

**A
Technical
Guide
for**

Questionnaire Design

**&
Sampling**

July 2004



DRAFT

3

Questionnaire based research is not cheap. However, unfortunately, it can take just about as long to design a bad questionnaire as a good one. Similarly, research can be devalued by a poor sampling methodology, with too few completed responses undermining the accuracy of the results.

This Guide provides some practical advice and assistance in avoiding the most common pitfalls. It is written in the form of a check-list accompanied by a series of notes. An electronic copy of the check-list can be accessed at H:\share\Consultation Support (IDU)\Questionnaire_Guide_Checklist. You may wish to take a copy of this and complete it for each survey.

We hope that the Guide is helpful to you in carrying out questionnaire based research. We welcome your feedback on its contents and design so it may be improved in the future. We are also happy to provide further information and advice. Our contact details are on the back cover.

Bruce Hill
Improvement & Development
Manager

Ely Mirzahosseinkhan
Technical Officer

	Page
Prior to designing the questionnaire	4
The covering letter to the questionnaire	6
Three key tests	8
The questions themselves	14
Instructions in completing the questionnaire	22
The style or 'look' of the questionnaire	22
Piloting the questionnaire	22
Sampling	24

Prior to designing the questionnaire

	<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
1.	Be very clear:	
	➤ About the information that you want from the questionnaire.	<input type="checkbox"/>
	➤ About why you want this.	<input type="checkbox"/>
	➤ That the information is not already available.	<input type="checkbox"/>
2.	Complete parts 1-\$ of the survey evaluation framework (Refer to note B). Note 1	<input type="checkbox"/>

Note 1: To be completed by IDU.

A. Why have a Check-List?

Researchers regard questionnaire design (content and style) as an extremely skilled craft that is very much under-rated. The under-rating is probably because:

- We all ask and answer questions every day - so we are all experts.
- The errors that we make in designing questionnaires are not normally measurable (in contrast with, for example, the confidence levels and error limits of sampling)
- Other people tend to suffer from our errors, i.e. respondents, interviewers (where applicable) and data analysts, rather than ourselves as questionnaire designers.

In fact, high quality questionnaire design is vital because nothing in the subsequent analysis can adequately compensate for a poorly designed questionnaire.

B. Note to check 2

Agreed as part of our Consultation Strategy 2004-07, the survey evaluation framework is a form that must be completed for each and every survey or, where the same survey is repeated, for each type of survey. Its overall purpose is to help ensure that our consultation research delivers value for money, produces information that is needed and is used to good effect.

The covering letter to the questionnaire

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input type="checkbox"/>
3. Address your questionnaire to a named individual if possible (Refer to note C).	<input type="checkbox"/>
4. The covering letter to the questionnaire should (Refer to note C):	
➤ Explain, briefly, the purpose of the research.	<input type="checkbox"/>
➤ Assure respondents that the information will be used for improving our services.	<input type="checkbox"/>
➤ Explain how the results will be published.	<input type="checkbox"/>
➤ Set out clearly the name, phone number and email of who to contact in the event of any questions about the survey.	<input type="checkbox"/>
➤ Make it clear when the questionnaire is being sent as a reminder.	<input type="checkbox"/>
➤ Set out clearly the date by which the completed questionnaires should be returned.	<input type="checkbox"/>
➤ Make it clear that a post-paid envelope is enclosed for return of the completed questionnaire.	<input type="checkbox"/>
➤ Thank the respondent, in advance, for their assistance.	<input type="checkbox"/>

C. Note to Checks 3-4 (The Covering Letter to the Questionnaire)

The covering letter should include the information in the check-list as a matter of principle. The covering letter is also very important in encouraging people to complete the questionnaire rather than throw it away.

Three key tests

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
5. Each of your questions should pass the following three acid tests (Refer to note D):	
➤ Will the respondent have a reasonable chance of <i>understanding</i> the question?	<input type="checkbox"/>
➤ Will the respondent, having understood the question, be <i>able</i> to answer it?	<input type="checkbox"/>
➤ Will the respondent, having understood the question and being able to answer it, also be <i>willing</i> to answer it?	<input type="checkbox"/>

D. Note to Check 5

Application of the key tests, shown opposite, to each question contained within a draft questionnaire should help to formulate questions that will achieve valid and reliable feedback. Each of the three tests is itself a question. Starting below, the next few pages take each of these tests in turn and offer guidance on drafting good questions.

Will the Respondent Understand the Question?

- Avoid using unfamiliar words, including technical and professional language.
- Instead, use familiar words that have generally accepted meaning, even if this leads to some imprecision. "The Pill" is better than "oral contraceptive".
- Avoid using ambiguous or imprecise words and concepts. "Dinner" has a variety of different meanings. "Any" is an imprecise word that can be interpreted as "any one" or "every"; for example, "Is your child allowed to cross any road on his/her own"? Some words sound similar; for example, "mints" and "mince".
- Instead, provide a clear statement of the essence of what you want data on. "Midday meal", "evening meal" or "main meal" is preferable to "dinner".

- Avoid complicated wording, including wording with too many qualifying clauses.
- Instead, split the concept into its basic elements and ask a series of questions.
- Avoid abstract or vague concepts because people are not good at generalising and answers to questions about usual or average behaviour will tend to underestimate less common answers. Examples of such questions include: "Which brand of cigarettes do you usually buy?" and "On average, how many hours do you watch ITV per week?"
- Instead, appreciate that people will be influenced by recent experience and ideal responses and ask about the last occasion or "in the last week" etc.
- Some people are poor at understanding arithmetic concepts such as percentages or proportions.
- Where possible, use a simple scale such as, "all, more than half, about half, less than half, none".

Will the Respondent be able to Answer?

- Respondents will have difficulty in answering questions that are too trivial, too technical or too intricate; for example, "Can you tell me the route followed and the information boards you looked at as you went round this exhibition".
- In gathering this sort of information, observation is often a more effective approach than using questionnaires.

- On occasions it is possible to go wrong by assuming that a particular person will be the appropriate person for the subject matter in the survey, for example, assuming that the wife or woman partner does the shopping/cooking etc.
 - Ensure that the target population for study is correctly defined.
- Avoid asking two questions in one; for example, "Are your parents British?"
 - Instead, separate out the questions. "Is your father British?"; "Is your mother British?"
- Sometimes data is required which relates to different members of a household or in relation to households and not individual members, for example, wanting to know about preferred and actual means of accessing council information by each and every member of the household.
 - In these cases a package of data collection tools may be appropriate rather than just relying on a single questionnaire. These include: interviewing different members of the household, leaving diaries and interviewer observation.

- Sometimes it is tempting to ask respondents to perform amazing feats of memory, either in term of very infrequent or very frequent occurrences, for example, "When did you last buy any toffees".
- Instead consider breaking such questions down into a series of questions with categorisation of answers to avoid memory searching. Consider the frequency, importance and distance in time of the event. For example, it would be more realistic to ask, "Did you last buy toffees during the past: Day? Yes/No; Week? Yes/No; Month? Yes/No".

Will the Respondent be Willing to Answer?

- When the subject matter is personal and may be embarrassing (e.g. questions concerning money, personal relationships, sex and bodily functions) there will tend to be a large number of refusals to the question itself and possibly to the continuation of the questionnaire unless great care is taken.
- Fortunately the vast majority of questionnaires issued by a local authority will not involve such sensitive topics. If they do, the relevance of the question needs to be properly explained to the respondent, the question should not go into more detail than necessary (e.g. use income bands rather than request exact amounts) and, where relevant, it is essential to use good interviewers.

- Some questions, though not actually embarrassing to the respondent, may imply standards which the respondent cannot meet, for example, "How often do you clean your teeth?".

- In these cases provide a gentle lead in to suggest that an answer at first thought socially unacceptable is not uncommon, for example, "Many people find they don't have enough time to clean their teeth as often as they would like to. How often do you yourself manage to find time to clean your teeth?"

- Respondents may sometimes not be willing to give the true answer because it is directly critical of the organisation sponsoring the survey or may otherwise appear rude.

- Suggest that a critical answer is perfectly acceptable by providing a "lead in" as described above.

The questions themselves

	<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
6.	Ensure your questionnaire covers the full range of appropriate questions (Refer to note E).	<input type="checkbox"/>
7.	Use balanced rating scales to avoid skewing the results. For example: <input checked="" type="checkbox"/> "Dissatisfied" to "Delighted" is <u>not</u> balanced. <input checked="" type="checkbox"/> "Very dissatisfied" to "Very satisfied" is balanced.	<input type="checkbox"/>
8.	Use continuous rather than categorical rating scales (Refer to note F). For example: <input checked="" type="checkbox"/> Very dissatisfied, Fairly dissatisfied, partly satisfied/partly dissatisfied, Very satisfied, Very Dissatisfied, is a categorical scale. <input checked="" type="checkbox"/> 1 (Very dissatisfied)...2....3....4.... 5 (Very satisfied) is a continuous scale.	<input type="checkbox"/>

E. Note to Check 6

Probably the most common questions are those that ask about satisfaction. However other types of question may be at least as, or even more, useful. These include questions about:

- The importance of services
- Priorities for improvement
- Actual awareness of services versus need to know
- Actual and preferred means of communications

F. Note to Check 8

Continuous rating scales are preferable to categorical rating scales because they enable more comprehensive analysis. For example, a continuous rating scale enables us to calculate a simple average (arithmetic mean) result across the whole scale. This is not technically valid using a categorical scale, even if each category is numbered as well as labelled. This is because, for example, the difference between "Very satisfied" and "Fairly satisfied" is not necessarily the same, in the minds of respondents, as the difference between "Fairly satisfied" and "Partly satisfied/partly dissatisfied".

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
<p>9. Use rating scales with 5 points (Refer to note G). For example : <input checked="" type="checkbox"/> 1 (Very dissatisfied)...2...3...4...5...6...7...8 ... 9...10 (Very satisfied) has too many points.</p> <p><input checked="" type="checkbox"/> 1 (Very dissatisfied)...2...3...4...5 (Very satisfied) has five points.</p>	<p><input type="checkbox"/></p>
<p>10. Enable people to answer "Don't Know", "Not applicable", etc. where warranted.</p>	<p><input type="checkbox"/></p>
<p>11. Avoid asking any ranking questions (Refer to note H). For example : <input checked="" type="checkbox"/> Rank the following list of 6 items in order of importance by writing "1" in the box against the most important, "2" in the box against the second most important, and so on.</p>	<p><input type="checkbox"/></p>
<p>12. Locate the questions asking about the respondent's personal details at the end of the questionnaire.</p>	<p><input type="checkbox"/></p>
<p>13. Request the standard personal details for equal opportunities monitoring (Refer to note I).</p>	<p><input type="checkbox"/></p>
<p>14. Keep the questionnaire to as few pages as possible while using a font size of at least 10points and without cramming.</p>	<p><input type="checkbox"/></p>

G. Note to Check 9

Five-point rating scales are commended because they provide respondents with the scope to grade their views without jeopardising reliability. Faced with a 10-point scale, respondents are likely to have difficulty in differentiating between points 7 and 8, for example. (A result is reliable when repeating the same question to the same respondent in the same circumstances elicits the same response).

H. Note to Check 11

Ranking questions suffer from the disadvantage that the extent of the differences between each selection is not known. For example, an item in a list that is ranked as second most important might be almost on a par with the most important item in the respondent's mind or it might be significantly lower.

Instead of using a ranking question, formulate the question to require respondents to rate each item (in the list) in its own right against a five-point scale.

I. Note to Check 13 (Standard Questions)

ABOUT YOURSELF

To ensure that we are meeting the needs of all residents it is important that we ask you a few questions about yourself. As with all the questions, your answers will be completely confidential.

Are you male or female?

PLEASE TICK (✓) ONE BOX

Male

Female

What was your age on your last birthday?

PLEASE WRITE IN

..... YEARS

Do you have any long-standing illness, disability or infirmity? (long-standing means anything that has troubled you over a period of time or that is likely to affect you over a period of time)

PLEASE TICK (✓) ONE BOX

Yes

No

IF YOU TICKED "YES" PLEASE ANSWER THE NEXT QUESTION (Qn)

IF YOU TICKED "NO" PLEASE GO TO (Qn+1)

Does this illness or disability limit your activities in any way?
PLEASE TICK (✓) ONE BOX

Yes

No

To which of these groups do you consider you belong to?
PLEASE TICK (✓) ONE BOX

<p>White</p> <p>British <input type="checkbox"/></p> <p>Irish <input type="checkbox"/></p> <p>Any other White background (PLEASE WRITE IN) <input type="checkbox"/></p> <p>.....</p>	<p>Black or Black British</p> <p>Caribbean <input type="checkbox"/></p> <p>African <input type="checkbox"/></p> <p>Any other Black background (PLEASE WRITE IN) <input type="checkbox"/></p> <p>.....</p>
<p>Mixed</p> <p>White & Black Caribbean <input type="checkbox"/></p> <p>White & Black African <input type="checkbox"/></p> <p>White & Asian <input type="checkbox"/></p> <p>Any other mixed background (PLEASE WRITE IN) <input type="checkbox"/></p> <p>.....</p>	<p>Asian or Asian British</p> <p>Indian <input type="checkbox"/></p> <p>Pakistani <input type="checkbox"/></p> <p>Bangladeshi <input type="checkbox"/></p> <p>Any other Asian background (PLEASE WRITE IN) <input type="checkbox"/></p> <p>.....</p>
<p>Chinese <input type="checkbox"/></p>	<p>Other ethnic group (PLEASE WRITE IN) <input type="checkbox"/></p> <p>.....</p>

The questions themselves...continued

	<u>Check</u>	<u>Confirm</u> ☑ or ☒
15.	Consider the implications of the order of your questions (Refer to note J).	<input type="checkbox"/>
16.	Keep the use of text questions to a minimum (Refer to note K).	<input type="checkbox"/>
17.	Learn the lessons from previous similar questionnaires (Refer to note L).	<input type="checkbox"/>
18.	Where multiple answers (boxes ticked or crossed) are acceptable or required, include the option of "None of the above" in the answer list (Refer to note M).	<input type="checkbox"/>

J. Note to Check 15

The order in which questions are asked will affect the way that they are answered. For example:

- A question about overall satisfaction with the Council will be influenced by answers to previous questions about satisfaction with individual services.
- A previous question asking for views about options for improving item X will tend to reduce satisfaction with item X as measured by a subsequent question.

K. Note to Check 16

Text questions are many times more expensive to analyse than closed questions. For this reason and because heavy use may deter some people from responding to the questionnaire at all, they should be used sparingly.

L. Note to Check 17

If a questionnaire has been used before, this experience is a valuable source of input to the design of the next questionnaire. For example, a question requiring a single answer may have been answered by a significant number of respondents as a multiple answer question. The next questionnaire needs to be modified to address issues like this.

M. Note to Check 18

Usually, on any survey, some questions will be left unanswered. Where a multiple response question was not answered by a respondent it may be that none of the answers applied - or it may be that the question was not answered for some other reason. Including "None of the above" as an option in the list of possible answers to a multiple choice question will help to remove this uncertainty.

Instructions in completing the questionnaire

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
19. Ensure any routing instructions are: ➤ Clear. ➤ Polite.	<input type="checkbox"/>
20. Ensure your questionnaire makes it clear how many answers (boxes ticked or crossed) are acceptable or required for each question.	<input type="checkbox"/>

The style or 'look' of the questionnaire

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
21. Base your questionnaire on TMBC's 'house-style' booklet unless it is not feasible to do so. If your questionnaire is not based on TMBC's 'house style' booklet, otherwise ensure that it is attractively designed.	<input type="checkbox"/>

Piloting the questionnaire

<u>Check</u>	Confirm <input checked="" type="checkbox"/> or <input checked="" type="checkbox"/>
22. Pilot the questionnaire before 'launching' it for real (Refer to note N).	<input type="checkbox"/>

N. Note to Check 22

Piloting or testing a questionnaire usually takes little time and effort and is well worth it - either because it gives the added peace of mind that the questionnaire works or it has identified problems that would have undermined the value of the results. As a minimum, ask a few colleagues to complete copies of the draft questionnaire.

Sampling

Sampling is intrinsically a technical subject - if in doubt seek technical advice!

Check		Confirm <input type="checkbox"/> of <input type="checkbox"/>
1.	Select your sample using pure random sampling or an alternative probability sampling method (Refer to note A).	<input type="checkbox"/>
2.	Where the total number of people who could be surveyed is 2000(+) ensure that you achieve a minimum sample of 400 cases (completed questionnaires) (Refer to note B).	<input type="checkbox"/>
3.	Where the total number of people who could be surveyed is less than 2000 ensure that you achieve the minimum sample size (it will be less than 400) determined prior to the survey with assistance from the Improvement & Development Unit (Refer to note C).	<input type="checkbox"/>
4.	Ensure that you achieve a minimum response rate of 50% for postal surveys (excluding the Citizens' Panel where the minimum response rate is 80%) (Refer to note D).	<input type="checkbox"/>

A. Note Check 1

Use of probability sampling is essential to ensure that the results of your sample survey can be extrapolated to the whole population under study.

B. Note to Check 2

The results of any sample survey will always be subject to a margin of error. Subject to compliance with step 1, a minimum sample size of 400 will ensure that you can be 95% confident that the result for the whole population under study is within +/- 5% of your sample result. For example, if your sample result is 78%, you can be 95% confident that the result for the overall population is between 73% and 83%. If you require a higher level of confidence and/or a reduced margin of error then it is necessary to increase the sample of completed cases.

C. Note to Check 3

For 'small' populations, below 2000, less than 400 completed cases are needed to be 95% confident that the result for the whole population under study is within +/- 5% of your sample result. The number of completed cases can depend on the size of the small population and can be calculated by use of a formula.

D. Note to Check 4

All reasonable steps should be taken to maximise response rates. This is because certain types of people are more likely to respond to surveys than others and the views of respondents may well differ from those of non-respondents. Good questionnaire design and the use of reminders should help to achieve postal survey response rates of at least 50%.

For further information please contact:

Bruce Hill

Extension: 6020

E-mail: bruce.hill@tmbc.gov.uk

Ely Mirzahosseinkhan

Extension: 6133

E-mail: ely.mirzahosseinkhan@tmbc.gov.uk