.**

### **Stages in Survey Design - 1**

**Decide the aims of the study**

**Decide on the variables to be studied**

**Decide on the instrument to be used**

**Decide the method of use**

**Decide on the sample to be tested**

**Choose information required – Quantitative or Qualitative**

**Create the necessary questions**

**Create the response methods**

## **Stages in Survey Design - 2**

Assemble the questions in an appropriate order  
Initial pilot run – using method chosen  
Assess results and rework questions as necessary  
External pilot run – using method chosen  
Assess results and rework questions as necessary  
Brief interviewers  
Carry out survey

## **Stages in Survey Design – 3**

Process data  
Statistical analysis  
Analyse results  
Produce report

We now need to look at each of these stages in more detail.

## **Decide the aims of the study**

Deciding exactly what the aims are will facilitate the question design.

## **Decide on the Variables to be Studied**

If you are studying a range of factors, you may have different variables to consider in the survey. There are several types of variable which may be considered:

- experimental variables;
- dependent variables;
- controlled variables;
- uncontrolled variables (including influences and errors).

These are normally important in hypothesis testing situations and will not be considered further here.

## **Decide on the Instrument to be Used**

In this case we will be using a questionnaire.

## **Decide on the Method of Use**

Often with student questionnaires, because of time restraints, either interviewing or handing out questionnaires to respondents is seen as the most effective means of distribution.

Postal questionnaires generally have a low response rate – a fact that becomes apparent only after a significant delay.

### **Decide on the Sample Constituents (1)**

We might attempt to gain a completely representative sample of a population for a social studies survey. This is difficult, expensive and may not suit our purposes. Most companies would be looking at testing their prospective customer base, possibly identifying certain groups based on age, financial standing, lifestyle or expectations.

### **Decide on the Sample Constituents (2)**

The size of the sample should also be considered here.

We must also decide of the use of either probability or non-probability sampling.

Depending on the above, a decision must be made as to whether or not the ideal sample can be identified and questioned.

### **Choose the Information Required**

Will the study be Quantitative or Qualitative?

Is the study going to need numerical data?

### **Create the Necessary Questions**

Using the range of question types, avoid bias, and any leading questions.

Consider the number of questions

Choose style of sheet, typeface, paper etc. if to be completed by respondent.

Decide whether any extra features are required, show cards, prompts etc.

You may need a filter question

Funnel questions can be used

### **Create the Response Methods**

Each question requires a suitable method for the respondent to enter their view.

Any system should be clear, simple, easily understandable and allow the respondent to enter all the data that we may need.

### **Assemble Questions in Appropriate Order**

- Ask easier questions first.
- Prepare the respondent with the subject of the survey.
- Keep related questions together
- Order questions to keep your respondent interested
- Personal questions should not be too off-putting
- Personal questions should be at the END of the questionnaire NOT at the beginning

### **Initial Pilot Study**

Use the method you have chosen for the full study.

Choose a small sample of respondents carefully - pedantic and/or careful people are the best.

Instruct them to answer the questions asked, (not what they think you want).

### **Assess Results and Rework Questions (as necessary)**

Identify which questions did not work effectively:

Was the data collected what was expected?

Why did questions not get the required data?

Remodel the questions as required.

### **External Pilot Study**

Use the method chosen for the full study

Use a small sample, run the external pilot study as you would the final study.

Special care must be taken to consider the responses to open questions – can these be classified and coded for use?

### **Assess Results and Rework Questions (as necessary)**

Identify which questions did not work effectively:

Was the data collected what was expected?

Why did questions not get the required data?

Remodel the questions as required.

### **Brief your Interviewers**

If using extra interviewers,

- explain any problems, and
- ensure understanding of requirements

in terms of respondents and the way questions are asked.

### **Carry Out Survey**

Survey the full sample.

(Responses from the pilot study should not be used, particularly if question changes have been made).

## Process Data

This involves a response-by-response analysis:

- taking each response,
- coding and
- transcribing into the analysis software.

## Statistical Analysis

Testing the data for statistical significance.

## Analyse Results

Use agreed software,  
assess if extra graphical  
information is required.

## Produce Your Report

Presenting results,  
interpretations of the results  
and producing the conclusions.

## Lifestyle Questionnaire - 1

1. Do you eat baked beans .....
2. Do you smoke? (tick relevant box)  
Yes  No
3. What do you smoke?  
.....
4. Which cigarette brands do you prefer - number FIVE in order of preference  
1 = prefer, 5= least prefer.  
Embassy                      Consulate  
Silk Cut                      John Player  
Camel

## Lifestyle Questionnaire – 2

5. Have you ever smoked : (cross out items never smoked)  
Cigar  
Pipe  
Illicit substance  
Other
6. From the list below circle items purchased regularly, cross out items never purchased:  
Spaghetti                      Dog food  
Sugar                              Cat food  
Rabbit food                      Wine  
Beer                                Tights
- 7a. Which of the above do you buy most regularly?
- 7b. Which of the above do you buy least regularly?

### **Lifestyle Questionnaire – 3**

8. Are you Male or Female ?
9. Age - please place a cross in relevant box
- |          |                       |
|----------|-----------------------|
| Under 21 | <input type="radio"/> |
| 21 - 40  | <input type="radio"/> |
| 40 - 52  | <input type="radio"/> |
| Over 52  | <input type="radio"/> |
10. When buying a computer which of the following would you prefer? Place in number order  
1= least favoured, 5= most favoured.
- one gigabyte memory
  - 16MB ram
  - Removable hard drive
  - Quad speed CD-Rom
  - write back cache
  - SCSI interface.

### **Wording of Questions - 1**

Start with a simple question.

**Do you approve or disapprove of people who go to football matches**  
Yes  No   
**Please explain why.**

Comment on the question and its response boxes

### **Wording of Questions - 2**

**A few Points to Remember.**

**Questions must :-**

- be well written and grammatical**
- be clear**
- ASK what you want to know**
- be answerable**
- mean the same to all**

### **Wording of Questions – 3**

**Many researchers expect respondents to read their minds, to know what they are being asked.**

**Look at the following question.  
What does it mean?**

**Would you like this product? Yes  No**

### **Wording of Questions – 4**

**The previous question was not really clear enough to gather reliable data.**

**Let's consider a clearer question**

**Have you suffered with headaches or hay-fever recently?**

What does a Yes response mean?

### **Wording of Questions – 5**

How about another seemingly simple question.

**Would you rather not use a non-medicated shampoo?**

What does a "No" mean here?

### Wording of Questions – 5

Hypothetical questions should also be avoided.

**Suppose a new highway was built to Shanghai – Would you use it regularly?**

Respondents will answer – but their answers will be unreliable

These questions are poor predictors of people's future actions or attitudes.

### Wording of Questions – 6

**Remember when asking questions – what do you really want to know?**

Do you have a dishwashing machine?

Is there a dishwashing machine in the house where you live?

Is there a dishwashing machine in your home?

Do you have access to a dishwashing machine?

Do you wash your plates and cutlery in a dishwashing machine?

### Are We Speaking the Same Language? - 1

It is often noted in market research activities that people speak many languages – without realising it.

Studies have been carried out to assess the success of large surveys, to see if the respondents really understood the questions and what they were asked to do.

The following screens show two examples of fairly straightforward questions.

### Are We Speaking the Same Language? - 2

Is television advertising time used properly?  
 Yes  No  Not sure

“Television Advertising” was meant to be understood as all advertisements on television of any type or placement.  
..... 84% of respondents interpreted it satisfactorily.

“Time” was meant to refer to the total amount of time spent in presenting advertisements of any type.  
Only 34% of respondents interpreted it correctly.  
.....48% interpreted it as the timing of the adverts.

Only 44% of respondents answered the question satisfactorily.

### Are We Speaking the Same Language? – 3

Do you think that television programmes seen by children are appropriate for them?  
 Yes  No  Not sure

“Television programmes” was meant to be understood as all programmes of any type which children may see.

“programmes seen by” was meant to be understood as all programmes of any type which children do watch.

“children” was meant to be understood as a range approximating to 5 to 14.

### Are We Speaking the Same Language? – 4

The previous question was answered correctly by less than 12% of respondents.

The reasons were :-

...43% eliminated adult programmes from their consideration.

...20% eliminated children's programmes from their consideration

...“seen by” also caused problems as, by some it was taken as “which you allow children to see”

...by others it was taken as “any programmes on TV”

### **Summary of Suggestions - 1**

These are not rules, but are generally seen as good practice. Break them at your peril.

**Keep questions short**

**Avoid double-barrelled questions**

**Avoid double negatives**

**Remember to use “Don’t Know” or “Not Applicable” – not everyone will know.**

**Avoid acronyms, abbreviations and jargon.**

“Do you think UNICEF can prove a link between BMW and HIV before the EU replaces the MFA?”

### **Summary of Suggestions - 2**

**Avoid words with alternative usage.**

**Closed questions can start their lives as open ones, they can become closed after the pilot study.**

**Avoid any leading questions.**

**Try not to make the questions too difficult.**

**Take care with grammar, spelling and layout.**

*Even small errors on your questionnaire will be spotted by some of your respondents, these can annoy people.*

### **Summary of Suggestions - 3**

**Avoid overlapping categories**

**Be clear on time!!!**

**If a response is complex – consider using a small table for the respondent to complete**

Q - How many bottles of the following do you and your family drink per week.

	You	Partner	Child 1	Child 2
Milk	2	1	5	6
Beer	14	12	6	5
Vodka	3	5	0	2

## **The End**

**Now you need to design your questionnaire.**