Chapter 11

Collecting primary data using questionnaires

Learning outcomes

By the end of this chapter you should:

- understand the advantages and disadvantages of questionnaires as a data collection method;
- be aware of a range of self-completed (Internet, postal, delivery and collection) and interviewer-completed (telephone, face-to-face) questionnaires;
- be aware of the possible need to combine data collection methods within a research project;
- be able to select and justify the use of appropriate questionnaire methods for a variety of research scenarios;
- be able to design, pilot and deliver a questionnaire to answer research questions and to meet objectives;
- be able to take appropriate action to enhance response rates and to ensure the validity and reliability of the data collected;
- be able to apply the knowledge, skills and understanding gained to your own research project.

11.1 Introduction

Within business and management research, the greatest use of questionnaires is made within the survey strategy (Section 5.5). However, both experiment and case study research strategies can make use of these methods. Although you probably have your own understanding of the term 'questionnaire', it is worth noting that there are a variety of definitions (Oppenheim 2000). Some people reserve it exclusively for questionnaires where the person answering the question actually records their own answers, when it is **self-completed**. Others use it as a more general term to include interviews in which the questions are asked either face-to-face or by telephone.

In this book we use **questionnaire** as a general term to include all methods of data collection in which each person is asked to respond to the same set of questions in a predetermined order (De Vaus 2014). An alternative term, which is also widely used, is **instrument** (Ekinci 2015). It therefore includes both face-to-face and telephone questionnaires as well as those in which the questions are answered without an interviewer being present, such as the Auchentoshan Distillery's Internet questionnaire. The range of data collection methods that fall under this broad heading, are outlined in the next section (11.2), along with their relative advantages and disadvantages.

The use of questionnaires is discussed in many research methods texts. These range from those that devote a few pages to it to those that specify precisely how you should construct and use them, such as Dillman et al.'s (2014) **tailored design method**. Perhaps not surprisingly,

Questionnaires are a part of our everyday lives. For modules in your course, your lecturers have probably asked you and your fellow students to complete module evaluation questionnaires, thereby collecting data on students' views. Similarly, when we visit a tourist attraction or have a meal in a restaurant there is often the opportunity to complete a comment card or visitor feedback form. Auchentoshan Whisky Distillery, one of Morrison Bowmore Distillers' three distilleries, is no exception. Visitors to the distillery can take a guided tour during which they see the complete single malt whisky production process, including the triple distillation process, usually only associated with Irish whiskey. They can also taste one of the range of Auchentoshan single malt whiskies. At the end of the tour visitors are asked by their tour guide if they would be willing to complete a one-page feedback form. It starts with a brief introduction emphasising the importance of visitors' opinions in helping the Distillery to improve:

Auchentoshan Distillery
Source: © Morrison Bowmore Distillers Ltd.

Here at Auchentoshan Distillery we are dedicated to the continual improvement of our products, services and to the company itself. To assist us in achieving this and to be in with a chance of winning a free bottle of our Single Malt Whisky, we would be grateful if you could tell us what you thought of your experience today– thank you.

This is followed by eight questions including:

Please score the following topics according to the ratings shown:

1. Distillery Tour & Shop	**Score**	**Ratings**
Welcome and friendliness of our staff.		5 = Excellent
How informative was the tour?		4 = Very Good
How interesting was the tour?		3 = Good
The knowledge of the tour guide.		2 = Fair
Our tour in comparison with any other distilleries you may have visited		1 = Poor
Value for money.		
Product range within the shop		
What did you think of the DVD presentation?		
Name of your tour guide:		

4. Have you visited Auchentoshan Distillery before? **Yes** ☐ **No** ☐

5. Would you recommend us to others or return in the future? **Yes** ☐ **No** ☐

7. Comments/Improvements (please tell us what you thought or where we could improve).

Source: Extract from Auchentoshan questionnaire reproduced with permission of Morrison Bowmore Distillers Ltd

Details about the respondent including their name, country and email address are also collected, visitors being asked to tick a box ☑ if they are over 18 years of age, the legal drinking age in the United Kingdom. Anne Kinnes, the Visitor Centre Operations and Development Manager for Morrison Bowmore, said 'We are committed to offering world class service at all our visitors' centres and the most effective way for us to improve our service is to listen to our customers. One of the methods we use is the feedback form, by using the information we collect this enables us to make improvements to our visitor experience.' These data help the Auchentoshan Distillery maintain high levels of visitor satisfaction.

the questionnaire is one of the most widely used data collection methods within the survey strategy. Because each person (respondent) is asked to respond to the same set of questions, it provides an efficient way of collecting responses from a large sample prior to quantitative analysis (Chapter 12). However, before you decide to use a questionnaire we should like to include a note of caution. Many authors (for example, Bell and Waters 2014; Oppenheim 2000) argue that it is far harder to produce a good questionnaire than you might think. You need to ensure that it will collect the precise data that you require to answer your research question(s) and achieve your objectives. This is of paramount importance because, like the Auchentoshan Distillery, you are unlikely to have more than one opportunity to collect the data. In particular, you will be unable to go back to those individuals who choose to remain anonymous and collect additional data using another questionnaire. These, and other issues, are discussed in Section 11.3.

The design of your questionnaire will affect the response rate and the reliability and validity of the data you collect (Section 5.8). These, along with response rates, can be maximised by:

- careful design of individual questions;
- clear and pleasing visual presentation;
- lucid explanation of the purpose;
- pilot testing;
- carefully planned and executed delivery, and return of completed questionnaires.

Together these form Sections 11.4 and 11.5. In Section 11.4 we discuss designing your questionnaire. Delivery and return of the questionnaire is considered in Section 11.5 along with actions to help ensure high response rates.

11.2 An overview of questionnaires

When to use questionnaires

We have found that many people use a questionnaire to collect data without considering other methods such as examination of secondary sources (Chapter 8), observation (Chapter 9) and semi-structured or unstructured interviews (Chapter 10). Our advice is to evaluate all possible data collection methods and to choose those most appropriate to your research question(s) and objectives. Questionnaires are usually not particularly good for exploratory or other research that requires large numbers of open-ended questions (Sections 10.2 and 10.3). They work best with standardised questions that you can be confident will be interpreted the same way by all respondents (Robson 2011).

Questionnaires therefore tend to be used for descriptive or explanatory research. Descriptive research, such as that undertaken using attitude and opinion questionnaires and questionnaires of organisational practices, will enable you to identify and describe the variability in different phenomena. In contrast, explanatory or analytical research will enable you to examine and explain relationships between variables, in particular cause-and-effect relationships. These two purposes have different research design requirements (Gill and Johnson 2010), which we shall discuss later (Section 11.3).

Although questionnaires may be used as the only data collection method, it may be better to link them with other methods in a mixed or multiple method research design (Sections 5.3 and 5.5). For example, a questionnaire to discover customers' attitudes can be complemented by in-depth interviews to explore and understand these attitudes (Section 10.3).

Types of questionnaire

The design of a questionnaire differs according to how it is delivered, returned or collected and the amount of contact you have with the respondents (Figure 11.1). **Self-completed questionnaires** are usually completed by the respondents and are often referred to as surveys. Such questionnaires can be distributed to respondents through the Internet (**Internet questionnaire**), respondents either accessing the questionnaire through their web browser using a hyperlink (**Web questionnaire**) or directly via a QR (quick response) code scanned into their mobile device (**mobile questionnaire**). Alternatively the questionnaire can be posted to respondents who return them by post after completion (**postal** or **mail questionnaires**) or delivered by hand to each respondent and collected later (**delivery and collection questionnaires**). Responses to **interviewer-completed questionnaires** are recorded by the interviewer on the basis of each respondent's answers. Questionnaires undertaken using the telephone are known as **telephone questionnaires**. The final category, **face-to-face questionnaires**, refers to those questionnaires where interviewers physically meet respondents and ask the questions face-to-face. These are also known as **structured interviews** but differ from semi-structured and unstructured (in-depth) interviews (Section 10.2), as there is a defined schedule of questions from which interviewers should not deviate.

The choice of questionnaire

Your choice of questionnaire will be influenced by a variety of factors related to your research question(s) and objectives (Table 11.1), and in particular the:

- characteristics of the respondents from whom you wish to collect data;
- importance of reaching a particular person as respondent;
- importance of respondents' answers not being contaminated or distorted;
- size of sample you require for your analysis, taking into account the likely response rate;
- types of question you need to ask to collect your data;
- number of questions you need to ask to collect your data.

These factors will not apply equally to your choice of questionnaire, and for some research questions or objectives may not apply at all. The type of questionnaire you choose will dictate how sure you can be that the respondent is the person whom you

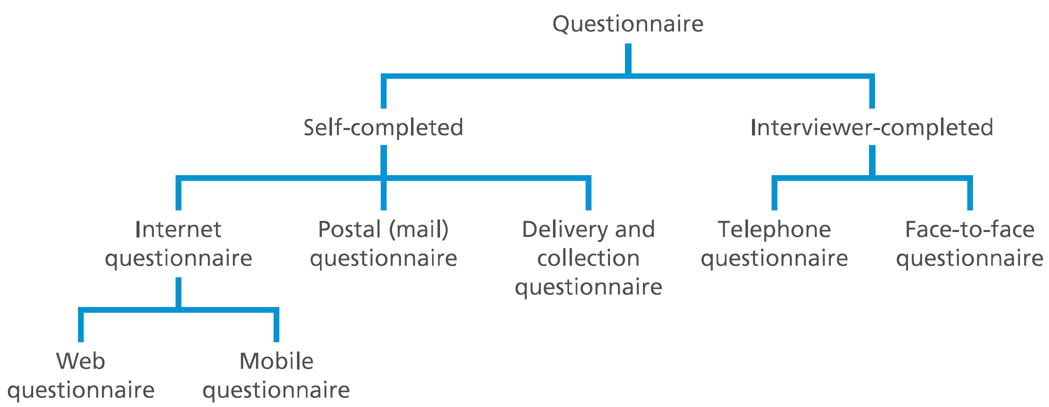


Figure 11.1 Types of questionnaire

Table 11.1 Main attributes of questionnaires

Attribute	Web and mobile	Postal	Delivery and collection	Telephone	Structured interview
Population's characteristics for which suitable	Individuals with access to the Internet, often contacted by email	Literate individuals who can be contacted by post; selected by name, household, organisation, etc.		Individuals who can be telephoned; selected by name, household, organisation, etc.	Any; selected by name, household, organisation, in the street etc.
Confidence that right person has responded	High with email	Low	Low but can be checked at collection	High	
Likelihood of contamination or distortion of respondent's answer	Low	May be contaminated by consultation with others		Occasionally distorted or invented by interviewer	Occasionally contaminated by consultation or distorted/ invented by interviewer
Size of sample	Large, can be geographically dispersed		Dependent on number of field workers	Dependent on number of interviewers	
Likely response rate[a]	Variable to low, 30–50% reasonable for web within organisations, otherwise 10% or even lower	Variable, 30–50% reasonable		High, 50–70% reasonable	
Feasible length of questionnaire	Equivalent of 6–8 A4 pages, minimise scrolling down	6–8 A4 pages		Up to half an hour	Variable depending on location
Suitable types of question	Closed questions but not too complex; complicated sequencing fine if uses software; must be of interest to respondent	Closed questions but not too complex; simple sequencing only; must be of interest to respondent		Open and closed questions, including complicated questions; complicated sequencing feasible	
Time taken to complete collection	2–6 weeks from distribution (dependent on number of follow-ups)	4–8 weeks from posting (dependent on number of follow-ups)	Dependent on sample size, number of field workers, etc.	Dependent on sample size, number of interviewers, etc., but slower than self-completed for same sample size	
Main financial resource implications	Cost of online survey tool, purchase of list of respondents' email addresses	Outward and return postage, photocopying, clerical support, data entry	Field workers, travel, photocopying, clerical support, data entry	Interviewers, telephone calls, clerical support; photocopying and data entry if not using CATI[b]; survey tool if using CATI	Interviewers, travel, clerical support; photocopying and data entry if not using CAPI[c]; survey tool if using CAPI
Role of the interviewer/ field worker	None		Delivery and collection of questionnaires; enhancing respondent participation	Enhancing respondent participation; guiding the respondent through the questionnaire and recording responses; answering respondents' questions	
Data input[d]	Automated	Closed questions can be designed so that responses may be entered using optical mark readers after questionnaire has been returned		Response to all questions entered at time of collection using CATI[c]	Response to all questions can be entered at time of collection using CAPI[d]

[a]Discussed in Chapter 7. [b]Computer-aided telephone interviewing. [c]Computer-aided personal interviewing. [d]Discussed in Section 12.2.

Sources: Authors' experience; Baruch and Holtom (2008); De Vaus (2014); Dillman et al. (2014); Oppenheim (2000) wish to answer the questions and thus the reliability of responses (Table 11.1). Even if you address a postal questionnaire to a company manager by name, you have no way of ensuring that the manager will be the respondent. The manager's assistant or someone else could complete it! Internet questionnaires, delivered by an emailed hyperlink, offer greater control because most people read and respond to their own emails. With delivery and collection questionnaires, you can sometimes check who has answered the questions at collection. By contrast, interviewer-completed questionnaires enable you to ensure that the respondent is whom you want. This improves the reliability of your data. In addition, you can record some details about non-respondents, allowing you to give some assessment of the impact of bias caused by refusals.

Any contamination of respondents' answers will reduce your data's reliability (Table 11.1). Sometimes, if they have insufficient knowledge or experience, they may deliberately guess at the answer, a tendency known as **uninformed response**. This is particularly likely when the questionnaire has been incentivised (Section 11.5). Respondents to self-completed questionnaires are relatively unlikely to answer to please you or because they believe certain responses are more **socially desirable** (Dillman et al. 2014). They may, however, discuss their answers with others, thereby contaminating their response. Respondents to telephone questionnaires and structured interviews are more likely to answer to please due to their contact with you, although the impact of this can be minimised by good interviewing technique (Sections 10.5 and 10.6). Responses can also be contaminated or distorted when recorded. In extreme instances, interviewers may invent responses. For this reason, random checks of interviewers are often made by survey organisations. When writing your project report you will be expected to state your response rate (Section 7.2). When doing this you need to be careful not to make unsubstantiated claims if comparing with other surveys' response rates. While such comparisons place your survey's response rate in context, a higher than normal response rate does not prove that your findings are unbiased (Rogelberg and Stanton 2007). Similarly, a lower than normal response rate does not necessarily mean that responses are biased.

The type of questionnaire you choose will affect the number of people who respond (Section 7.2). Interviewer-completed questionnaires will usually have a higher response rate than self-completed questionnaires (Table 11.1). The size of your sample and the way in which it is selected will have implications for the confidence you can have in your data and the extent to which you can generalise (Section 7.2).

Longer questionnaires are best presented face-to-face like a structured interview. In addition, they can include more complicated questions than telephone questionnaires or self-completed questionnaires (Oppenheim 2000). The presence of an interviewer (or the use of an online survey tool) means that it is also easier to route different subgroups of respondents to answer different questions using a filter question (Section 11.4). The suitability of different types of question also differs between methods.

Your choice of questionnaire will also be affected by the resources you have available (Table 11.1), and in particular the:

- time available to complete the data collection;
- financial implications of data collection and entry;
- availability interviewers and field workers to assist;
- online survey tool.

The time needed for data collection increases markedly for delivery and collection questionnaires and structured interviews where the samples are geographically dispersed (Table 11.1). One way you can overcome this constraint is to select your sample using cluster sampling (Section 7.2). Unless you are using an Internet questionnaire, **computer-aided personal interviewing (CAPI)** or **computer-aided telephone interviewing (CATI)**, you will need to consider the costs of reproducing the questionnaire, clerical support and entering the data for computer analysis. For Internet questionnaires you will need to consider the availability (and often the cost) of obtaining lists of email addresses/telephone numbers and for postal and telephone questionnaires the cost estimates for postage and telephone calls. If you are working for an organisation, postage costs may be reduced by using *Freepost* for questionnaire return. This means that you pay only postage and a small handling charge for those questionnaires that are returned by post. However, the use of Freepost rather than a stamp may adversely affect your response rates (see Table 11.4 below).

Virtually all data collected by questionnaires will be analysed by computer. Many online survey tools (e.g. Qualtrics™, Snap Surveys™ and SurveyMonkey™) allow you to design your questionnaire, capture and automatically save the data, and either analyse the data within the survey tool or download it as a data file for external analysis (Box 11.1). For self-completed questionnaires and structured interviews, data capture is most straightforward for closed questions where respondents select their answer from a prescribed list. Such data will need subsequently to be coded, entered (typed) and saved in the analysis software for subsequent analysis (Section 12.2). Once this has been done

Box 11.1
Focus on student research

Ben's research project involved emailing a hyperlink to a Web questionnaire to small- and medium-sized enterprise owners to discover how they defined small business success. He designed his questionnaire using the online survey tool SurveyMonkey as this would either allow him to analyse his data within the survey tool or export his data to analysis software such as IBM SPSS Statistics, a spreadsheet or a database.

Source: Screenshot created by SurveyMonkey.com, LLC (2014) Palo Alto, Reproduced with permission and the data checked, you will be able to explore and analyse your data far more quickly and thoroughly than by hand (Sections 12.3–12.5). As a rough rule, you should analyse questionnaire data by computer if they have been collected from 30 or more respondents.

In reality, you are almost certain to have to make compromises in your choice of questionnaire. These will be unique to your research as the decision about which questionnaire is most suitable cannot be answered in isolation from your research question(s) and objectives and the population or sample from which you are collecting data.

11.3 Deciding what data need to be collected

Research design requirements

Unlike in-depth and semi-structured interviews (Chapter 10), the questions you ask in questionnaires need to be defined precisely prior to data collection. Whereas you can prompt and explore issues further with in-depth and semi-structured interviews, this will not be possible using questionnaires. In addition, the questionnaire offers only one chance to collect the data as it is often difficult to identify respondents or to return to collect additional information. This means that the time you spend planning precisely what data you need to collect, how you intend to analyse them (Chapter 12) and designing your questionnaire to meet these requirements is crucial if you are to answer your research question(s) and meet your objectives.

For most business and management research the data you collect using questionnaires will be used for either descriptive or explanatory purposes. For questions where the main purpose is to describe the population's characteristics either at a fixed time or at a series of points over time to enable comparisons, you will normally need to deliver your questionnaire to a sample. The sample needs to be as representative and accurate as possible where it will be used to generalise about a population (Sections 7.1–7.3). You will also probably need to relate your findings to earlier research. It is therefore important that you select the appropriate characteristics to answer your research question(s) and to address your objectives. You will need to have:

- reviewed the literature carefully;
- discussed your ideas with colleagues, your project tutor and other interested parties.

For research involving organisations, we have found it essential to understand the organisational context in which we are undertaking the research. Similarly, for international or cross-cultural research it is important to have an understanding of the countries and cultures in which you are undertaking the research. Without this it is easy to make mistakes, such as using the wrong terminology or language, and to collect useless data. For many research projects an understanding of relevant organisations can be achieved through browsing company websites (Section 8.3), observation (Chapter 9) and in-depth and semi-structured interviews (Chapter 10).

Explanatory research is usually deductive, using data to test a theory or theories. This means that, in addition to those issues raised for descriptive research, you need to define the theories you wish to test as relationships between variables prior to designing your questionnaire. You will need to have reviewed the literature carefully, discussed your ideas widely and conceptualised your own research clearly prior to designing your questionnaire (Ghauri and Grønhaug 2010). In particular, you need to be clear about which relationships you think are likely to exist between variables:

- a **dependent variable** that changes in response to changes in other variables;
- an **independent variable** that causes changes in a dependent variable;

- a **mediating variable** that transmits the effect of an independent variable to a dependent variable;
- a **moderating variable** that affects the relationship between an independent variable and a dependent variable (Box 11.2 and Table 5.2).

As these relationships are likely to be tested through statistical analysis (Section 12.5) of the data collected by your questionnaire, you need to be clear about the detail in which they will be measured at the design stage. Where possible, you should ensure that measures are compatible with those used in other relevant research so that comparisons can be made (Section 12.2).

Types of data variable

Dillman et al. (2014) distinguishes between three types of data variable that can be collected through questionnaires:

- factual or demographic;
- attitudes and opinions;
- behaviours and events.

These distinctions are important as they relate to the ease of obtaining accurate data and influence the way your questions are worded (Box 11.3). **Factual** and **demographic variables** contain data that are readily available to the respondent and are likely, assuming the respondent is willing to disclose, to be accurate. These variables include characteristics such as age, gender, marital status, education, occupation and income. They are used to explore how attitudes and opinions, and behaviours and events, differ, as well as to check that the data collected are representative of the total population (Section 7.2). **Attitude** and **opinion variables** contain data that respondents may have needed to think about before answering. They are likely to be influenced by the context in which the question was asked; recording how respondents feel about something or what they think or believe is true or false. **Behaviour** and **event variables** are also likely to be influenced by context. They contain data about what people did (behaviours) or what happened (events) in the past, is happening now, or will happen in the future.

Box 11.2 Focus on student research

Defining theories in terms of relationships between variables

As part of her research, Marie-Claude wished to test the theory that the use of professional fundraisers in charitable fundraising altered the donations made by members of the public.

The relationship that she thought existed between these two variables was that the donations made were higher when professional fundraisers were used. The dependent variable was the value of donations received, and the independent variable was the use of professional fundraisers.

Marie-Claude thought that mediating factors such as the tactics devised by the professional fundraisers (such as media events and advertising) would transmit the effect of the use of professional fundraisers, acting as mediating variables. In contrast, factors such as public opinion about the cause the charity represented and potential donors' disposable income would act as moderating variables. Data were collected on each of these variables.

Box 11.3 Focus on student research

Opinion, behaviour and attribute questions

Sally was asked by her employer to undertake an anonymous survey of financial advisors' ethical values. In particular, her employer was interested in the advice given to clients. After some deliberation she came up with three questions that addressed the issue of putting clients' interests before their own:

2 How do you feel about the following statement? 'Financial advisors should place their clients' interest before their own.'

	strongly agree	❑
	mildly agree	❑
(please tick the appropriate box)	neither agree or disagree	❑
	mildly disagree	❑
	strongly disagree	❑

3 In general, do financial advisors place their clients' interests before their own?

	always yes	❑
	usually yes	❑
(please tick the appropriate box)	sometimes yes	❑
	seldom yes	❑
	never yes	❑

4 How often do you place your clients' interests before your own?

	81–100% of my time	❑
	61–80% of my time	❑
(please tick the appropriate box)	41–60% of my time	❑
	21–40% of my time	❑
	0–20% of my time	❑

Sally's choice of question or questions to include in her questionnaire was dependent on whether she needed to collect data on financial advisors' attitudes, opinions or behaviours. She designed question 2 to collect data on respondents' opinions about financial advisors placing their clients' interest before their own. This question asks respondents how they feel. In contrast question 3 asks respondents whether financial advisors in general place their clients' interests before their own. It is therefore concerned with their individual opinions regarding how financial advisors act. Question 4 focuses on how often the respondents actually place their clients' interests before their own. Unlike the previous questions, it is concerned with their actual behaviour rather than their opinion.

To answer her research questions and to meet her objectives Sally also needed to collect data to explore how ethical values differed between subgroupings of financial advisors. One theory she had was that ethical values were related to age. To test this she needed to collect demographic data on respondents' ages. After some deliberation she came up with question 5:

5 How old are you?

	Less than 30 years	❑
	30 to less than 40 years	❑
(please tick the appropriate box)	40 to less than 50 years	❑
	50 to less than 60 years	❑
	60 years or over	❑

Ensuring that essential data are collected

A problem experienced by many students and organisations we work with is how to ensure that the data collected will enable the research question(s) to be answered and the objectives achieved. Although no method is infallible, one way is to create a **data requirements table** (Table 11.2). This summarises the outcome of a six-step process:

1. Decide whether the main outcome of your research is descriptive or explanatory.
2. Subdivide each research question or objective into more specific investigative questions about which you need to gather data, noting how it relates to theory and key concepts in the literature.
3. Repeat the second stage if you feel that the investigative questions are not sufficiently precise.
4. Keeping in mind relevant theory and key concepts in the literature, identify the variables about which you must collect data to answer each investigative question.
5. Establish the level of detail required from the data for each variable.
6. Develop measurement questions to capture the data at the level required for each variable.

Investigative questions are the questions that you need to answer in order to address satisfactorily each research question and to meet each objective (Bloomberg et al. 2014). They need to be generated with regard to your research question(s) and objectives. For some investigative questions you will need to subdivide your first attempt into more detailed investigative questions. For each you need to be clear whether you are interested in facts/demographics, attitudes/opinions or behaviours/events (discussed earlier), as what appears to be a need to collect one sort of variable frequently turns out to be a need for another. We have found theory and key concepts from the literature, discussions with interested parties and pilot studies to be of help here.

You should then identify the variables about which you need to collect data to answer each investigative question and to decide the level of detail at which these are measured. Again, the review of the literature and associated research can suggest possibilities. However, if you are unsure about the detail needed you should measure at a more precise level. Although this is more time consuming, it will give you flexibility in your analyses. In these you will be able to use computer software to group or combine data (Section 12.2).

Once your table is complete (Box 11.4), it must be checked to make sure that all data necessary to answer your investigative questions are included. When checking, you need

Table 11.2 Data requirements table

Research question/objective:				
Type of research:				
Investigative questions	Variable(s) required	Detail in which data measured	Relation to theory and key concepts in the literature	Check measurement question included in questionnaire ✓

Box 11.4 Focus on student research

Data requirements table

As part of his work placement Greg was asked to discover customer attitudes to the outside smoking area at restaurants and bars. Discussion with senior management and colleagues and reading relevant literature helped him to firm up his objective and investigative questions and the level of detail in which the data were measured. In addition he wanted to be able to compare his findings with earlier research by Louka et al. (2006) in the *Journal of Health Psychology* and Hyland et al. (2009) in the *European Journal of Public Health*.

A selection of his objectives is included in the extract from his table of data requirements:

- **Research question/objective:** To establish customers' attitudes to the outside smoking area at restaurants and bars
- **Type of research:** Predominantly descriptive, although wish to examine differences between restaurants and bars, and between different groups of customers

Investigative questions	***Variable(s) required***	***Detail in which data measured***	***Relation to theory and key concepts in literature***	***Check included in questionnaire ✓***
• *Do customers feel that they should have an outside smoking area at restaurants and bars as a right? (opinion)*	• *Opinion of customer on restaurants and bars providing an outside smoking area as a right*	• *Feel . . . should be a right, should not be a right, no strong feelings [N.B. will need separate questions for restaurants and for bars]*		
• *Do customers feel that restaurants and bars should provide an outside smoking area for smokers? (opinion)*	• *Opinion of customer to the provision of an outside smoking area for smokers*	• *Feel . . . very strongly that it should, quite strongly that it should, no strong opinions, quite strongly that it should not, very strongly that it should not [N.B. will need separate questions for restaurants and for bars]*		
• *Do customers' opinions differ depending on. . .*	• *(Opinion of employee – outlined above)*	• *(Included above)*		
• *. . .whether or not a smoker? (behaviour)*	• *Smoker*	• *Smoker or non-smoker*	• *Hyland et al. (2009) define a smoker as person who has smoked within last month and smoked 100+ cigarettes in their lifetime*	

Investigative questions	*Variable(s) required*	*Detail in which data measured*	*Relation to theory and key concepts in literature*	*Check included in questionnaire* ✓
• *. . .nationality (factual)*		• *Country of origin*	• *Louka et al. (2006) highlights differences between nationalities*	
• *How representative are the responses of customers? (demographic)*	• *Gender of customer; Job*	• *(Included above) Male, female; Higher managerial and professional occupations, Lower managerial and professional occupations, Intermediate occupations, Small employers and own account workers, Lower supervisory and technical occupations, Semi-routine occupations, Routine occupations, Never worked and long-term unemployed*	• *Must be able to compare with Office for National Statistics (2005) Socio-Economic Classification*	

to ensure that only data which are essential to answering your research question(s) and meeting your objectives are included. The final column is to remind you to check that your questionnaire actually includes a measurement question that collects the precise data required!

11.4 Designing the questionnaire

The internal validity and reliability of the data you collect and the response rate you achieve depend, to a large extent, on the design of your questions, the structure of your questionnaire and the rigour of your pilot testing (all discussed in this section). A valid questionnaire will enable accurate data that actually measure the concepts you are interested in to be collected, while one that is reliable will mean that these data are collected consistently. Foddy (1994: 17) discusses validity and reliability in terms of the questions and answers making sense. In particular, he emphasises that 'the question must be understood by the respondent in the way intended by the researcher and the answer given by the respondent must be understood by the researcher in the way intended by the respondent'. This means that there are at least four stages that must occur if the question is to be valid and reliable (Figure 11.2). It also means that the design stage is likely to involve you in substantial rewriting in order to ensure that the respondent decodes the question in the way you intended.

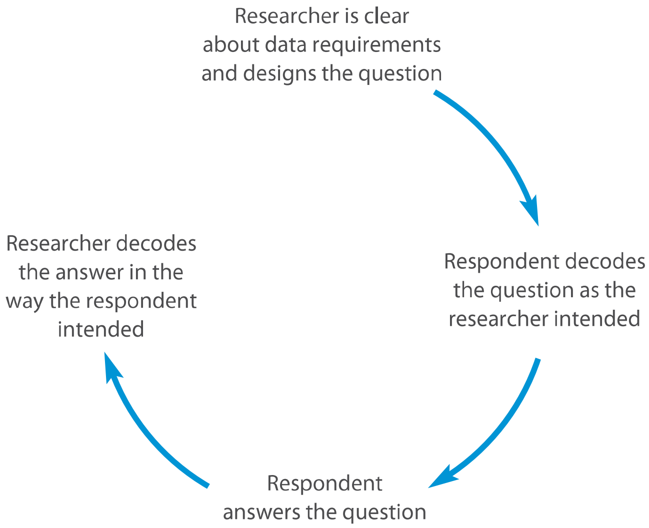


Figure 11.2 Stages that must occur if a question is to be valid and reliable
Source: Developed from Foddy (1994) *Constructing Questions for Interviews and Questionnaires*. Reproduced with permission from Cambridge University Press

Assessing validity

Internal validity in relation to questionnaires refers to the ability of your questionnaire to measure what you intend it to measure. It is sometimes termed **measurement validity** as it refers to concerns that what you find with your questionnaire actually represents the reality of what you are measuring. This presents you with a problem as, if you actually knew the reality of what you were measuring, there would be no point in designing your questionnaire and using it to collect data! Researchers get round this problem by looking for other relevant evidence that supports the answers found using the questionnaire, relevance being determined by the nature of their research question and their own judgement.

Often, when discussing the validity of a questionnaire, researchers refer to content validity, criterion-related validity and construct validity. **Content validity** refers to the extent to which the measurement device, in our case the questions in the questionnaire, provides adequate coverage of the investigative questions. Judgement of what is 'adequate coverage' can be made in a number of ways. One is through careful definition of the research through the literature reviewed and, where appropriate, prior discussion with others. Another is to use a panel of individuals to assess whether each question in the questionnaire is 'essential', 'useful but not essential' or 'not necessary'.

Criterion-related validity, sometimes known as **predictive validity**, is concerned with the ability of the measures (questions) to make accurate predictions. This means that if you are using the data collected by questions within your questionnaire to predict customers' future buying behaviours then a test of these questions' criterion-related validity will be the extent to which the responses actually predict these customers' buying behaviours. In assessing criterion-related validity, you will be comparing the data from your questionnaire with that specified in the criterion in some way. Often this is undertaken using statistical analysis such as correlation (Section 12.5).

Construct validity refers to the extent to which a set of questions (known individually as scale items, and discussed later in this section) actually measures the presence of the construct you intended them to measure. This term is normally used when referring to constructs such as attitude scales, customer loyalty and the like (Section 11.4) and can be thought of as answering the question: 'How well can I generalise from this set of questions to the construct?' Because validation of such constructs against existing data is difficult, other methods are used. Where different scales are used to measure the same construct, the overlap (or correlation) between these scales is known as **convergent validity**. In contrast, where different scales are used to measure theoretically distinct constructs, an absence of overlap (or correlation) between the scales means they are distinctive and have **discriminant validity**. These are discussed in more detail in a range of texts, including Bloomberg et al. (2014).

Testing for reliability

As we outlined earlier, reliability refers to consistency. Although for a questionnaire to be valid it must be reliable, this is not sufficient on its own. Respondents may consistently interpret a question in your questionnaire in one way, when you mean something else! As a consequence, although the question is reliable, this does not really matter as it has no internal validity and so will not enable your research question to be answered. Reliability is therefore concerned with the robustness of your questionnaire and, in particular, whether or not it will produce consistent findings at different times and under different conditions, such as with different samples or, in the case of an interviewer-completed questionnaire, with different interviewers.

Mitchell (1996) outlines three common approaches to assessing reliability, in addition to comparing the data collected with other data from a variety of sources. Although the analysis for each of these is undertaken after data collection, they need to be considered at the questionnaire design stage. They are:

- test re-test;
- internal consistency;
- alternative form.

Test re-test estimates of reliability are obtained by correlating data collected with those from the same questionnaire collected under as near equivalent conditions as possible. The questionnaire therefore needs to be delivered and completed twice by respondents. This may create problems, as it is often difficult to persuade respondents to answer the same questionnaire twice. In addition, the longer the time interval between the two questionnaires, the lower the likelihood that respondents will answer the same way. We therefore recommend that you use this method only as a supplement to other methods.

Internal consistency involves correlating the responses to questions in the questionnaire with each other. It thus measures the consistency of responses across a subgroup of the questions. There are a variety of methods for calculating internal consistency, of which one of the most frequently used is **Cronbach's alpha**. This statistic is usually used to measure the consistency of responses to a set of questions (scale items) that are combined as a scale (discussed later in this section) to measure a particular concept. It consists of an alpha coefficient with a value between 0 and 1. Values of 0.7 or above indicate that the questions combined in the scale are measuring the same thing. Further details of this and other approaches can be found in Mitchell (1996) and in books discussing more advanced statistics and analysis software such as Field (2013).

The final approach to testing for reliability outlined by Mitchell (1996) is 'alternative form'. This offers some sense of the reliability within your questionnaire through comparing responses to alternative forms of the same question or groups of questions.

Where questions are included for this purpose, usually in longer questionnaires, they are often called 'check questions'. However, it is often difficult to ensure that these questions are substantially equivalent. Respondents may suffer from fatigue owing to the need to increase the length of the questionnaire, and they may spot the similar question and just refer back to their previous answer! It is therefore advisable to use check questions sparingly.

Designing individual questions

The design of each question should be determined by the data you need to collect (Section 11.3). When designing individual questions researchers do one of three things (Bourque and Clark 1994):

- adopt questions used in other questionnaires;
- adapt questions used in other questionnaires;
- develop their own questions.

Adopting or adapting questions may be necessary if you wish to replicate, or to compare your findings with, another study. This can allow reliability to be assessed. It is also more efficient than developing your own questions, provided that you can still collect the data you need to answer your research question(s) and to meet your objectives. Some online survey tools include questions that you may use. Alternatively, you may find questions and coding schemes that you feel will meet your needs in existing questionnaires, journal articles or in Internet-based question banks, such as the UK Data Service's Variable and Question Bank (2014). This provides searchable access to over 450,000 questions, over 250,000 of which are closed questions, from a range of UK and cross-national surveys since the mid-1990s.

However, before you adopt questions, beware! There are a vast number of poor questions in circulation, so always assess each question carefully. In addition, you need to check whether they are under copyright. If they are, you need to obtain the author's permission to use them. Even where there is no formal copyright you should, where possible, contact the author and obtain permission. In your project report you should state where you obtained the questions and give credit to their author.

Initially, you need only consider the type, wording and length of individual questions rather than the order in which they will appear on the form. Clear wording of questions using terms that are likely to be familiar to, and understood by, respondents can improve the validity of the questionnaire. Shorter questions are easier to understand than longer ones and questions should, ideally, be no longer than 20 words, excluding possible answers (Sekeran and Bougie 2013). Most types of questionnaire include a combination of open and closed questions. **Open questions**, sometimes referred to as open-ended questions, allow respondents to give answers in their own way (Fink 2013). **Closed questions**, sometimes referred to as closed-ended questions (Fink 2013) or **forced-choice questions** (De Vaus 2014), provide a number of alternative answers from which the respondent is instructed to choose. Closed questions are usually quicker and easier to answer, as they require minimal writing. Responses are also easier to compare as they have been predetermined. However, if these responses cannot be easily interpreted then these benefits are, to say the least, marginal (Foddy 1994). Within this chapter we highlight six types of closed question that we discuss later:

- list, where the respondent is offered a list of items, any of which may be selected;
- category, where only one response can be selected from a given set of categories;

- ranking, where the respondent is asked to place something in order;
- rating, in which a rating device is used to record responses;
- quantity, to which the response is a number giving the amount;
- matrix, where responses to two or more questions can be recorded using the same grid.

As well as:

- creating scales to measure constructs by combining rating questions.

Prior to data analysis, you will need to group and code responses to each question. Detailed coding guidance is given in Section 12.2. You are strongly advised also to read this chapter prior to designing your questions.

Open questions

Open questions are used widely in in-depth and semi-structured interviews (Section 10.5). In questionnaires they are useful if you are unsure of the response, such as in exploratory research, when you require a detailed answer, when you want to find out what is uppermost in the respondent's mind or do not wish to list all possible answers. An example of an open question (from a self-completed questionnaire) is:

6 Please list up to three things you like about your job:

1 ....

2 ....

3 ....

With open questions, the precise wording of the question and the amount of space partially determine the length and fullness of response. However, if you leave too much space the question becomes off-putting. Question 6 collects data about each respondent's opinion of what they like about their job. Thus if salary had been the reason uppermost in their mind this would probably have been recorded first. Unfortunately, when questionnaires are returned by large numbers of respondents, responses to open questions are extremely time consuming to code (Section 12.2). This may be compounded by illegible handwriting. For this reason, it is usually advisable to keep their use to a minimum.

List questions

List questions offer the respondent a list of responses from which she or he can choose either one or more responses. Such questions are useful when you need to be sure that the respondent has considered all possible responses. However, the list of responses must be defined clearly and meaningfully to the respondent. For structured interviews, it is often helpful to present the respondent with a prompt card listing all responses. The response categories you can use vary widely and include 'yes/no', 'agree/disagree' and 'applies/does not apply' along with 'don't know' or 'not sure'. If you intend to use what you hope is a complete list, you may wish to add a catch-all category of 'other'. This has been included in question 7, which collects data on respondents' religion. However, as you can read in Box 11.5, the use of 'other' can result in unforeseen responses, especially where the question is considered intrusive!

7 What is your religion?

Please tick ✓ the appropriate box.

Buddhist	❑	None	❑
Christian	❑	Other	❑
Hindu	❑		
Jewish	❑	(Please say:)	
Muslim	❑		
Sikh	❑		

Question 7 collects demographic data on religion, the respondent ticking (checking) the response that applies. In this list question, the common practice of not asking respondents to both check those that do apply and those which do not has been adopted. Consequently, respondents are not asked to indicate those religions to which they do not belong. If you choose to do this, beware: non-response could also indicate uncertainty, or for some questions that an item does not apply! It is also likely that respondents will not read the list from which they have to select appropriate responses so carefully (Dillman et al. 2014).

Box 11.5 Research in the news

Piety gives way to secularism and heavy metal worship

By Matthew Engel

It is not really appropriate for someone who filled in their 2011 census form with my niggardly gracelessness to start taking an interest now. Nonetheless, the census results announced this week about religious belief are very striking. They tell us a good deal about Britain's progression towards becoming a post religious country. They also tell us something about the way the British fill in forms.

The headline figures were that almost a quarter of the population of England and Wales, 14.1m people, said they had no religion, compared with just under 15 per cent in 2001. This fits with a corresponding fall in the number of declared Christians, from 71 per cent to 59 per cent. The statistics also provided a platform for the right wing press to go off on an anti-immigration riff since they showed a near doubling in the number of Muslims, which ought not to have taken anyone by surprise.

And there were all sorts of little snippets: Norwich and (less surprisingly) Brighton emerged as the most godless towns in the country, followed (very surprisingly) by some once chapel dominated areas of the South Wales Valleys, all of them with more than 40 per cent saying "no religion". In Northern Ireland, the Protestants universally referred to as "the majority" have fallen below half and now lead the Catholics by only 48 per cent to 45 per cent, a finding with all kinds of political implications.

There was much enlightenment in the deepest recesses, too. The number of those calling themselves Jedi knights has halved, the best joke of the 2001 census having run out of steam, but at 176,000 they still outnumbered the 56,000 pagans, 39,000 spiritualists, 30,000 atheists (is that all?), 6,000 heavy metal worshippers (many of them in Norwich) and 2,500 Scientologists, and were not that far behind the 263,000 Jews…

When I put my religion on the census form, I was being bad tempered, resenting the impertinent question. I put myself down as a Myobist. But actually I have adopted, by accident, the sanest religion in the world. I hope the census checkers grasped that Myob was an acronym and remembered what MYOB stands for.

FT *Source:* Adapted from 'Piety gives way to secularism and heavy metal worship', Matthew Engel, *Financial Times*, 15 Dec. 2012.

Category questions

In contrast, **category questions** are designed so that each respondent's answer can fit only one category. Such questions are particularly useful if you need to collect data about behaviour or attributes. The number of categories that you can include without affecting the accuracy of responses is dependent on the type of questionnaire. Self-completed questionnaires and telephone questionnaires should usually have no more than five response categories (Fink 2013). Structured interviews can have more categories provided that a *prompt card* is used (Box 11.6) or, as in question 8, the interviewer categorises the responses.

8 How often do you visit this shopping centre?

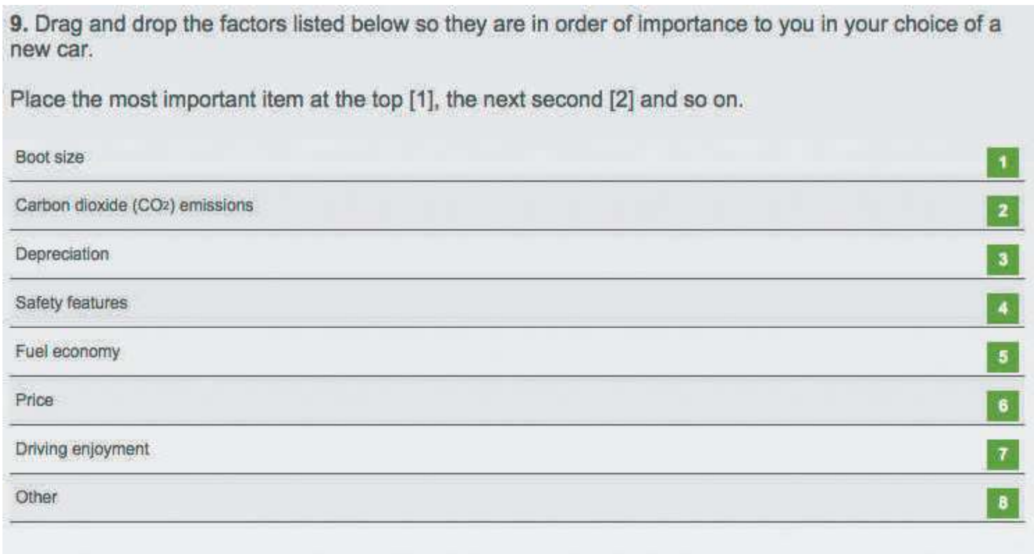
Interviewer: listen to the respondent's answer and tick ✓ as appropriate.

❑	First visit	2 or more times a week	❑
❑	Once a week	Less than once a week to fortnightly	❑
❑	Less than fortnightly to once a month	Less often	❑

You should arrange responses in a logical order so that it is easy to locate the response category that corresponds to each respondent's answer. Your categories should be mutually exclusive (not overlapping), and should cover all possible responses. The layout of your questionnaire should make it clear which boxes refer to which response category by placing them close to the appropriate text.

Ranking questions

A **ranking question** asks the respondent to place things in rank order. This means that you can discover their relative importance to the respondent. In question 9, taken from a Web questionnaire created in Qualtrics, the respondents are asked their opinions about the relative importance of a series of features when choosing a new car. The catch-all



Source: This question was generated using Qualtrics software, Version 595160.546s of the Qualtrics Research Suite. Copyright © 2014 Qualtrics. Qualtrics and all other Qualtrics product or service names are registered trademarks or trademarks of Qualtrics, Provo, UT, USA. http://www.qualtrics.com. The authors are not affiliated to Qualtrics.

Box 11.6
Focus on student research

Use of a prompt card as part of a structured interview

As part of his interview schedule, Peter asked the following question:

> Which of the following newspapers have you read during the past month?

[Show respondent card 3 with the names of the newspapers. Read out names of the newspapers one at a time. Record their response with a ✓ in the appropriate box].

	Read	Not read	Don't know
Daily Express	❑	❑	❑
Daily Mail	❑	❑	❑
The Daily Mirror	❑	❑	❑
Daily Star	❑	❑	❑
Financial Times	❑	❑	❑
The Guardian	❑	❑	❑
The Daily Telegraph	❑	❑	❑
The Independent	❑	❑	❑
The Sun	❑	❑	❑
The Times	❑	❑	❑

Peter gave card 3 to each respondent prior to reading out newspaper names and collected the card after the question had been completed.

feature of 'other' is included to allow respondents to add one other feature, a subsequent question asking them to describe this.

With such questions, you need to ensure that the instructions are clear and will be understood by the respondent. In general, respondents find that ranking more than seven items takes too much effort, reducing their motivation to complete the questionnaire, so you should keep your list to this length or shorter (Bloomberg et al. 2014). Respondents can rank accurately only when they can see or remember all items. This can be overcome with face-to-face questionnaires by using prompt cards on which you list all of the features to be ranked. However, telephone questionnaires should ask respondents to rank fewer items, as the respondent will need to rely on their memory.

Rating questions

Rating questions are often used to collect opinion data. They should not be confused with **scales** to measure concepts (discussed later in this section), which are a coherent set of questions or scale items that are regarded as indicators of a construct or concept (Bruner 2013). Rating questions most frequently use the **Likert-style rating** in which the respondent is asked how strongly she or he agrees or disagrees with a statement or series of statements, usually on a four-, five-, six- or seven-point rating scale (Box 11.7). Possible responses to rating questions should be presented in a straight line (such as in question 10) rather than in multiple lines or columns, as this is how respondents are most likely to process the data (Dillman et al. 2014). If you intend to use a series of

Box 11.7 Focus On management research

Tourists' perceptions of world heritage destinations

Paula Remoaldo and colleagues (2014) published findings from a study examining the profile, destination image and motivations of tourists' visiting the UNESCO world heritage site of Guimarães in Portugal in the *Journal of Tourism and Hospitality Research*.

Prior to designing their questionnaire, Remoaldo and colleagues conducted an in-depth interview with the Office for Tourism to obtain information about the attributes and motivations of tourists. Subsequently a self-administered questionnaire (in both English and Portuguese) was used in the two tourist offices in the City of Guimarães to collect data from the visitors.

The questionnaire comprised three parts. The first part collected data on the cities visited before the tourist arrived at Guimarães. The second part explored each respondent's opinion of the importance of 21 attributes of the city in attracting the tourist to Guimarães. These included monumental and artistic heritage, gastronomy, weather, safety, quality hotels and the like. For each attribute respondents indicated their level of agreement (or disagreement) regarding whether each of these attributes had been a factor in their choice of the city as a specific heritage destination. Agreement/disagreement was rated using a 5-point Likert-type scale comprising 'Completely disagree', 'Disagree', 'Neutral', 'Agree', 'Completely agree'. The third part of the questionnaire asked for demographic data such as gender, age and education.

Data were collected from respondents during three different periods: December (low season), April (middle season) and July and August (high season). A total of 300 questionnaires were filled in, of which 276 provided usable data. The findings suggested that many tourists were aware of the city's status as a world heritage site and that Guimarães' historical background and functionality as a city were the main factors in their choice of visiting the city.

statements, you should keep the same order of response categories to avoid confusing respondents (Dillman et al. 2014). You should include both positive and negative statements so as to ensure that the respondent reads each one carefully and thinks about which box to tick.

10 For the following statement please tick ✓ the box that matches your view most closely.

	Agree	Tend to agree	Tend to disagree	Disagree
I feel employees' views have influenced the decisions taken by management.	❑	❑	❑	❑

Question 10 has been taken from a delivery and collection questionnaire to employees in an organisation and is designed to collect opinion data. In this rating question, an even number of points (four) has been used to force the respondent to express their feelings towards the statement. By contrast, question 11, also from a delivery and collection questionnaire, contains an odd number (five) of points. This inclusion of a neutral point allows the respondent to 'sit on the fence' by ticking the middle 'not sure' category when considering an implicitly negative statement. The phrase 'not sure' is used here as it is less threatening to the respondent than admitting they do not know. This rating question is designed to collect data on employees' opinions of the situation now.

11 For the following statement please tick ✓ the box that matches your view most closely.

	Agree	Tend to agree	Not sure	Tend to disagree	Disagree
I believe there are 'them and us' barriers to communication in the company now.	❑	❑	❑	❑	❑

Both questions 10 and 11 are balanced rating scales as the possible answers are reflected around either an implicit (question 10) or an explicit (question 11) neutral point. The alternative is an unbalanced rating scale, such as question 12, which does not have a neutral point.

You can expand this form of rating question further to record finer shades of opinion, a variety of which are outlined in Table 11.3. However, respondents to telephone questionnaires find it difficult to distinguish between values when rating more than five points plus 'don't know'. In addition, there is little point in collecting data for seven or nine response categories, if these are subsequently combined in your analysis (Chapter 12). Colleagues and students often ask us how many points they should have on their rating scale. This is related to the likely measurement error. If you know that your respondents can only respond accurately to a three-point rating, then it is pointless to have a finer rating scale with more points!

In question 12 (created in Qualtrics) a respondent's opinion – how hot they usually like their curry – is captured on a 10-point numeric rating scale. In such rating questions it is important that the numbers reflect the answer of the respondent. Thus, 1 reflects a mild curry (korma) and 10 an extremely hot curry (phal), the number increasing as the temperature increases. Only these end categories (and sometimes the middle) are labelled and these are known as self-anchoring rating scales. The intermediate numbers are not labelled to maintain simplicity (Allreck and Settle 2004). As in this question,

Table 11.3 Response categories for different types of rating questions

Type of rating	Five categories	Seven categories
Agreement	Strongly agree	Strongly agree
	Agree	Agree/moderately agree/mostly agree*
	Neither agree nor disagree/not sure/uncertain*	Slightly agree
	Disagree	Neither agree nor disagree/not sure/uncertain*
	Strongly disagree	Slightly disagree
		Disagree/moderately disagree/mostly disagree*
		Strongly disagree
Amount	Far too much/nearly all/very large*	Far too much/nearly all/very large*
	Too much/more than half/large*	Too much/more than half/large*
	About right/about half/some*	Slightly too much/quite large*
	Too little/less than half/small*	About right/about half/some*
	Far too little/almost none/not at all*	Slightly too little/quite small*
		Too little/less than half/small*
		Far too little/almost none/not at all*
Frequency	All the time/always*	All the time/always*
	Frequently/very often/most of the time*	Almost all the time/almost always*
	Sometimes/about as often as not/about half the time*	Frequently/very often/most of the time*
	Rarely/seldom/less than half the time*	Sometimes/about as often as not/about half the time*
	Never/practically never*	Seldom
		Almost never/practically never*
		Never/not at all*
Likelihood	Very	Extremely
	Good	Very
	Reasonable	Moderately
	Slight/bit*	Quite/reasonable*
	None/not at all*	Somewhat
		Slight/bit*
		None/not at all*

*Response dependent on question.

Source: Developed from Tharenou et al. (2007) and authors' experience

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a graphic that alters as the slider is moved, can be used to reflect the rating scale visually and aid the respondent's interpretation. An additional category of 'not sure' or 'don't know' can be added and should be separated slightly from the rating scale.

Another variation is the **semantic differential rating question**. These are often used in consumer research to determine underlying attitudes. The respondent is asked to rate a single object or idea on a series of bipolar rating scales. Each bipolar scale is described by a pair of opposite adjectives (question 13), designed to anchor respondents' attitudes. For these rating scales, you should vary the position of positive and negative adjectives from left to right to reduce the tendency to read only the adjective on the left (Bloomberg et al. 2014).

13 On each of the lines below, place an x to show how you feel about the service you received at our restaurant.

Fast __|__|__|__|__|__|__|__|__|__|__ Slow
Unfriendly __|__|__|__|__|__|__|__|__|__|__ Friendly
Value for money __|__|__|__|__|__|__|__|__|__|__ Overpriced

Quantity questions

The response to a **quantity question** is a number, which gives a factual amount of a characteristic. For this reason, such questions tend to be used to collect behaviour or attribute data. A common quantity question, which collects attribute data, is:

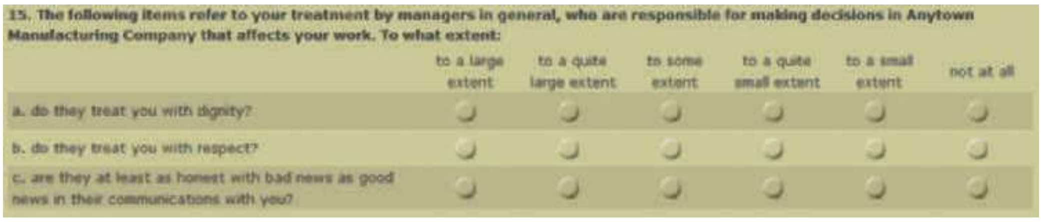
14 What is your year of birth? | | | | |

(for example for 1994 write:) |1|9|9|4|

Because the response to this question data is coded by the respondent, the question can also be termed a **self-coded** question.

Matrix questions

A **matrix** or grid of questions enables you to record the responses to two or more similar questions at the same time. As can be seen from question 15, created in SurveyMonkey™, questions are listed down the left-hand side of the page, and responses listed across the top. The appropriate response to each question is then recorded in the cell where the row and column meet. Although using a matrix saves space, Dillman et al. (2014) suggests that respondents may have difficulties comprehending these designs and that they are a barrier to response.



15. The following items refer to your treatment by managers in general, who are responsible for making decisions in Anytown Manufacturing Company that affects your work. To what extent:

	to a large extent	to a quite large extent	to some extent	to a quite small extent	to a small extent	not at all
a. do they treat you with dignity?	○	○	○	○	○	○
b. do they treat you with respect?	○	○	○	○	○	○
c. are they at least as honest with bad news as good news in their communications with you?	○	○	○	○	○	○

Source: Question layout created by SurveyMonkey.com, LLC (2014) Palo Alto, California. Reproduced with permission

Combining rating questions into scales

Rating questions have been combined into scales to measure a wide variety of concepts such as customer loyalty, service quality and job satisfaction. For each concept the resultant measure or **scale** is represented by a scale score created by combining the scores for each of the rating questions. Each rating question is often referred to as a **scale item**. In the case of a simple Likert-type scale, for example, the scale (or composite) score for each case would be calculated by adding together the scores of each of the rating questions (items) selected (De Vaus 2014). A detailed discussion of creating scales, including those by Likert and Guttman, can be found in DeVellis (2012). However, rather than developing your own scales, it often makes sense to use or adapt existing scales (Schrauf and Navarro 2005). Since scaling techniques were first used in the 1930s, literally thousands of scales have been developed to measure attitudes and personality dimensions and to assess skills and abilities. Details of an individual scale can often be found by following up references in an article reporting research that uses that scale. In addition, there are a wide variety of handbooks that list these scales (e.g. Bruner 2013). These scales can, as highlighted in Box 11.8, be used in your own research providing they:

- measure what you are interested in;
- have been empirically tested and validated;
- were designed for a reasonably similar group of respondents.

Box 11.8
Focus on student research

Using existing scales from the literature

When planning his questionnaire David, like most students, presumed he would need to design and develop his own measurement scale. However, after reading Schrauf and Navarro's (2005) paper on using existing scales, he realised that it would probably be possible to adopt an existing scale, which had been reported in the academic literature. As he pointed out to his project tutor, this was particularly fortunate because the process of scale development was hugely time consuming and could distract his attention from answering the actual research question.

In looking for a suitable published scale David asked himself a number of questions:

- Does the scale measure what I am interested in?
- Has the scale been empirically tested and validated?
- Was the scale designed for a similar group of respondents as my target population?

Fortunately, the answer to all these questions was 'yes'. David, therefore, emailed the scale's author to ask for formal permission.

It is worth remembering that you should only make amendments to the scale where absolutely necessary as significant changes could impact upon both the validity of the scale and, subsequently, your results! You also need to be aware that existing scales may be subject to copyright constraints. Even where there is no formal copyright, you should, where possible, contact the author and ask for permission. In your project report you should note where you obtained the scale and give credit to the author.

Question wording

The wording of each question will need careful consideration to ensure that the responses are valid – that is, measure what you think they do. Your questions will need to be checked within the context for which they were written rather than in abstract to ensure they are not misread and that they do not encourage a particular answer (Box 11.9). Given this, the checklist in Box 11.10 should help you to avoid the most obvious problems associated with wording that threaten the validity of responses.

Box 11.9 Focus on research in the news

Salmond's wording of vote on Scotland rejected

By Kiran Stacey and Mure Dickie

The Scottish government has accepted an amended referendum question for the 2014 vote on whether Scotland should end its three century old union with England. The UK independent Electoral Commission yesterday opposed the Scottish government's plan to ask voters "Do you agree that Scotland should be an independent country?" It said the use of "Do you agree" could encourage them to answer "yes".

The ruling was a rejection of the phrasing championed by Alex Salmond, Scotland's first minister. However, Nicola Sturgeon, the deputy first minister, said the Scottish government would accept the commission's suggestion that the referendum question read simply "Should Scotland be an independent country?"

Ms Sturgeon also accepted the commission's recommendation of campaign spending limits well above the levels proposed by the Scottish government. The commission's report put forward proposed spending limits for the two campaigns, suggesting that each of the lead campaigns should be allowed to spend £1.5m, double the £750,000 limit proposed by the Scottish government.

"I am also pleased with the spending limits proposed by the Electoral Commission they deliver a level playing field and will allow a fair and balanced debate on both sides," said Ms Sturgeon.

The Scottish government's immediate acceptance of the commission's advice avoids a potential dispute that could have been politically damaging to the ruling Scottish National party. The SNP welcomed the commission's call for the UK and Scottish governments to agree a "joint position" on what would happen in the event of a Yes or No vote.

FT *Source:* From 'Salmond's wording on vote for Scotland rejected', Kiran Stacey and Mure Dickie, *Financial Times*, 31 Jan 2013. Copyright © 2013 The Financial Times

Box 11.10 Checklist

Your question wording

- ✔ Does your question collect data at the right level of detail to answer your investigative question as specified in your data requirements table?
- ✔ Will respondents have the necessary knowledge to answer your question? A question on the implications of a piece of European Union legislation would yield meaningless answers from those who were unaware of that legislation.
- ✔ Does your question appear to talk down to respondents? It should not!
- ✔ Does your question challenge respondents' mental or technical abilities? Questions that do this are less likely to be answered.
- ✔ Are the words used in your question familiar to all respondents, and will all respondents understand them in the same way? In particular, you should use simple words and avoid jargon, abbreviations and colloquialisms.
- ✔ Are there any words that sound similar and might be confused with those used in your question? This is a particular problem with interviewer-completed questionnaires.
- ✔ Are there any words that look similar and might be confused if your question is read quickly? This is particularly important for self-completed questionnaires.
- ✔ Are there any words in your question that might cause offence? These might result in biased responses or a lower response rate.
- ✔ Can your question be shortened? Long questions are often difficult to understand, especially in interviewer-completed questionnaires, as the respondent needs to remember the whole question. Consequently, they often result in no response at all.
- ✔ Are you asking more than one question at the same time? The question 'How often do you visit your mother and father?' contains two separate questions, one about each parent, so responses would probably be impossible to interpret.
- ✔ Does your question include a negative or double negative? Questions that include the word 'not' are sometimes difficult to understand. The question 'Would you rather not use a non-medicated shampoo?' is far easier to understand when rephrased as: 'Would you rather use a medicated shampoo?'
- ✔ Is your question unambiguous? This can arise from poor sentence structure, using words with several different meanings or having an unclear investigative question. If you ask 'When did you leave school?' some respondents might state the year, others might give their age, while those still in education might give the time of day! Ambiguity can also occur in category questions. If you ask employers how many employees they have on their payroll and categorise their answers into three groups (up to 100, 100–250, 250 plus), they will not be clear which group to choose if they have 100 or 250 employees.
- ✔ Does your question imply that a certain answer is correct? If it does, the question is biased and will need to be reworded, such as with the question 'Many people believe that too little money is spent on our public Health Service. Do you believe this to be the case?' For this question, respondents are more likely to answer 'yes' to agree with and please the interviewer.
- ✔ Does your question prevent certain answers from being given? If it does, the question is biased and will need to be reworded. The question 'Is this the first time you have pretended to be sick?' implies that the respondent has pretended to be sick whether they answer yes or no!
- ✔ Is your question likely to embarrass the respondent? If it is, then you need either to reword it or to place it towards the end of the survey when you will, it is to be hoped, have gained the respondent's confidence. Questions on income can be asked as either precise amounts (more embarrassing), using a quantity question, or income bands (less embarrassing), using a category question. Questions on self-perceived shortcomings are unlikely to be answered.
- ✔ Have you incorporated advice appropriate for your type of questionnaire (such as the maximum number of categories) outlined in the earlier discussion of question types?
- ✔ Are answers to closed questions written so that at least one will apply to every respondent and so that each of the responses listed is mutually exclusive?
- ✔ Are the instructions on how to record each answer clear?

Translating questions into other languages

Translating questions and associated instructions into another language requires care if your translated or target questionnaire is to be decoded and answered by respondents in the way you intended. For international research this is extremely important if the questions are to have the same meaning to all respondents. For this reason Usunier (1998) suggests that when translating the source questionnaire attention should be paid to:

- **lexical meaning** – the precise meaning of individual words (e.g. the French word *chaud* can be translated into two concepts in English and German, 'warm' and 'hot');
- **idiomatic meaning** – the meanings of a group of words that are natural to a native speaker and not deducible from those of the individual words (e.g. the English expression for informal communication, 'grapevine', has a similar idiomatic meaning as the French expression *téléphone arabe*, meaning literally 'Arab telephone' and the German expression *Mundpropaganda*, meaning literally 'mouth propaganda');
- **experiential meaning** – the equivalence of meanings of words and sentences for people in their everyday experiences (e.g. terms that are familiar in the source questionnaire's context such as 'dual career household' may be unfamiliar in the target questionnaire's context);
- **grammar and syntax** – the correct use of language, including the ordering of words and phrases to create well-formed sentences (e.g. in Japanese the ordering is quite different from English or Dutch, as verbs are at the end of sentences).

Usunier (1998) outlines a number of techniques for translating your source questionnaire.

These, along with their advantages and disadvantages, are summarised in Table 11.4. In this table, the **source questionnaire** is the questionnaire that is to be translated, and the **target questionnaire** is the translated questionnaire. When writing your final project report, remember to include a copy of both the source and the target questionnaire as appendices. This will allow readers familiar with both languages to check that equivalent questions in both questionnaires have the same meaning.

Question coding

As you will be analysing your data by computer, question responses will need to be coded prior to entry. If you are using an online survey tool, this will be done automatically. The selected response to each closed question will either be given a numeric code or the selected answer recorded. For open questions the text entered by the respondent should be recorded verbatim. Responses automatically saved and can subsequently be exported as a data file in a variety of formats such as Excel™, IBM SPSS Statistics compatible or a comma-delimited file (Box 11.1).

For paper-based questionnaires you will need to allocate the codes yourself. For numerical responses, actual numbers can be used as codes. For other responses, you will need to design a coding scheme. Whenever possible, you should establish the coding scheme prior to collecting data and incorporate it into your questionnaire. This should take account of relevant existing coding schemes to enable comparisons with other data sets (Section 12.2).

For most closed questions codes are given to each response category. If you are using a paper questionnaire, these can be printed on the questionnaire, thereby **pre-coding** the question and removing the need to code after data collection. Two ways of doing this are illustrated by questions 16 and 17, which collect data on the respondents' opinions.

Table 11.4 Translation techniques for questionnaires

	Direct translation	Back-translation	Parallel translation	Mixed techniques
Approach	Source questionnaire to target questionnaire	Source questionnaire to target questionnaire to source questionnaire; comparison of two new source questionnaires; creation of final version	Source questionnaire to target questionnaire by two or more independent translators; comparison of two target questionnaires; creation of final version	Back-translation undertaken by two or more independent translators; comparison of two new source questionnaires; creation of final version
Advantages	Easy to implement, relatively inexpensive	Likely to discover most problems	Leads to good wording of target questionnaire	Ensures best match between source and target questionnaires
Disadvantages	Can lead to many discrepancies (including those relating to meaning) between source and target questionnaire	Requires two translators, one a native speaker of the source language, the other a native speaker of the target language	Cannot ensure that lexical, idiomatic and experiential meanings are kept in target questionnaire	Costly, requires two or more independent translators. Implies that the source questionnaire can also be changed

Source: Developed from Usunier (1998) 'Translation techniques for questionnaires' in International and Cross-Cultural Management Research. Copyright © 1998 Sage Publications, reprinted with permission

16	Is the service you receive? (Please circle O the number)	Excellent 5	Good 4	Reasonable 3	Poor 2	Awful 1
17	Is the service you receive? (Please tick ✓ the box)	Excellent ❑$_5$	Good ❑$_4$	Reasonable ❑$_3$	Poor ❑$_2$	Awful ❑$_1$

The codes allocated to response categories will affect your analyses. In both questions 16 and 17 an ordered scale of numbers has been allocated to adjacent responses. This will make it far easier to aggregate responses using a computer (Section 12.2) to 'satisfactory' (5, 4 or 3) and 'unsatisfactory' (2 or 1). Consequently we recommend that when an online survey tool records responses to closed questions as text, these are re-coded to numerical values.

For open questions you will need to reserve space on your data collection form to code responses after data collection. Question 18 has been designed to collect attribute data in a sample survey of 5000 people. Theoretically there could be hundreds of possible responses, and so sufficient spaces are left in the 'For office use only' box.

18 What is your full job title?

....

For Office use only
❑ ❑ ❑

Open questions, which generate lists of responses, are likely to require more complex coding using either the multiple-response or the multiple-dichotomy method. These are discussed in Section 12.2, and we recommend that you read this prior to designing your questions.

Constructing the questionnaire

The order and flow of questions

When constructing your questionnaire it is a good idea to spend time considering the order and flow of your questions. These should be logical to the respondent (and interviewer) rather than follow the order in your data requirements table (Table 11.2). They should take account of possible bias caused by the ordering of the questions. For example, a question asking a respondent to list the possible benefits of a new shopping centre could, if preceding a question about whether the respondent supports the proposed new shopping centre, bias respondents' answers in favour of the proposal.

To assist the flow of the questions it may be necessary to include **filter questions**. These identify those respondents for whom the following question or questions are not applicable, so they can skip those questions. You should beware of using more than two or three filter questions in paper-based self-completed questionnaires, as respondents tend to find having to skip questions annoying. More complex filter questions can be programmed using online survey tools and CAPI and CATI software so that skipped questions are never displayed on the screen and as a consequence never asked (Dillman et al. 2014). In such situations the respondent is unlikely to be aware of the questions that have been skipped. The following example uses the answer to question 19 to determine whether questions 20 to 24 will be answered. (Questions 19 and 20 both collect factual data.)

19	Are you currently registered as unemployed?	Yes		❑$_1$	
	If 'no' go to question 25	No		❑$_2$	
20	How long have you been registered as unemployed?	☐☐	years	☐☐	months
	(for example, for no years and six months write):	☐ 0	years	☐ 6	months

Where you need to introduce new topics, phrases such as 'the following questions refer to . . . or 'I am now going to ask you about . . .' are useful. And when wording your questions, you should remember the particular population for whom your questionnaire is designed. For interviewer-completed questionnaires, you will have to include instructions for the interviewer (Box 11.11). The checklist in Box 11.12 should help you to avoid the most obvious problems associated with question order and flow. For some questionnaires the advice contained may be contradictory. Where this is the case, you need to decide what is most important for your particular population.

The visual presentation of the questionnaire

Visual presentation is important for interviewer-completed, Internet and other self-completed questionnaires. Interviewer-completed questionnaires should be designed to make reading questions and filling in responses easy. The visual presentation of Internet and

Box 11.11 Focus on student research

Introducing a series of rating questions in a telephone questionnaire

As part of a telephone questionnaire, Stefan needed to collect data on respondents' opinions about motorway service stations. To do this he asked respondents to rate a series of statements using a Likert-type rating scale. These were recorded as a matrix. Because his survey was conducted by telephone the rating scale was restricted to four categories: strongly agree, agree, disagree, strongly disagree.

In order to make the questionnaire easy for the interviewer to follow, Stefan used italic script to highlight the interviewer's instructions and the words that the interviewer needed to read in bold. An extract is given below:

Now I'm going to read you several statements. Please tell me whether you strongly agree, agree, disagree or strongly disagree with each.

Interviewer: read out statements 21 to 30 one at a time and after each ask. . .

Do you strongly agree, agree, disagree or strongly disagree?

Record respondent's response with a tick ✓

	strongly agree	agree	disagree	strongly disagree
21 I think there should be a greater number of service stations on motorways	❑$_4$	❑$_3$	❑$_2$	❑$_1$

Box 11.12 Checklist

Your question order

- ✔ Are questions at the beginning of your questionnaire more straightforward and ones the respondent will enjoy answering? Questions about attributes and behaviours are usually more straightforward to answer than those collecting data on opinions.
- ✔ Are questions at the beginning of your questionnaire obviously relevant to the stated purpose of your questionnaire? For example, questions requesting contextual information may appear irrelevant.
- ✔ Are questions and topics that are more complex placed towards the middle of your questionnaire? By this stage most respondents should be undertaking the survey with confidence but should not yet be bored or tired.
- ✔ Are personal and sensitive questions towards the end of your questionnaire, and is their purpose clearly explained? On being asked these a respondent may refuse to answer; however, if they are at the end of an interviewer-completed questionnaire you will still have the rest of the data!
- ✔ Are filter questions and routing instructions easy to follow so that there is a clear route through the questionnaire?
- ✔ (For interviewer-completed questionnaires) Are instructions to the interviewer easy to follow?
- ✔ Are questions grouped into obvious sections that will make sense to the respondent?
- ✔ Have you re-examined the wording of each question and ensured it is consistent with its position in the questionnaire as well as with the data you require?

other self-completed questionnaires should, in addition, be attractive to encourage the respondent to fill it in and to return it, while not appearing too long. A two-column layout for a paper-based questionnaire (as in Case 11 at the end of this chapter) can look attractive without decreasing legibility (Ekinci 2015). For Internet questionnaires a single column is preferable while, due to the screen size, only one question per page is often preferable for mobile questionnaires (Dillman et al. 2014). However, where the choice is between an extra page (or screen) and a cramped questionnaire the former is likely to be more acceptable to respondents (Dillman et al. 2014). Online survey tools contain a series of style templates for typefaces, colours and page layout, which are helpful in producing a professional-looking questionnaire more quickly. For paper-based surveys, the use of colour will increase the printing costs. However, it is worth noting that the best way of obtaining valid responses to questions is to keep both the visual presentation of the questionnaire and the wording of each question simple (Dillman 2014).

Research findings on the extent to which the length of your questionnaire will affect your response rate are mixed (De Vaus 2014). There is a widespread view that longer questionnaires will reduce response rates relative to shorter questionnaires (Edwards et al. 2002). However, a very short questionnaire may suggest that your research is insignificant and hence not worth bothering with. Conversely, a questionnaire that takes over an hour to complete might just be thrown away by the intended respondent. In general, we have found that a length of between four and eight A4 pages has been acceptable for within-organisation self-completed questionnaires. Telephone questionnaires of up to half an hour have caused few problems, whereas the acceptable length for structured interviews can vary from only a few minutes in the street to over two hours in a more comfortable environment (Section 10.6). Based on these experiences, we recommend you follow De Vaus' (2014) advice:

- Do not make the questionnaire longer than is really necessary to meet your research questions and objectives.
- Do not be too obsessed with the length of your questionnaire.

Remember you can reduce apparent length without reducing legibility by using matrix questions (discussed earlier) and, for paper questionnaires, presenting the questions in two columns. Box 11.13 discusses the impact on responses of delivering a questionnaire using the Internet rather than by mail and Box 11.14 summarises the most important layout issues as a checklist of common mistakes to avoid.

Explaining the purpose of the questionnaire

The covering letter or welcome screen

Most self-completed questionnaires are accompanied by a **covering letter**, email, text or SMS message, or have a welcome screen which explains the purpose of the survey. This is the first part of the questionnaire that a respondent should look at. Unfortunately, some of your sample will ignore it, while others use it to decide whether to answer the accompanying questionnaire.

Dillman et al. (2014) and others note the messages contained in a self-completed questionnaire's covering letter will affect the response rate. The results of Dillman et al.'s research, along with requirement of most ethics committees to stress that participation is voluntary, are summarised in the annotated letter (Figure 11.3).

For some research projects you may also send a letter prior to delivering your questionnaire. This will be used by the respondent to decide whether to grant you access. Consequently, it is often the only opportunity you have to convince the respondent to participate in your research. Ways of ensuring this are discussed in Sections 6.2 to 6.4.

Box 11.13 Focus on management research

Comparing responses to Internet (Web) and postal (mail) questionnaires

Saunders' (2012) paper, 'Web versus mail: The influence of survey distribution mode on employees' response' in the journal *Field Methods*, uses an experimental design to examine implicitly the impact of distribution mode where employees are IT literate and already have access to the Internet as part of their everyday work.

Using an employee attitude survey distributed to a 50 per cent systematic sample of 3338 employees by mail, remaining employees receiving the survey via a web link (hyperlink), Saunders found, in contrast to many earlier studies, the return rate for the Web (49.1 per cent) was higher than that for mail (33.5 per cent). Although utility of web returns was reduced by a higher number of partial responses and abandonments (particularly for demographic questions), the rate for complete responses was still higher for the Web than for mail. Significant differences between web and mail responses were small other than those for open question: 'If there are any other areas or issues that concern you, please feel free to comment below . . .' Nearly 20 per cent of respondents provided written response to this question, there being no significant association between the distribution modes regarding whether or not a comment was provided, its tone or the topics covered. However, length of responses to this open question differed significantly, the mean length for web responses being twice that for mail distribution.

Drawing on his findings and the literature reviewed, Saunders offered a series of recommendations concerning the use of web surveys:

1. For research in organisations, the use of web-based questionnaires should be considered only where respondents are IT literate and have ready access to the Internet at work.

Partial response and, in particular, abandonment and complete non-response of demographic questions, prompted his second recommendation:

2. Web-based questionnaires should be designed to allow the impact of people not responding to be assessed.

As the literature reviewed had highlighted that the use of web questionnaires might influence responses where this is related to the survey topic, his third recommendation was:

3. Caution should be exercised regarding the inclusion of questions on topics related to the use of the Web or associated technologies.

Finally, based on the difference in length between responses to the Internet and mail delivered questionnaires he recommended:

4. Care should be taken when comparing or aggregating responses to open (write in) questions from web-based questionnaires with those from questionnaires delivered using other methods due to the impact of the technology on response length.

Introducing the questionnaire

At the start of your questionnaire you need to explain clearly and concisely why you want the respondent to complete the survey. Dillman et al. (2014) argue that, to achieve as high a response rate as possible, this should be done on the first page of the questionnaire in addition to the covering letter. He suggests that in addition to a summary of the main messages in the covering letter (Figure 11.3) you include:

- a clear unbiased banner or title, which conveys the topic of the questionnaire and makes it sound interesting;

Box 11.14 Checklist

Avoiding common mistakes in questionnaire layout

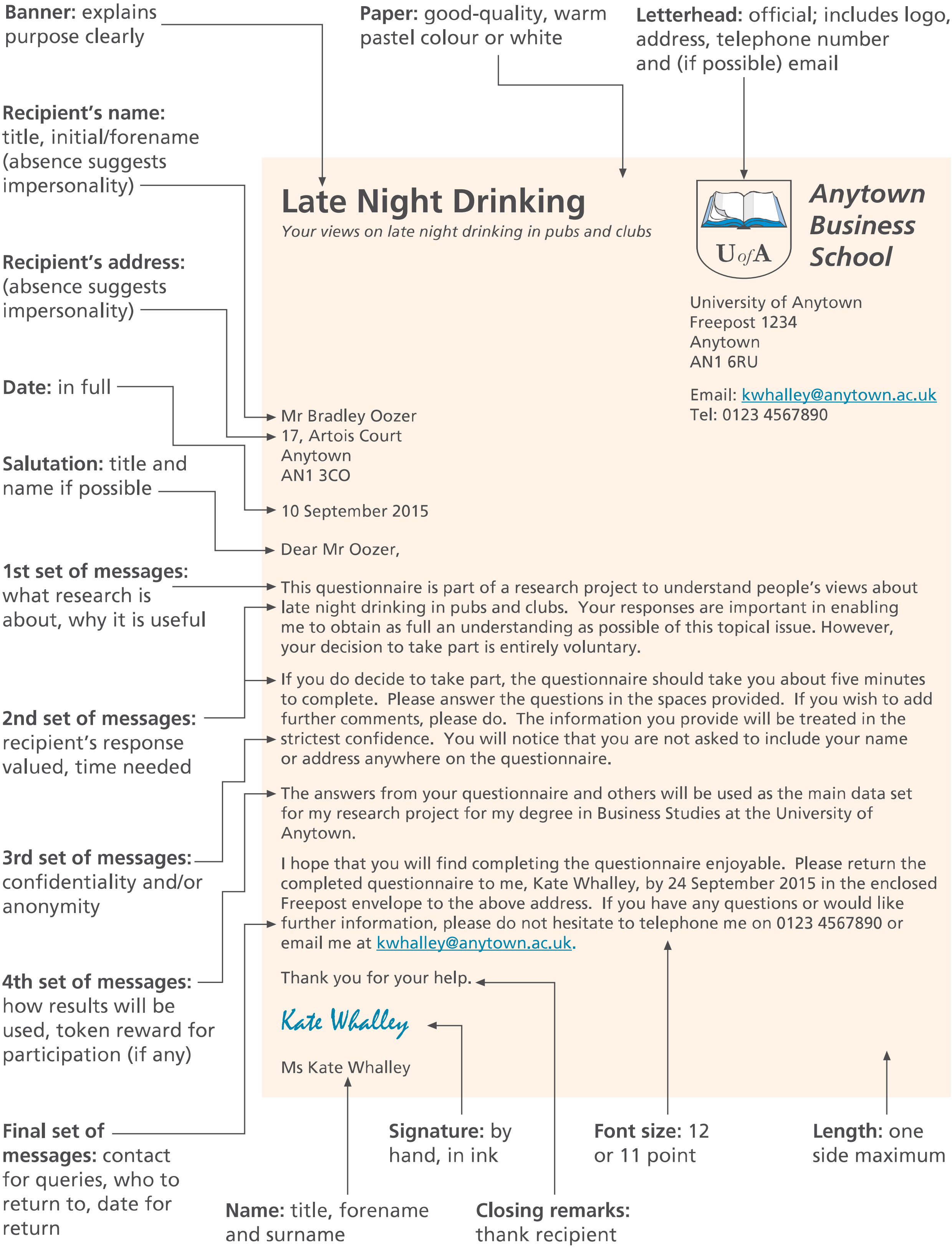
- ✔ (For self-completed questionnaires) Do questions appear well spaced on the page or screen? A cramped design will put the respondent off reading it and reduce the response rate. Unfortunately, a thick questionnaire is equally off-putting!
- ✔ (For paper-based self-completed questionnaires) Is the questionnaire going to be printed on good-quality paper? Poor-quality paper implies that the survey is not important.
- ✔ (For self-completed questionnaires) Is the questionnaire going to be printed or displayed on a warm pastel colour? Warm pastel shades, such as yellow and pink, generate slightly more responses than white (Edwards et al. 2002) or cool colours, such as green or blue. White is a good neutral colour but bright or fluorescent colours should be avoided.
- ✔ (For structured interviews) Will the questions and instructions be printed on one side of the paper only? An interviewer will find it difficult to read the questions on the back of pages if you are using a questionnaire attached to a clipboard!
- ✔ Is your questionnaire easy to read? Questionnaires should be typed in 12 point or 10 point using a plain font. Excessively long and unduly short lines reduce legibility. Similarly, respondents find CAPITALS, italics and shaded backgrounds more difficult to read. However, if used consistently, they can make completing the questionnaire easier.
- ✔ Have you ensured that the use of shading, colour, font sizes, spacing and the formatting of questions is consistent throughout the questionnaire?
- ✔ Is your questionnaire laid out in a format that respondents are accustomed to reading? Research has shown that many people skim-read questionnaires (Dillman et al. 2014). Instructions that can be read one line at a time from left to right moving down the page are, therefore, more likely to be followed correctly.

- a subtitle, which conveys the research nature of the topic (optional);
- a neutral graphic illustration or logo to add interest and to set the questionnaire apart (self-completed questionnaires).

This advice also applies to Internet questionnaires and is discussed later in this section. Interviewer-completed questionnaires will require this information to be phrased as a short introduction, given in the interviewer's own words to each respondent. A template for this (developed from De Vaus 2014), which the interviewer would paraphrase, is given in the next paragraph, while Box 11.15 provides an example from a self-completed questionnaire.

Good morning/afternoon/evening. My name is [your name] from [your organisation]. I am doing a research project to find out [brief description of purpose of the research]. Your telephone number was drawn from a random sample of [brief description of the total population]. The questions I should like to ask will take about [number] minutes. If you have any queries, I shall be happy to answer them. [Pause] Before I continue please can you confirm that this is [read out the telephone number] and that I am talking to [read out name/occupation/position in organisation to check that you have the right person]. Please can I confirm that you consent to answering the questions and ask you them now?

You will also need to have prepared answers to the more obvious questions that the respondent might ask you. These include the purpose of the survey, how you obtained the respondent's telephone number, who is conducting or sponsoring the survey, and why someone else should not answer the questions instead (Lavrakas 1993).



Late Night Drinking

Your views on late night drinking in pubs and clubs

U of A

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Email: kwhalley@anytown.ac.uk
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Mr Bradley Oozer
17, Artois Court
Anytown
AN1 3CO

10 September 2015

Dear Mr Oozer,

This questionnaire is part of a research project to understand people's views about late night drinking in pubs and clubs. Your responses are important in enabling me to obtain as full an understanding as possible of this topical issue. However, your decision to take part is entirely voluntary.

If you do decide to take part, the questionnaire should take you about five minutes to complete. Please answer the questions in the spaces provided. If you wish to add further comments, please do. The information you provide will be treated in the strictest confidence. You will notice that you are not asked to include your name or address anywhere on the questionnaire.

The answers from your questionnaire and others will be used as the main data set for my research project for my degree in Business Studies at the University of Anytown.

I hope that you will find completing the questionnaire enjoyable. Please return the completed questionnaire to me, Kate Whalley, by 24 September 2015 in the enclosed Freepost envelope to the above address. If you have any questions or would like further information, please do not hesitate to telephone me on 0123 4567890 or email me at kwhalley@anytown.ac.uk.

Thank you for your help.

Kate Whalley

Ms Kate Whalley

Figure 11.3 Structure of a covering letter or email

Box 11.15
Focus on student research

Introducing a self-completed questionnaire

Lil asked her project tutor to comment on what she hoped was the final draft of her questionnaire. This included the following introduction:

ANYTOWN PRIVATE HOSPITAL STAFF SURVEY

Dear Sir or Madam

I am undertaking research on behalf of Anytown Private Hospital and we are inviting some people to take part. The research will help us develop the future of the hospital. If you would like to take part in this research please answer the questionnaire.

Thank you for your time.

Not surprisingly, her project tutor suggested that she re-draft her introduction. Her revised introduction follows:

Anytown Private Hospital

Staff Survey 2015

Caring for All

This survey is being carried out to find out how you feel about the Hospital's policies to support colleagues like you in your work. Please answer the questions freely. You cannot be identified from the information you provide, and no information about individuals will be given to the Hospital.

ALL THE INFORMATION YOU PROVIDE WILL BE TREATED IN THE STRICTEST CONFIDENCE. YOUR DECISION TO PARTICIPATE IN THIS RESEARCH IS ENTIRELY VOLUNTARY.

If you do not wish to take part, just do not return the questionnaire to me. If you do decide to take part, the questionnaire should take you about five minutes to complete. Please answer the questions in the space provided. Try to complete the questions at a time when you are unlikely to be disturbed. Also, do not spend too long on any one question. Your first thoughts are usually your best! Even if you feel the items covered may not apply directly to your working life please do not ignore them. Your answers are essential in building an accurate picture of the issues that are important to improving our support for people working for this Hospital.

There are no costs associated with completing the questionnaire other than your time.

WHEN YOU HAVE COMPLETED THE QUESTIONNAIRE PLEASE RETURN IT TO US IN THE ENCLOSED FREEPOST ENVELOPE NO LATER THAN 6 APRIL.

I hope you will be willing to complete and return the questionnaire and thank you for your time. A summary of the findings will be published on the Hospital intranet. If you have any queries or would like further information about this project, please telephone me on 01234–5678910 or email me on l.woollons@anytownhealthcare.com.

Thank you for your help.

Lily Woollons

Lily Woollons
Human Resources Department
Anytown Private Hospital
Anytown AN99 9HS

Closing the questionnaire

At the end of your questionnaire you need to explain clearly what you want the respondent to do with their completed questionnaire. It is usual to start this section by thanking the respondent for completing the questionnaire, and restating the contact name, email address and telephone number for any queries they may have from the covering letter (Figure 11.3). You should restate details of the date by which you would like the questionnaire returned and how and where to return it. A template for this is given in the next paragraph:

Thank you for taking the time to complete this questionnaire. If you have any queries please do not hesitate to contact [your name] by telephoning [contact telephone number with answer machine/voice mail] or emailing [email address].

Please return the completed questionnaire by [date] in the envelope provided to:

[your name]

[your address]

Sometimes, as in Box 11.15, you may wish to make a summary of your research findings available. If you do make this offer, don't forget to actually provide the summary!

Pilot testing and assessing validity

Prior to using your questionnaire to collect data it should be pilot tested with respondents who are similar to those who will actually complete it. The purpose of the **pilot test** is to refine the questionnaire so that respondents will have no problems in answering the questions and there will be no problems in recording the data. In addition, it will enable you to obtain some assessment of the questions' validity and the likely reliability of the data that will be collected both for individual questions and, where appropriate, scales comprising a number of questions. Preliminary analysis using the pilot test data can be undertaken to ensure that the data collected will enable your investigative questions to be answered.

Initially you should ask an expert or group of experts to comment on the representativeness and suitability of your questions. As well as allowing suggestions to be made on the structure of your questionnaire, this will help establish content validity and enable you to make necessary amendments prior to pilot testing with a group as similar as possible to the final population in your sample. For any research project there is a temptation to skip the pilot testing. We would endorse Bell and Waters' (2014:167) advice, 'however pressed for time you are, do your best to give the questionnaire a trial run', as, without a trial run, you have no way of knowing whether your questionnaire will succeed.

The number of people with whom you pilot your questionnaire and the number of pilot tests you conduct are dependent on your research question(s), your objectives, the size of your research project, the time and money resources you have available, and how well you have initially designed your questionnaire. Very large surveys such as national censuses will have numerous field trials, starting with individual questions and working up to larger and more rigorous pilots of later drafts.

For smaller-scale surveys you are unlikely to have sufficient financial or time resources for large-scale field trials. However, it is still important that you pilot test your questionnaire. The number of people you choose should be sufficient to include any major variations in your population that you feel are likely to affect responses. For most student questionnaires this means that the minimum number for a pilot is 10 (Fink 2013), although for large surveys between 100 and 200 responses is usual (Dillman et al. 2014).

Occasionally you may be extremely pushed for time. In such instances it is better to pilot test the questionnaire using friends or family than not at all! This will provide you with at least some idea of your questionnaire's **face validity**: that is, whether the questionnaire appears to make sense.

As part of your pilot you should check each completed pilot questionnaire to ensure that respondents have had no problems understanding or answering questions and have followed all instructions correctly (Fink 2013). Their responses will provide you with an idea of the reliability and suitability of the questions. For self-completed questionnaires additional information about problems can be obtained by giving respondents a further short questionnaire. Bell and Waters (2014) suggest you should use this to find out:

- how long the questionnaire took to complete;
- the clarity of instructions;
- which, if any, questions were unclear or ambiguous;
- which, if any, questions the respondent felt uneasy about answering;
- whether in their opinion there were any major topic omissions;
- whether the layout was clear and attractive;
- any other comments.

Interviewer-completed questionnaires need to be tested with the respondents for all these points other than layout. One way of doing this is to form an assessment as each questionnaire progresses. Another is to interview any interviewers you are employing. However, you can also check by asking the respondent additional questions at the end of their interview. In addition, you will need to pilot test the questionnaire with interviewers to discover whether:

- there are any questions for which visual aids should have been provided;
- they have difficulty in finding their way through the questionnaire;
- they are recording answers correctly.

Once you have completed pilot testing you should write to these respondents thanking them for their help.

11.5 Delivering and collecting the questionnaire

When your questionnaire is designed, pilot tested and amended and your sample selected, it can be used to collect data. Within business and management research reports, it is often not clear whether respondents felt compelled to respond to the questionnaire (Baruch and Holtom 2008). Respondents' feelings of compulsion are usually signified by stating the questionnaire was 'administered', whereas non-compulsion is signified by phrases such as 'invited to fill out a questionnaire voluntarily' or 'voluntary response'. In collecting data using your questionnaire it is important that you abide by your university's or professional body's code of ethics (Sections 6.5 and 6.6). Although, when a respondent answers questions and returns their questionnaire they are giving their implied consent, they have rights just like all research participants.

Inevitably you will need to gain access to your sample (Sections 6.2 to 6.4) and attempt to maximise the response rate. A large number of studies have been conducted to assess the impact of different strategies for increasing the response to postal questionnaires. Fortunately, the findings of these studies have been analysed and synthesised by Edwards et al. (2002) and, more recently, by Anseel et al. (2010). As you can

Table 11.5 Relative impact of strategies for raising postal questionnaire response rates

Strategy	Relative impact
Incentives	
Monetary incentive v. no incentive	Very high
Incentive sent with questionnaire v. incentive on questionnaire return	High
Non-monetary incentive v. no incentive	Low
Length	
Shorter questionnaire v. longer questionnaire	Very high
Appearance	
Brown envelope v. white envelope	High but variable
Coloured ink v. standard	Medium
Folder or booklet v. stapled pages	Low
More personalised (name, hand signature etc.) v. less personalised	Low
Coloured questionnaire v. white questionnaire	Very low
Identifying feature on the return v. none	Very low but variable
Delivery	
Recorded delivery v. standard delivery	Very high
Stamped return envelope v. business reply or franked	Medium
First class post outwards v. other class	Low
Sent to work address v. sent to home address	Low but variable
Pre-paid return v. not pre-paid	Low but variable
Commemorative stamp v. *ordinary stamp*	Low but variable
Stamped outward envelope v. franked	Negligible
Contact	
Pre-contact (advanced notice) v. no pre-contact	Medium
Follow-up v. no follow-up	Medium
Postal follow-up including questionnaire v. postal follow-up excluding questionnaire	Medium
Pre-contact by telephone v. *pre-contact by post*	Low
Mention of follow-up contact v. none	Negligible
Content	
More interesting/relevant v. less interesting/relevant topic	Very high
User-friendly language v. standard	Medium
Demographic and behaviour questions only v. demographic, behaviour and attitude questions	Medium
More relevant questions first v. other questions first	Low
Most general question first v. *last*	Low
Sensitive questions included v. *sensitive questions not included*	Very low
Demographic questions first v. other questions first	Negligible
'Don't know' boxes included v. not included	Negligible
Origin	
University sponsorship as a source v. other organisation	Medium
Sent by more senior or well-known person v. *less senior or less well-known*	Low but variable
Ethnically unidentifiable/white name v. other name	Low but variable

(*continued*)

Table 11.5 (*Continued*)

Strategy	Relative impact
Communication	
Explanation for not participating requested v. not requested	Medium
Anonymity stressed v. not mentioned	Medium
Choice to opt out from study offered v. *not given*	Low
Instructions given v. *not given*	Low but variable
Benefits to respondent stressed v. other benefits	Very low
Benefits to sponsor stressed v. other benefits	Negligible
Benefits to society stressed v. other benefits	Negligible
Response deadline given v. no deadline	Negligible

Note: Strategies in italics increase response rates relative to those in normal font
Source: Developed from Anseel et al. 2010; Edwards et al. 2002

see from Table 11.5, response rates can be improved by careful attention to a range of factors, including visual presentation, length, content, delivery methods and associated communication as well as being clearly worded. In addition, it must be remembered that organisations and individuals are increasingly being bombarded with requests to respond to questionnaires and so may be unwilling to answer your questionnaire. Which of these techniques you use to help to maximise responses will inevitably be dependent, at least in part, on the way in which your questionnaire is delivered. It is the processes associated with delivering each of the five types of questionnaire that we now consider.

Internet questionnaires

For both Web and mobile questionnaires, it is important to have a clear timetable that identifies the tasks that need to be done and the resources that will be needed. A good response is dependent on the recipient being motivated to answer the questionnaire and to send it back. Although the covering email or SMS message (Section 11.4) and visual appearance will help to ensure a high level of response, it must be remembered that, unlike paper questionnaires, the designer and respondent may see different images displayed on their screens. Alternative computer operating systems, Internet browsers and display screens can all result in the image being displayed differently, emphasising the need to ensure the questionnaire design is clear across all display media (Dillman et al. 2014).

Web and mobile questionnaires are usually delivered via a Web link. This normally uses email or a Web page to display the hyperlink (Web link) to the questionnaire and is dependent on having a list of addresses. If you are using the Internet for research, you should abide by the general operating guidelines or **netiquette**. This includes (Hewson et al. 2003):

- ensuring emails and postings to user groups are relevant and that you do not send junk emails (spam);
- remembering that invitations to participate sent to over 20 user groups at once are deemed as unacceptable by many net vigilantes and so you should not exceed this threshold;

- avoiding sending your email to multiple mailing lists as this is likely to result in individuals receiving multiple copies of your email (this is known as **cross-posting**);
- avoiding the use of email attachments as these can contain viruses.

For within-organisation research, questionnaires can be easily delivered as a hyperlink within an email to employees, provided all of the sample have access to it and use email. If you choose to use email with a direct hyperlink to the questionnaire, we suggest that you:

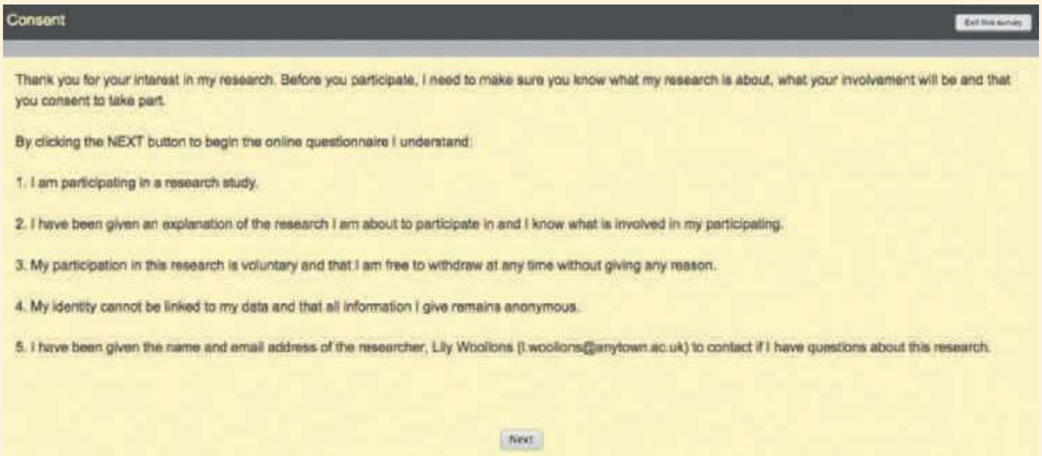
1. contact recipients by email and advise them to expect a questionnaire – a pre-survey contact (Section 6.3);
2. email the hyperlink to the questionnaire with a covering email. Where possible, the letter and questionnaire or hyperlink should be part of the email message rather than an attached file to avoid viruses. You should make sure that this will arrive when recipients are likely to be receptive. For most organisations Fridays and days surrounding major public holidays have been shown to be a poor time;
3. summarise the purpose of the research and include an explicit request for the respondent's consent in the welcome screen at the start of the questionnaire (Box 11.16);
4. email the first follow-up one week after emailing out the questionnaire to all recipients. This should thank early respondents and remind non-respondents to answer (a copy of the hyperlink should be included);

Box 11.16 Focus on student research

Request for respondent's consent in an Internet questionnaire

Lily had decided to collect her data using an Internet questionnaire. She emailed potential respondents explaining the purpose of her research and requesting their help. At the end of her email she included a hyperlink to the Internet questionnaire created in SurveyMonkey™.

The first page of Lily's Internet questionnaire included a summary of the main messages in her email. This was followed by a formal request to the respondent for their consent, which stressed that the decision to participate was entirely voluntary and that they could withdraw at any time:



Source: Question layout created by SurveyMonkey.com, LLC (2014) Palo Alto, California. Reproduced with permission

Figure 11.4 QR Code linking directly to Mark's research methods publications that are available on academia.edu

5 email the second follow-up to people who have not responded after three weeks. This should include another covering letter and a copy of the hyperlink. The covering letter should be reworded to further emphasise the importance of completing the questionnaire;
6 also use a third follow-up if time allows or your response rate is low;
7 when the respondent completes the questionnaire, their responses will be saved automatically. However, you may need to select the online survey tool option that prevents multiple responses from one respondent.

Alternatively, the questionnaire can be advertised online or in printed media and potential respondents invited to access the questionnaire by clicking on a hyperlink or scanning a QR (quick response) code (Figure 11.4) using their mobile phone. Adopting either approach observes netiquette and means that respondents can remain anonymous. The stages involved are:

1 Ensure that a website has been set up that explains the purpose of the research and has the hyperlink to the questionnaire (this takes the place of the covering letter).
2 Advertise the research website widely using a range of media (for example, an email pre-survey contact or a banner advertisement on a page that is likely to be looked at by the target population) and highlight the closing date.
3 When respondents complete the questionnaire, their responses will be saved automatically. However, you may need to select the online survey tool option that prevents multiple responses from one respondent.

Response rates from web advertisements and QR codes are likely to be very low, and there are considerable problems of non-response bias as the respondent has to take extra steps to locate and complete the questionnaire. Consequently, it is likely to be very difficult to obtain a representative sample from which you might generalise. This is not to say that this approach should not be used as it can, for example, enable you to contact difficult-to-access groups. It all depends, as you would expect us to say, on your research question and objectives!

Postal questionnaires

For postal questionnaires, it is important to have a concise and clear covering letter and good visual presentation to help to ensure a high level of response. As with Internet questionnaires, a clear timetable and well-executed administration process are important (Box 11.17).

Box 11.17 Focus On management research

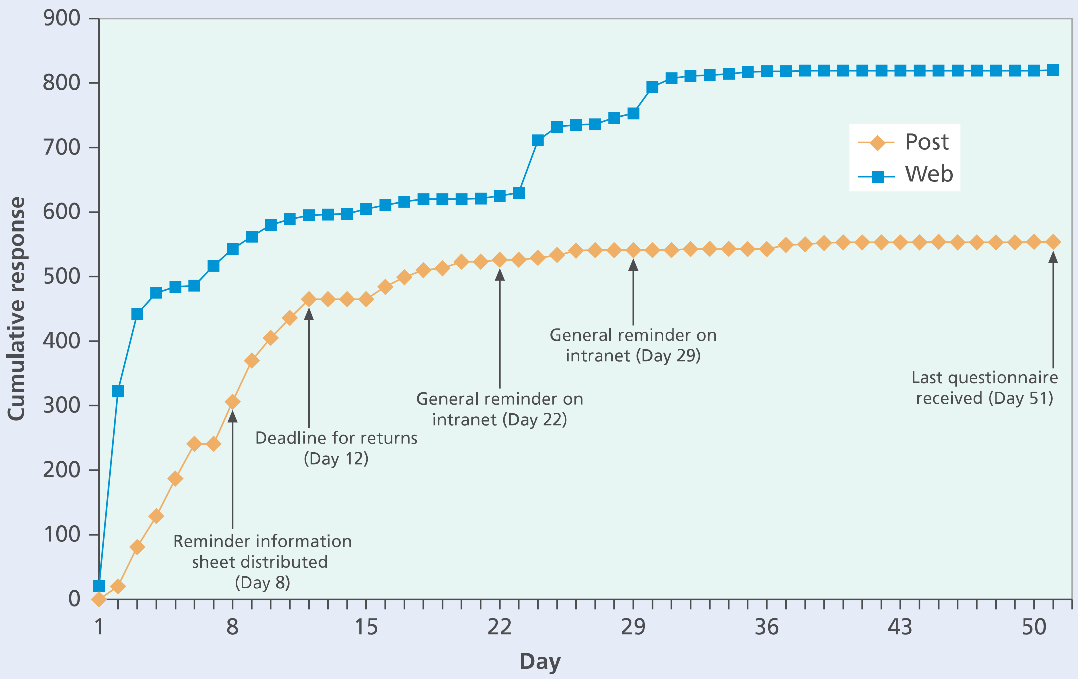
Questionnaire administration

Mark undertook an attitude survey of employees in a large organisation using a questionnaire. Within the organisation, 50 per cent of employees received a Web questionnaire by a hyperlink in an email, the remaining 50 per cent receiving a paper questionnaire by post.

General information regarding the forthcoming survey was provided to employees using the staff intranet, the normal method for such communications. Subsequently each employee received five personal contacts including the questionnaire:

- One week before the questionnaire was delivered a pre-survey notification letter, jointly from the organisation's Chief Executive and Mark, was delivered in the same manner as the potential respondent would receive their questionnaire.
- Covering letter/email and questionnaire/hyperlink to Web questionnaire.
- Personal follow-up/reminder designed as an information sheet re-emphasising the deadline for returns at the end of that week.
- First general reminder (after the deadline for returns) posted on the staff intranet.
- Second general reminder (after the deadline for returns) posted on the staff intranet.

The following graph records the cumulative responses for both the Web and postal questionnaire, emphasising both the impact of deadlines, follow-up/reminders and the length of time required (over 7 weeks) to collect all the completed questionnaires.



Cumulative questionnaires returned by Intranet and post

Source: Unpublished data; details of research from Saunders, 2012

Our advice for postal questionnaires (developed from De Vaus 2014) can be split into six stages:

1 Ensure that questionnaires and letters are printed, and envelopes addressed.
2 Contact recipients by post, telephone or email and advise them to expect a questionnaire – a pre-survey contact (Section 6.3). This stage is often omitted for cost reasons.
3 Post the survey with a covering letter and a return envelope. You should make sure that this will arrive when recipients are likely to be receptive. For most organisations Fridays and days surrounding major public holidays have been shown to be a poor time.
4 Post (or email) the first follow-up one week after posting out the survey to all recipients. For posted questionnaires this should take the form of a postcard designed to thank early respondents and to remind rather than to persuade non-respondents.
5 Post the second follow-up to people who have not responded after three weeks. This should contain another copy of the questionnaire, a new return envelope and a new covering letter. The covering letter should be reworded to emphasise further the importance of completing the questionnaire. For anonymous questionnaires a second follow-up will not be possible, as you should not be able to tell who has responded!
6 Also use a third follow-up if time allows or your response rate is low. For this it may be possible to use 'signed for' delivery (post), telephone calls or even call in person to emphasise the importance of responding.

Additionally, De Vaus (2014) advises placing a unique identification number on each questionnaire, which is recorded on your list of recipients. This makes it easy to check and follow up non-respondents and, according to Dillman et al. (2014) and Edwards et al. (2002), has little, if any, effect on response rates. However, identification numbers should not be used if you have assured respondents that their replies will be anonymous!

Delivery and collection questionnaires

For delivery and collection questionnaires either you or field staff will deliver and call to collect the questionnaire. It is therefore important that your covering letter states when the questionnaire is likely to be collected. As with postal questionnaires, follow-ups can be used, calling at a variety of times of day and on different days to try to catch the respondent.

A variation of this process that we have used widely in organisations allows for delivery and collection of questionnaires the same day and eliminates the need for a follow-up. The stages are:

1 Ensure that all questionnaires and covering letters are printed and a collection box is ready.
2 Contact respondents by email, internal post, telephone or text/SMS advising them to attend a meeting or one of a series of meetings to be held (preferably) in the organisation's time (Section 6.3).
3 At the meeting or meetings, hand out the questionnaire with a covering letter to each respondent.
4 Introduce the questionnaire, stress its anonymous or confidential nature and that participation is voluntary.
5 Ensure that respondents place their questionnaires in a collection box before they leave the meeting.

Although this adds to costs, as employees are completing the questionnaire in work time, response rates as high as 98 per cent are achievable!

Telephone questionnaires

The quality of data collected using telephone questionnaires will be affected by the researcher's competence to conduct interviews. This is discussed in Section 10.5. Once your sample has been selected, you need to:

1 ensure that all questionnaires are printed or, for CATI, that the survey tool has been programmed and tested;
2 where possible and resources allow, contact respondents by email, post or telephone advising them to expect a telephone call (Section 6.3);
3 telephone each respondent, recording the date and time of call and whether or not the questionnaire was completed. You should note any specific times that have been arranged for call-backs. For calls that were not successful you should note the reason, such as no reply or telephone disconnected;
4 for unsuccessful calls where there was no reply, try three more times, each at a different time and on a different day, and note the same information;
5 make call-back calls at the time arranged.

Face-to-face questionnaires

Conducting face-to-face questionnaires uses many of the skills required for in-depth and semi-structured interviews (Section 10.5). Issues such as interviewer appearance and preparedness are important and will affect the response rate (Section 10.4). However, once your sample has been selected you need to:

1 ensure that all questionnaires are printed or, for CAPI, that the survey tool has been programmed and tested;
2 contact respondents by email, post or telephone advising them to expect an interviewer to call within the next week. This stage is often omitted for cost reasons;
3 (for large-scale surveys) divide the sample into assignments that are of a manageable size (50–100) for one interviewer;
4 contact each respondent or potential respondent in person, recording the date and time of contact and whether or not the interview was completed. You should note down any specific times that have been arranged for return visits. For contacts that were not successful, you should note down the reason;
5 try unsuccessful contacts at least twice more, each at a different time and on a different day, and note down the same information;
6 visit respondents at the times arranged for return visits.

11.6 Summary

- Questionnaires collect data by asking people to respond to exactly the same set of questions. They are often used as part of a survey strategy to collect descriptive and explanatory data about facts/demographics, attitudes/opinions and behaviours/events. Data collected are normally analysed by computer.
- Your choice of questionnaire will be influenced by your research question(s) and objectives and the resources that you have available. The five main types are Internet, postal, delivery and collection, telephone and face-to-face (structured interview).
- Prior to designing a questionnaire, you must know precisely what data you need to collect to answer your research question(s) and to meet your objectives. One way of helping to ensure that you collect these data is to use a data requirements table.

- The validity and reliability of the data you collect and the response rate you achieve depend largely on the design of your questions, the structure of your questionnaire and the rigour of your pilot testing.
- When designing your questionnaire you should consider the wording of individual questions prior to the order in which they appear. Questions can be divided into open and closed. The six types of closed questions are list, category, ranking, rating, quantity and matrix.
- Responses for closed questions in Internet questionnaires are coded automatically within the online survey software. For other types of questionnaire closed questions should, wherever possible, be pre-coded on your questionnaire to facilitate data input and subsequent analyses.
- The order and flow of questions in the questionnaire should be logical to the respondent. This can be assisted by filter questions and linking phrases.
- The visual appearance of the questionnaire should be attractive, easy to read and the responses easy to fill in.
- Questionnaires must be introduced carefully to the respondent to ensure a high response rate. For self-completed questionnaires this should take the form of a covering letter or email or included in the welcome screen; for interviewer-completed questions it will be done by the interviewer.
- All questionnaires should be pilot tested prior to their delivery to assess the validity and likely reliability of the questions.
- Delivery of questionnaires needs to be appropriate to the type of questionnaire.

Self-check questions

11.1 In what circumstances would you choose to use a delivery and collection questionnaire rather than an Internet questionnaire? Give reasons for your answer.

11.2 The following questions have been taken from a questionnaire about flexibility of labour.

i Do you agree or disagree with the use of nil hours contracts by employers? (Please tick appropriate box)

Strongly agree ❑$_4$
Agree ❑$_3$
Disagree ❑$_2$
Strongly disagree ❑$_1$

ii Have you ever been employed on a nil hours contract? (Please tick appropriate box)

Yes ❑$_1$
No ❑$_2$
Not sure ❑$_3$

iii What is your marital status? (Please tick appropriate box)

Single ❑$_1$
Married or living in long-term relationship ❑$_2$
Widowed ❑$_3$
Divorced ❑$_4$
Other ❑$_5$
.... (⇐ Please describe)

iv Please describe what you think would be the main impact on employees of a nil hours contract.

For each question identify:

a the type of data variable for which data are being collected;
b the type of question.

You should give reasons for your answers.

11.3 You are undertaking research on the use of children's book clubs by householders within mainland Europe. As part of this, you have already undertaken in-depth interviews with households who belong and do not belong to children's book clubs. This, along with a literature review, has suggested a number of investigative questions from which you start to construct a table of data requirements.

a For each investigative question listed, decide whether you will need to collect factual/demographic, attitude/opinion or behaviour/event data.

b Complete the table of data requirements for each of the investigative questions already listed. (You may embellish the scenario to help in your choice of variables required and the detail in which the data will be measured as you feel necessary, but you do not have to explore the relation to theory and key concepts in the literature.)

Research question/objective: To establish mainland Europe's householders' opinions about children's book clubs				
Type of research: Predominantly descriptive, although wish to explain differences between householders				
Investigative questions	**Variable(s) required**	**Detail in which data measured**	**Relation to theory and key concepts in literature**	**Check included in questionnaire ✓**
A Do householders think that children's book clubs are a good or a bad idea?				
B What things do householders like most about children's book clubs?				
C Would householders be interested in an all-ages book club?				
D How much per year do households spend on children's books?				
E Do households' responses differ depending on (i) number of children? (ii) whether already members of a children's book club?				

11.4 Design pre-coded or self-coded questions to collect data for each of the investigative questions in Question 11.3. Note that you will need to answer self-check question 11.3 first (or use the answer at the end of this chapter).

11.5 What issues will you need to consider when translating your questionnaire?

11.6 You work for a major consumer research bureau that has been commissioned by 11 major UK companies to design, deliver and analyse the data collected from a telephone questionnaire. The purpose of this questionnaire is to describe and explain relationships between adult consumers' lifestyles, opinions and purchasing intentions. Write the introduction to this telephone questionnaire, to be read by an interviewer to each respondent. You may embellish the scenario and include any other relevant information you wish.

11.7 You have been asked by a well-known national charity 'Work for All' to carry out research into the effects of long-term unemployment throughout the UK. The charity intends to use the findings of this research as part of a major campaign to highlight public awareness about the effects of long-term unemployment. The charity has drawn up a list of names and postal addresses of people who are or were long-term unemployed with whom they have had contact over the past six months. Write a covering letter to accompany the postal questionnaire. You may embellish the scenario and include any other relevant information you wish.

11.8 You have been asked to give a presentation to a group of managers at an oil exploration company to gain access to undertake your research. As part of the presentation you outline your methodology, which includes piloting the questionnaire. In the ensuing question and answer session one of the managers asks you to justify the need for a pilot study, arguing that 'given the time constraints the pilot can be left out'. List the arguments that you would use to convince him that pilot testing is essential to your methodology'.

Review and discussion questions

11.9 If you wish for more help with designing questionnaires, visit the website www.statpac.com/surveys/ and download and work through the 'Survey Design Tutorial'.

11.10 Obtain a copy of a 'customer questionnaire' from a department store or restaurant. For each question on the questionnaire establish whether it is collecting factual/demographic, attitude/opinion or behaviour/event data. Do you consider any of the questions are potentially misleading? If yes, how do you think the question could be improved? Discuss the answer to these questions in relation to your questionnaire with a friend.

11.11 Visit the website of an online survey tool provider. A selection of possible providers can be found by typing 'Internet questionnaire provider' or 'online survey provider' into the Google search engine. Use the online survey tool to design a simple questionnaire. To what extent does the questionnaire you have designed meet the requirements of the checklists in Boxes 11.10, 11.12 and 11.14?

11.12 Visit your university library or use the Internet to view a copy of a report for a recent national government survey in which you are interested. If you are using the Internet, the national government websites listed in Table 8.2 are a good place to start. Check the appendices in the report to see if a copy of the questionnaire used to collect the data is included. Of the types of question – open, list, category, ranking, rating, quantity and grid – which is most used and which is least frequently used? Note down any that may be of use to you in your research project.

Progressing your research project

Using questionnaires in your research

- Return to your research question(s) and objectives. Decide on how appropriate it would be to use questionnaires as part of your research strategy. If you do decide that this is appropriate, note down the reasons why you think it will be sensible to collect at least some of your data in this way. If you decide that using a questionnaire is not appropriate, justify your decision.
- If you decide that using a questionnaire is appropriate, re-read Chapter 7 on sampling and, in conjunction with this chapter, decide which of the five types of questionnaire will be most appropriate. Note down your choice of questionnaire and the reasons for this choice.
- Construct a data requirements table and work out precisely what data you need to answer your investigative questions. Remember that you will need to relate your investigative questions and data requirements to both theory and key concepts in the literature you have reviewed and any preliminary research you have already undertaken.
- Design the separate questions to collect the data specified in your data requirements table. Wherever possible, try to use closed questions and to adhere to the suggestions in the question wording checklist. If you are intending to analyse your questionnaire by computer, read Section 12.2 and pre-code questions on the questionnaire whenever possible.
- Order your questions to make reading the questions and filling in the responses as logical as possible to the respondent. Wherever possible, try to adhere to the checklist for layout. Remember that interviewer-completed questionnaires will need instructions for the interviewer.
- Write the introduction to your questionnaire and, where appropriate, a covering letter.
- Pilot test your questionnaire with as similar a group as possible to the final group in your sample. Pay special attention to issues of validity and reliability.
- Deliver your questionnaire and remember to send out a follow-up survey to non-respondents whenever possible.
- Use the questions in Box 1.4 to guide your reflective diary entry

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Further reading

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Dillman, D.A., Smyth, J.D. and Christian J.M. (2014) *Internet, Phone, Mail and Mixed Mode Surveys: The Tailored Design Method* (4th edn). Hoboken, NJ: Wiley. The fourth edition of this classic text contains an extremely detailed and well-researched discussion of how to design and deliver Internet, telephone, postal- based questionnaires to maximise response rates.

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Case 11
Designing an attractive questionnaire for the Pegasus Memorial museum

Source: © Marie Ashwin 2015

Beatrice is in her final year of a Leisure and Tourism degree and is working on a project for the Pegasus Memorial, a small local museum in Normandy, France. She has recently read a special report in *The Economist* (Rocco 2013) which concluded that museums which had restyled themselves to include interactive, dynamic events were becoming increasingly successful. One example used was the British Museum in London, which organises sleep-overs for children. Like many other museums the Pegasus Memorial see themselves as an educational and cultural destination.

After a two-month internship she knows that one important segment for the Pegasus Memorial museum is British school children who visit as part of a school trip to France, but she has been unable to find much information on what they actually think about the museum. Although the museum has printed age-appropriate workbooks in English for the visitors she can find nothing about how they are used or what the school children like or dislike about the museum. She has identified a number of schools that return each year with different groups of children between the ages of 10 and 16, but has no information about why they come back. The museum's curator is eager to match the visits with the expectations of the children and the learning experience defined by the teachers, so he has offered Beatrice the opportunity to develop her research project around this issue which will help the museum to plan for the future.

Beatrice has decided that she needs to find a way to make the questionnaire attractive and easy to use for school children. It seems important to her to find out what they had liked about the museum and what else they would like to do during the visit. She wants to use what she had learnt in her research methods classes to design and pilot a new questionnaire.

With the help of the curator she has developed two clear aims for her research project, to investigate the children's perceptions of the different exhibits in the museum and to identify their satisfaction with the visit. She has received ethics approval from her university and has developed a framework for the project covering five key areas:

1 Perceptions of the main attractions
2 The level of satisfaction with the guided tour
3 What the school children thought about the visit in terms of:
 a Enjoyment
 b Interest
 c Learning
4 Overall satisfaction with the museum
5 Ideas for future developments

She is concerned that it will be difficult to develop a single questionnaire to use with all the different school groups that visit and collect the information needed. She is sure that making it age appropriate is her biggest problem so she has decided for this first attempt to focus upon those aged 12–13 years, the most common visitor group. She knows from her marketing class that visual stimuli such as a user-friendly format or the use of colour (Singh 2006) engage people and increase response rates. She needs to design a paper questionnaire that will encourage response.

A friend who works as a nurse in the local hospital explained how they use smiley faces when they ask children questions about how they are feeling and Beatrice is wondering if this will work for her project. She has read various articles about the success of using Likert-type scales when doing research with children (van Laerhoven et al. 2004) and using smiley faces to represented a Likert-type scale (Hatala et al. 2009).

With this information she spent a number of weeks designing her questionnaire. She developed her items trying to incorporate a range of questions and responses that children aged 12–13 will relate to and use easily (De Vaus 2014; Dillman et al. 2014). Her idea is to administer the questionnaire while they are eating lunch on the grass area outside the museum after the visit, so the visual presentation needs to catch and retain their attention long enough for them to answer the questions.

Beatrice has produced a draft questionnaire making sure that she has used simple, clear language and that the response categories are clearly differentiated by using visual smiley faces or asking the children to tick a box or circle their answers. She wants to make sure that the children interpret the items in the way she has intended and that they can answer them easily. With her pilot ready she is eagerly awaiting the arrival of the next group of visitors.

SCHOOL: DATE:

Memorial Pegasus Exit Survey – School visits
(12–13 age group)

We really hope you have had a good time in the museum. Please think about your visit and tell us how you feel about us... Just tick the box or put a circle around your answer to each question:

1 What time of day is it now?
Morning Afternoon

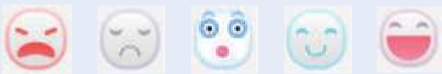
2 Have you ever visited us before today?
Yes ❑ No ❑

3 What was your reason for coming today?
School trip - general/cultural ❑
School trip - history ❑
Other (*tell us about it*)

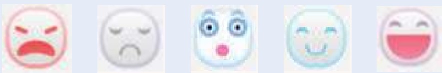
4 What did you LIKE best today?

The museum The bridge The glider

5 How much did you enjoy your visit?



6 How much did you enjoy the guided tour?



7 How much did you enjoy the video?

8 Are you studying WW2 at school?
Yes ❑ No ❑

9 Will the visit help you with your schoolwork?
Yes ❑ No ❑

10 How old are you ?

11 Are you a ... GIRL BOY

11 Please tell us about our staff, do you think:

They were helpful Yes ❑ No ❑

They gave you information Yes ❑ No ❑

They helped you find your way around Yes ❑ No ❑

12 If you used the activity book please tell us:

Did you finish all the questions?
Yes ❑ No ❑

Did it help you find things in the museum?
Yes ❑ No ❑

13 Was it interesting to see … what people wore?

What people did?

All the photos?

14 Do you think your friends would like to come and visit us?
Yes ❑ No ❑

15 Would you like to come and see us again?
Yes ❑ No ❑

16 What would you like to do or see the next time you come?

THANKS A LOT–

References

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Hatala, M., Tanenbaum, K., Wakkary, R., Muise, K., Mohabbati, B., Corness, G., Budd, J. and Loughin, T. (2009) 'Experience structuring factors affecting learning in family visits to museums', in U. Cress, V. Dimotrova and M. Specht (eds) *Learning in the Synergy of Multiple Disciplines.* Berlin: Springer, pp. 31–57.

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van Laerhoven, H., van der Zaag-Loonen, H.J. and Derkx, B.H.F. (2004) 'A comparison of Likert scale and visual analogue scales as response options in children's questionnaires', *Acta Paediatrica*, Vol. 93, pp. 830–5.

Questions

1 Review the questions (items) in Beatrice's questionnaire. Do you consider they are valid and reliable in light of the project that Beatrice has had approved by the Ethics Committee. Give reasons for your answer

2 Why does Beatrice want to pilot test her questionnaire? What other things should Beatrice do as part of the pilot test in addition to giving the questionnaire to groups of children?

3 Do the rating questions in the questionnaire give Beatrice the data she needs to evaluate the school children's perceptions and their levels of satisfaction?

Additional case studies relating to material covered in this chapter are available via the book's companion website: **www.pearsoned.co.uk/saunders**.

They are:

- The provision of leisure activities for younger people in rural areas.
- Job satisfaction in an Australian organisation.
- Service quality in health-care supply chains.
- Downsizing in the Middle East.
- A quantitative evaluation of students' desire for self-employment.

Self-check answers

11.1 When you:

- wanted to check that the person whom you wished to answer the questions had actually answered the questions;
- have sufficient resources to devote to delivery and collection and the geographical area over which the questionnaire is delivered is small;
- can use field workers to enhance response rates. Delivery and collection questionnaires have a moderately high response rate of between 30 and 50 per cent compared with approximately 10 per cent offered on average by an Internet questionnaire;
- are delivering a questionnaire to an organisation's employees and require a very high response rate. By delivering the questionnaire to groups of employees in work time and collecting it on completion, response rates of up to 98 per cent can be achieved.

11.2 a i Opinion data: the question is asking how the respondent feels about the use of nil hours contracts by employees.

ii Behaviour data: the question is asking about the concrete experience of being employed on a nil hours contract.

iii Demographic data: the question is asking about the respondent's characteristics.

iv Opinion data: the question is asking the respondent what they think or believe would be the impact on employees.

b i Rating question using a Likert-type scale in which the respondent is asked how strongly they agree or disagree with the statement.

ii Category question in which the respondent's answer can fit only one answer.

iii Category question as before.

iv Open question in which the respondent can answer in their own way.

11.3 Although your answer is unlikely to be precisely the same, the completed table of data requirements below should enable you to check you are on the right lines.

Research question/objective: To establish householders' opinions about children's book clubs				
Type of research: Predominantly descriptive, although wish to explain differences between householders				
Investigative questions	**Variable(s) required**	**Detail in which data measured**	**Relation to theory and key concepts in literature**	**Check included in questionnaire** ☑
Do householders think that children's book clubs are a good or a bad idea? (opinion – this is because you are really asking how householders feel)	Opinion about children's book clubs	Very good idea, good idea, neither a good nor a bad idea, bad idea, very bad idea		
What things do householders like most about children's book clubs? (opinion)	What householders like about children's book clubs	Get them to rank the following things (generated from earlier in-depth interviews): monthly magazine, lower prices, credit, choice, special offers, shopping at home		
Would householders be interested in an all-ages book club?(behaviour)	Interest in a book club which was for both adults and children	Interested, not interested, may be interested		

(*continued*)

Investigative questions	**Variable(s) required**	**Detail in which data measured**	**Relation to theory and key concepts in literature**	**Check included in questionnaire** ☑
How much per year do households spend on children's books? (behaviour)	Amount spent on children's books by adults and children per year by household	(Answers to the nearest €) €0 to €10, €11 to €20, €21 to €30, €31 to €50, €51 to €100, over €100		
Do households' responses differ depending on: Number of children? (demographic) Whether already members of a children's book club? (behaviour)	Number of children aged under 16 Children's book club member	Actual number yes, no		

11.4 a Please complete the following statement by ticking the phrase that matches your feelings most closely . . .

I feel children's book clubs are . . . .

I feel children's book clubs are	. . . a very good idea	❑$_5$
	. . . a good idea	❑$_4$
	. . . neither a good nor a bad idea	❑$_3$
	. . . a bad idea	❑$_2$
	. . . a very bad idea	❑$_1$

b Please number each of the features of children's book clubs listed below in order of how much you like them. Number the most important 1, the next 2 and so on. The feature you like the least should be given the highest number.

Feature	**How much liked**
Monthly magazine	....
Lower prices	....
Credit	....
Choice	....
Special offers	....
Shopping at home	....

c Would you be interested in a book club that was for both adults and children?

(Please tick the appropriate box)	Yes	❑$_1$
	No	❑$_2$
	Not sure	❑$_3$

d How much money is spent in total each year on children's books by all the adults and children living in your household?

(Please tick the appropriate box)	€0 to €10	❑$_1$
	€11 to €20	❑$_2$
	€21 to €30	❑$_3$
	€31 to €50	❑$_4$
	€51 to €100	❑$_5$
	Over €100	❑$_6$

e i How many children aged under 16 are living in your household?

	☐	children
(for example, for 3 write:)	3	children

ii Is any person living in your household a member of a children's book club?

(Please tick the appropriate box)	Yes	❑$_1$
	No	❑$_2$

11.5 When translating your questionnaire you will need to ensure that:

- the precise meaning of individual words is kept (lexical equivalence);
- the meanings of groups of words and phrases that are natural to a native speaker but cannot be translated literally are kept (idiomatic equivalence);
- the correct grammar and syntax are used.

In addition, you should, if possible, use back-translation, parallel translation or mixed translation techniques to ensure that there are no differences between the source and the target questionnaire.

11.6 Although the precise wording of your answer is likely to differ, it would probably be something like this:

Good morning/afternoon/evening. My name is ____ from JJ Consumer Research. We are doing an important national survey covering lifestyles, opinions and likely future purchases of adult consumers. Your telephone number has been selected at random. The questions I need to ask you will take about 15 minutes. If you have any queries I shall be happy to answer them [pause]. Before I continue please can you confirm that this is [read out telephone number including dialling code] and that I am talking to a person aged 18 or over. Please can I confirm that you are willing to take part and ask you the first question now?

11.7 Although the precise wording of your answer is likely to differ, it would probably be something like the letter below.

Work for All

B&J Market Research Ltd
St Richard's House
Malvern
Worcestershire WR14 12Z
Phone 01684–56789101
Fax 01684–56789102

Respondent's name

Email andy@b&jmarketresearch.co.uk

Respondent's address

Today's date

Dear *title name*

Work for All is conducting research into the effects of long-term unemployment. This is an issue of great importance within the UK and yet little is currently known about the consequences.

You are one of a small number of people who are being asked to give your opinion on this issue. You were selected at random from Work for All's list of contacts. In order that the results will truly represent people who have experienced long-term unemployment, it is important that your questionnaire is completed and returned.

All the information you give us will be totally confidential. You will notice that your name and address do not appear on the questionnaire and that there is no identification number. The results of this research will be passed to Work for All, who will be mounting a major campaign in the New Year to highlight public awareness about the effects of long-term unemployment.

If you have any questions you wish to ask or there is anything you wish to discuss please do not hesitate to telephone me, or my assistant Benjamin Marks, on 01684–56789101 during the day. You can call me at home on 01234–123456789 evenings and weekends. Thank you for your help.

Yours sincerely

Andy Nother

Mr Andy Nother

Project Manager

11.8 Despite the time constraints, pilot testing is essential to your methodology for the following reasons:

- to find out how long the questionnaire takes to complete;
- to check that respondents understand and can follow the instructions on the questionnaire (including filter questions);
- to ensure that all respondents understand the wording of individual questions in the same way and that there are no unclear or ambiguous questions;

- to ensure that you have the same understanding of the wording of individual questions as the respondents;
- to check that respondents have no problems in answering questions; for example:
- all possible answers are covered in list questions;
- whether there are any questions that respondents feel uneasy about answering;
- to discover whether there are any major topic omissions;
- to provide an idea of the validity of the questions that are being asked;
- to provide an idea of the reliability of the questions by checking responses from individual respondents to similar questions;
- to check that the visual presentation is clear and attractive;
- to provide limited test data so you can check that the proposed analyses will work.

Get ahead using resources on the companion website at: **www.pearsoned.co.uk/saunders**.

- Improve your IBM SPSS Statistics and NVivo research analysis with practice tutorials.
- Save time researching on the Internet with the Smarter Online Searching Guide.
- Test your progress using self-assessment questions.
- Follow live links to useful websites.