Chapter 5

Formulating the research design

Learning outcomes

By the end of this chapter you should be able to:

- appreciate the importance of your decisions when designing research and the need to achieve methodological coherence throughout your research design;
- understand the differences between quantitative, qualitative and mixed methods research designs and choose between these;
- understand the differences between exploratory, descriptive, explanatory and evaluative research and recognise the purpose(s) of your research design;
- identify the main research strategies and choose from among these to achieve coherence throughout your research design;
- consider the implications of the time frames required for different research designs;
- consider some of the main ethical issues implied by your research design;
- understand criteria to evaluate research quality and consider these when designing your research;
- take into account the constraints of your role as researcher when designing your research.

5.1 Introduction

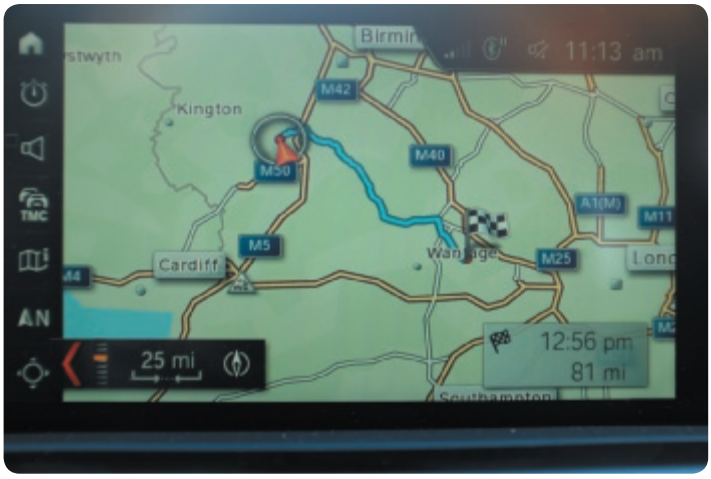
In Chapter 4 we introduced the research onion as a way of depicting the issues underlying your choice of data collection method or methods and peeled away the outer two layers – research philosophy and approach to theory development. In this chapter we uncover the next three layers: methodological choice, research strategy or strategies and choosing the time horizon for your research. As we saw in Chapter 4, the way you answer your research question will be

influenced by your research philosophy and approach to theory development. Your research philosophy and approach to theory development, whether this is deliberate or by default, will subsequently influence your selections shown in the next three layers of the research onion (Figure 5.1). These three layers can be thought of as focusing on the process of research design, which is the way you turn your research question into a research project. The key to these selections will be to achieve coherence all the way through your research design.

5.2 Choice and coherence in research design

Your **research design** is the general plan of how you will go about answering your research question(s) (the importance of clearly defining the research question cannot be overemphasised). It will contain clear objectives derived from your research question(s), specify the source or sources from which you intend to collect data, how you propose to collect and analyse these,

The research process is like a journey



The cover photographs of recent editions of this book have indicated that the research process is like a journey – a journey along a road with you as the driver of the vehicle. Like many such journeys, there is generally a choice of roads to travel along. When you are thinking about setting out on a new journey of some distance, you will probably enter the destination into your SatNav and look at the possible route options to get to your destination. A number of criteria will influence your decision about which route to take, including time, fuel economy and your preferences for avoiding motorways, ferries and toll roads. The route you choose will be calculated by the SatNav to meet your given preferences and ensure you reach your destination. As you actually undertake your journey you will find yourself interacting with the reality of your planned route. Some parts of the journey will go according to plan; other parts may not and you may need to amend your route, perhaps because of traffic congestion or a road being closed due to roadworks. In many ways, designing research is like planning a journey. Formulating the most appropriate way to address your research question is similar to planning the route to your destination. The research aim is your destination and the research objectives are your route criteria. These need to be coherent to ensure the research (journey) can be completed. Like your route, your research design may need to be amended due to unforeseen circumstances. Both will be interactive experiences.

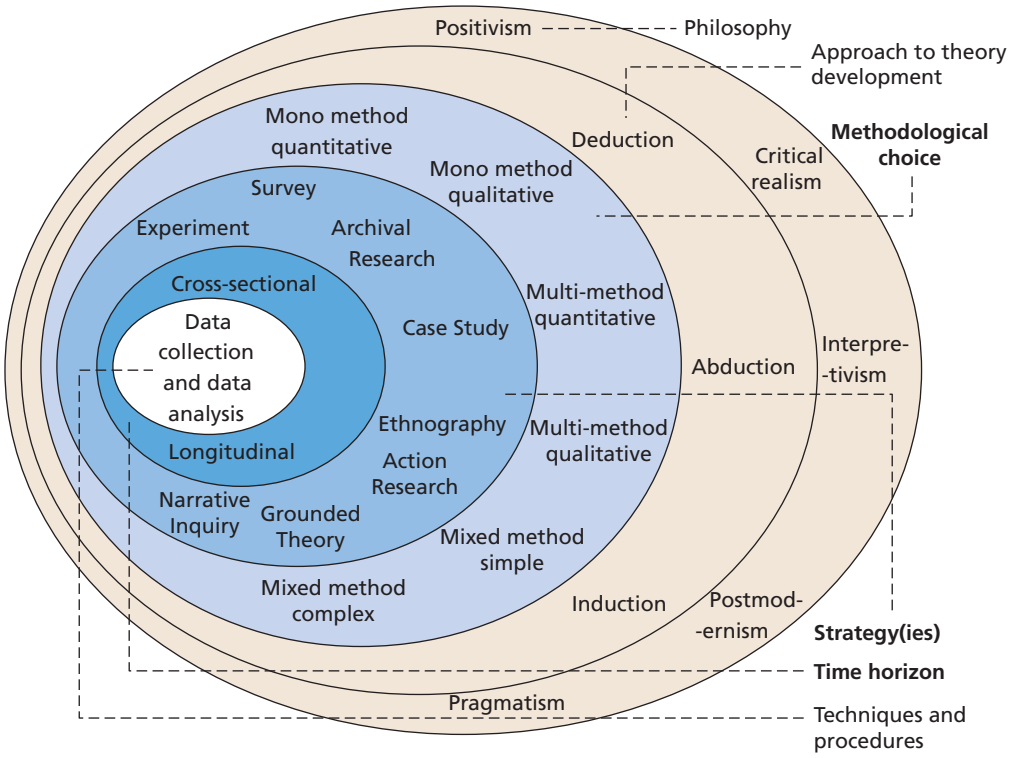


Figure 5.1 The research onion

Source: © 2018 Mark Saunders, Philip Lewis and Adrian Thornhill

and discuss ethical issues and the constraints you will inevitably encounter (e.g. access to data, time, location and money). Crucially, it should demonstrate that you have thought through the elements of your particular research design.

The first methodological choice is whether you follow a quantitative, qualitative or mixed methods research design. Each of these options is likely to call for a different mix of elements to achieve coherence in your research design. We introduce basic ways of understanding differences between quantitative, qualitative and mixed methods research designs in Section 5.3 before developing this discussion in Section 5.4 (which looks at quantitative research design), Section 5.5 (qualitative research design) and Section 5.6 (mixed methods research design). The nature of your research project will also be either exploratory, descriptive, explanatory, evaluative or a combination of these, and we discuss the role of these in your research design in Section 5.7. Within your research design you will need to use one or more research strategies, to carry out and ensure coherence within your research project. We discuss research strategies, their fit to research philosophy and to your choice of either a quantitative, qualitative or mixed methods methodology in Section 5.8. Your methodological choice and related strategies will also influence the selection of an appropriate time horizon, and we consider this in Section 5.9. Each research design will lead to potential ethical concerns and it will be important to consider these, in order to minimise or overcome them. We briefly consider ethical issues related to research designs in Section 5.10, before discussing these in greater detail in Sections 6.5 and 6.6. It is also important to establish the quality of your research design, and we discuss the ways in which this may be considered in Section 5.11. Finally, we recognise that practical constraints will affect research design, especially the nature of your own role as researcher, and briefly consider this in Section 5.12.

Each of these aspects is vital to research design. You are likely to be assessed at this stage of your research project by your university or examining institution and your research design, as set out in your research proposal, will need to achieve a pass standard before you are allowed to proceed. You therefore need to produce a clear and coherent design with valid reasons for each of your research design decisions, even if your design changes subsequently. Your justification for each element in your research design should be based on your research question(s) and objectives, and show consistency with your research philosophy.

It is useful at this point to recognise a distinction between design and tactics. Design is concerned with the overall plan for your research project; tactics are about the finer details of data collection and analysis – the centre of the research onion. Decisions about tactics will involve you being clear about the different quantitative and qualitative data collection techniques (e.g. questionnaires, interviews, focus groups and secondary data) and subsequent quantitative and qualitative data analysis procedures, which are discussed in later chapters.

We first outline and differentiate between the nature of quantitative, qualitative and mixed methods research in the following four sections.

5.3 Methodological choice: the use of a quantitative, qualitative or mixed methods research design

One way of differentiating quantitative research from qualitative research is to distinguish between numeric data (numbers) and non-numeric data (words, images, audio recordings, video clips and other similar material). In this way, 'quantitative' is often used as a synonym for any data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, 'qualitative' is often used as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorising data) that generates or uses non-numerical data. This is an important way to differentiate this methodological choice; however, this distinction is both problematic and narrow.

It is problematic because, in reality, many business and management research designs are likely to combine quantitative and qualitative elements. This may be for a number of reasons. For example, a research design may use a questionnaire but it may be necessary to ask respondents to answer some 'open' questions in their own words rather than ticking the appropriate box, or it may be necessary to conduct follow-up interviews to seek to explain findings from the questionnaire. Equally, some qualitative research data may be analysed quantitatively, or be used to inform the design of a subsequent questionnaire. In this way, quantitative and qualitative research may be viewed as two ends of a continuum, which in practice are often mixed. A research design may therefore mix methods in a number of ways, which we discuss in Section 5.6.

The distinction drawn earlier between quantitative research and qualitative research is also narrow. The purpose of Chapter 4 was to ask you to consider your research question through a philosophical lens. Given the way in which philosophical assumptions inform methodological choice, the initial distinction drawn earlier between numeric and non-numeric data appears insufficient for the purpose of choosing between quantitative and qualitative research. From this broader perspective, we can reinterpret quantitative, qualitative and mixed methodologies through their associations to philosophical assumptions

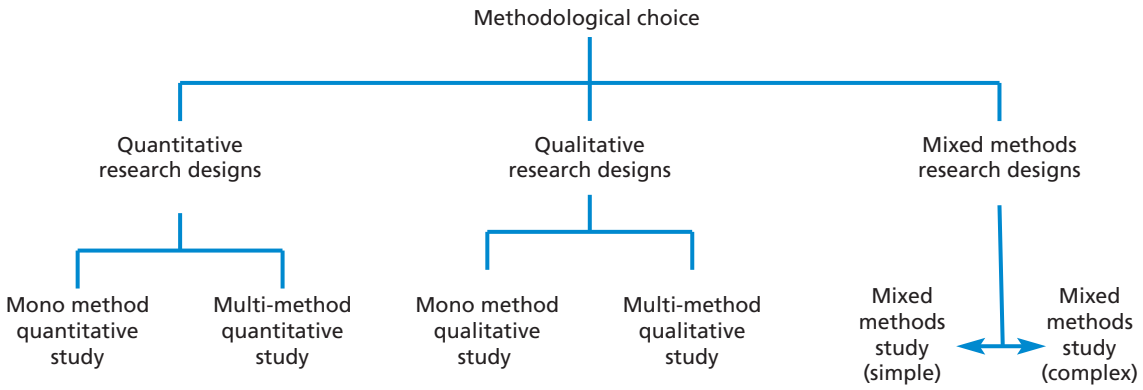


Figure 5.2 Methodological choice

and also to approaches to theory development and strategies. This will help you to decide how you might use these in a coherent way to address your research question. In the next three sections we consider some of these key associations in relation to the methodological choice between quantitative research designs, qualitative research designs and mixed methods research designs (Figure 5.2).

5.4 Quantitative research designs

Philosophical assumptions

Quantitative research designs are generally associated with positivism, especially when used with predetermined and highly structured data collection techniques. However, it is increasingly seen as a philosophical caricature to suggest that there is an exclusive link between positivism, deduction and a quantitative research design (Bryman 1998, Walsh et al 2015a). Rather, a distinction needs to be drawn between data about the attributes of people, organisations or other things and data based on opinions (Box 5.1). In this way, some survey research, whilst conducted quantitatively, may be seen to fit partly within an interpretivist philosophy. Quantitative research designs may also be undertaken within the realist and pragmatist philosophies (Section 5.6).

Approach to theory development

Quantitative research is usually associated with a deductive approach, where data are collected and analysed to test theory. However, it may also incorporate an inductive approach, where data are used to develop theory (Section 4.5). For example, a researcher may analyse quantitative data to determine hypotheses to test in a subsequent round of data collection and analysis. It may also be that original hypotheses are poorly framed, or even absent, and initial analysis of quantitative data is needed to clarify these inductively prior to further analysis. Walsh et al. (2015b: 621) refer to this generally undeclared approach as '"**Harking**" – hypothesising after the results are known.' We suggest you do not use this approach without first discussing it with your project tutor. However, you may find it necessary to refine original hypotheses.

Box 5.1 Focus on research in the news

Data and public opinion – How well do you know your country?

By Alan Smith, David Blood and Ændrew Rininsland

This month, Ipsos Mori published the latest in its annual Perils of Perception series, a 40-country survey of public perceptions about "key global issues and features of the population". The survey found widespread social misperceptions, with Bobby Duffy, managing director of Ipsos Mori's Social Research Institute, writing in the *Guardian* that this latest set of results reflected that "objective facts are less influential in shaping public opinion than appeals to emotion and personal belief".

A cocktail of personal experience, circumstances and external influences - from social networks to media and advertising - mean that everyone will have their own perception of reality. Fascinated by the Ipsos findings, David Blood and Ændrew Rininsland at the Financial Times devised the "How well do you really know your country?" quiz, challenging FT readers to compare their own perceptions of their country with both the public's perceptions (as provided by the Ipsos Mori survey) and the "actual" figures used by Ipsos Mori.

Some two weeks after the quiz was published, and with thousands of results from FT readers across the world, we decided to take a look at some of the emerging patterns. We extracted FT reader responses for each country/question combination for comparison with Ipsos's figures, excluding those countries with a low level of reader responses. We then used the median figure for each question for comparison, as this is more resistant to extreme individual guesses influencing the average.

In many ways, that FT readers have a different view of the world from the general public should not be a surprise: the Ipsos Mori survey uses stratified samples to try and provide a "representative" view of each country's population.

FT readers are not likely to be as representative of the broader population. And the results of the quiz should not be considered as statistically robust as a well-designed survey.

Nevertheless, the quiz does provide a fascinating glimpse into how different groups of people can have distinct and, at times, diverging views of the same reality. Failure to acknowledge this - or the fact that our own social interactions may not reflect the diversity of perception - may contribute to the "filter bubble" effect, or "echo chamber" of similar views.

As many become worried about the rise of fake news, the need for informed debate based on reality, and the various perceptions of it, has never been greater. So this is a good time to ask, "How well do you really know your country?"

FT *Source of extract:* Smith, A., Blood, D. and Rininsland, Æ. (2016) 'Data and Public Opinion – How well do you know your country?', *Financial Times,* 31 December. Copyright © 2016 The Financial Times Limited

Characteristics

Quantitative research examines relationships between variables, which are measured numerically and analysed using a range of statistical and graphical techniques. It often incorporates controls to ensure the validity of data, as in an experimental design. Because data are collected in a standardised manner, it is important to ensure that questions are expressed clearly so they are understood in the same way by each participant. This methodology generally uses probability sampling techniques to ensure generalisability (Section 7.2). The researcher is seen as independent from those being researched, who are usually called respondents. The characteristics of quantitative research are summarised in Table 5.1.

A quantitative research design may use a single data collection technique, such as a questionnaire, and corresponding quantitative analytical procedure. This is known as a **mono method quantitative study** (Figure 5.2). A quantitative research design may also use more than one quantitative data collection technique and corresponding analytical procedure. This is known as a **multi-method quantitative study** (Figure 5.2). You might, for example, decide to collect quantitative data using both questionnaires and structured observation, analysing these data statistically. **Multi-method** is the branch of **multiple methods** research that uses more than one quantitative or qualitative method but does not mix them (Figure 5.2).

Use of multiple methods has been advocated within business and management research (Bryman 2006) because it is likely to overcome weaknesses associated with using only a single or mono method, as well as providing scope for a richer approach to data collection, analysis and interpretation.

Research strategies

Quantitative research is principally associated with experimental and survey research strategies, which we discuss in Section 5.8. In quantitative research, a survey strategy is normally conducted through the use of questionnaires or structured interviews or, possibly, structured observation. However, it is important to note that quantitative data and analysis techniques can be and are used in research strategies that are often thought of as being qualitative, such as action research, case study research and grounded theory (Section 5.8).

Techniques

Techniques associated with the use of these particular methods are considered in Chapters 9, 11 and 12. Structured observation is discussed in Section 9.4; Chapter 11 discusses the use of questionnaires including structured interviewing; and Chapter 12 is devoted to analysing data quantitatively.

Table 5.1 Characteristics of quantitative research

- Researcher is generally seen as independent from those being researched.
- Those taking part are usually referred to as respondents.
- Designed to examine relationships between variables.
- Often uses probability sampling techniques to ensure generalisability.
- Method(s) used to collect data are rigorously defined and highly structured.
- Collection results in numerical and standardised data.
- Analysis conducted through the use of statistics and diagrams.
- Resulting meanings derived from numbers.

5.5 Qualitative research designs

Philosophical assumptions

Qualitative research is often associated with an interpretive philosophy (Denzin and Lincoln 2018). It is interpretive because researchers need to make sense of the subjective and socially constructed meanings expressed about the phenomenon being studied. Such research is sometimes referred to as naturalistic since researchers need to operate within a natural setting, or research context, in order to establish trust, participation, access to meanings and in-depth understanding. Like quantitative research, qualitative research may also be undertaken within realist and pragmatist philosophies (see 'Mixed methods research design' later).

Approach to theory development

Many varieties of qualitative research commence with an inductive approach to theory development, where a naturalistic and emergent research design is used to build theory or to develop a richer theoretical perspective than already exists in the literature. However, some qualitative research strategies start with a deductive approach, to test an existing theory using qualitative procedures (Yin 2018). In practice, much qualitative research also uses an abductive approach to theory development where inductive inferences are developed and deductive ones are tested iteratively throughout the research (Section 4.5).

Characteristics

Qualitative research studies participants' meanings and the relationships between them, using a variety of data collection techniques and analytical procedures, to develop a conceptual framework and theoretical contribution. The success of the qualitative researcher's role is dependent not only on gaining physical access to those who take part, but also building rapport and demonstrating sensitivity to gain cognitive access to their data (Section 6.2). Those who consent to take part in qualitative research are therefore not seen as mere respondents but as participants in the collection of data.

In qualitative research, meanings are derived from words and images, not numbers. Since words and images may have multiple meanings as well as unclear meanings, it is often necessary to explore and clarify these with participants. Methods used are unstructured or semi-structured (Sections 9.3 and 10.3), so that questions, procedures and focus may alter or emerge during a research process that is both naturalistic and interactive. Qualitative research is likely to use non-probability sampling techniques (Section 7.3). The qualitative data that are collected will be non-standardised and generally require being classified into categories for analysis. The characteristics of qualitative research are summarised in Table 5.2.

A qualitative research design may use a single data collection technique, such as semi-structured interviews, and corresponding qualitative analytical procedure. This is known as a **mono method qualitative study** (Figure 5.2). A qualitative research design may also use more than one qualitative data collection technique and corresponding analytical procedure. This is known as a **multi-method qualitative study** (Figure 5.2). You might, for example, decide to collect qualitative data using in-depth interviews and diary accounts, analysing these data using qualitative procedures. Box 5.2 provides an example of a multi-method qualitative study.

Table 5.2 Characteristics of qualitative research

- Researcher is generally recognised as not being independent from those researched.
- Those taking part are referred to as participants or informants.
- Designed to study participants' attributed meanings and associated relationships.
- Generally uses non-probability sampling techniques.
- Based on meanings expressed through words (spoken and textual) and images.
- Method(s) used to collect data are unstructured or semi-structured.
- Collection results in non-standardised data generally requiring classification into categories.
- Analysis conducted through the use of conceptualisation.
- Resulting meaning derived from words (spoken or text) and images.

Research strategies

Qualitative research is associated with a variety of strategies. Some of the principal strategies used with qualitative research are: Action Research, Case Study research, Ethnography, Grounded Theory and Narrative Inquiry. These are discussed in Section 5.8. Some of these strategies can also be used in a quantitative research design, such as a case study strategy, or be used in a mixed methods research design as we discuss in Section 5.6.

Techniques

Techniques associated with the use of particular methods are considered in Chapters 9, 10 and 13. Collecting qualitative data through observation is considered in Chapter 9; this includes Internet-mediated observation (Section 9.5) and observation using videography (Section 9.6). Collecting qualitative data using semi-structured and in-depth interviews is considered in Chapter 10; this includes group interviews (Section 10.8), telephone interviews (Section 10.9) and Internet-mediated interviews (Section 10.10). Techniques to analyse data qualitatively are considered in Chapter 13.

Box 5.2 Focus on student research

Multi-method qualitative study

Harry wanted to establish how new supervisors learned to do their job. In order to do this he thought it essential that he should have the clearest possible grasp of what the supervisor's job entailed.

This involved him in:

- shadowing a new supervisor for a week (qualitative data);
- interviewing a day and a night shift supervisor to establish any differences in approach (qualitative data);
- interviewing the managers to whom these two supervisors reported (qualitative data).

This gave Harry a much better grasp of the content of the supervisor's job. It also did much to enhance his credibility in the eyes of the supervisors. He was then able to draw on the valuable data he had collected to complete his main research task: interviewing new supervisors to discover how they learned to do the job. This provided further qualitative data.

5.6 Mixed methods research designs

Philosophical assumptions

Mixed methods research is the branch of multiple methods research that integrates the use of quantitative and qualitative data collection techniques and analytical procedures in the same research project (Figure 5.2). It is therefore based on philosophical assumptions that guide the collection and analysis of data and the mixing of quantitative and qualitative collection techniques and analysis procedures (Molina-Azorin et al. 2017). We consider two philosophical positions that are often associated with mixed methods designs: pragmatism and critical realism.

As we noted in Section 4.4, pragmatists assert that there are many different ways of interpreting the world and that different methods are often appropriate within one research study. This does not mean pragmatists will always use mixed methods, rather that the methods pragmatists use are chosen because they will enable credible reliable and relevant data to be collected to address the research problem. For pragmatists, the nature of the research question, the research context and likely research consequences are driving forces determining the most appropriate methodological choice (Nastasi et al. 2010). Both quantitative and qualitative research are valued by pragmatists and their choice will be contingent on the particular nature of the research. Pragmatism can therefore be seen as informing qualitative and quantitative, as well as mixed methods, research.

Critical realism, like pragmatism, has implications for research design that may support the use of mixed methods research. To accommodate this realist ontology and subjectivist epistemology, researchers may, for example, use initially qualitative research methods to explore perceptions. This could be followed by quantitative analysis of officially published data (Section 8.2) or documentary sources (Section 5.8) to conduct a retroductive analysis (Section 4.5) to seek to understand the relationship between socially constructed knowledge and possible underlying casual structures, processes and forces. It is also possible to undertake qualitative research within a critical realist philosophy.

Researchers using mixed methods approaches have a **pluralist** view of research methodology. This means they believe that flexibility in the selection and use of methods (both quantitative and qualitative) is legitimate and that researchers should be tolerant of others' preferred methods even when they differ from their own. These views can be contrasted with those who believe there is, or should be, one legitimate method that should be followed. Researchers with this **unitarist** methodological view are unlikely to be tolerant of others' preferred methods if they differ from their own.

Approach to theory development

A mixed methods research design may use a deductive, inductive or abductive approach to theory development. For example, quantitative or qualitative research may be used to test a theoretical proposition or propositions, followed by further quantitative or qualitative research to develop a richer theoretical understanding. Theory may also be used to provide direction for the research. In this way a particular theory may be used to provide a focus for the research and to provide boundaries to its scope (Tashakkori and Teddlie 2010).

Characteristics

Mixed methods research draws from the characteristics of both quantitative research (Table 5.1) and qualitative research (Table 5.2). In mixed methods research, quantitative and qualitative techniques are combined in a variety of ways that range from simple, concurrent forms to more complex and sequential forms (Figure 5.2). The ways in which quantitative and qualitative research may be combined, as well as the extent to which this may occur, have led to the identification of a number of variations of mixed methods research (Creswell and Plano Clark 2011; Nastasi et al. 2010). We now consider these briefly.

Concurrent mixed methods research involves the separate use of quantitative and qualitative methods within a single phase of data collection and analysis (a **single-phase research design**) (Figure 5.3). This allows both sets of results to be interpreted together to provide a richer and more comprehensive response to the research question in comparison to the use of a mono method design. Where you collect qualitative and quantitative data in the same phase of research in order to compare how these data sets support one another, you will be using a **concurrent triangulation design**.

Using a concurrent mixed methods design should provide richer data than a mono method design and be shorter in timescale, as well as more practical to undertake, than a sequential mixed methods design.

Sequential mixed methods research involves more than one phase of data collection and analysis (Figure 5.3). In this design, the researcher will follow the use of one method with another in order to expand or elaborate on the initial set of findings. In a **double-phase research design** this leads to two alternative mixed methods research strategies, either a **sequential exploratory research design** (qualitative followed by quantitative) or a **sequential explanatory research design** (quantitative followed by qualitative). In a more complex, sequential, **multi-phase design**, mixed methods research will involve multiple phases of data collection and analysis (e.g. qualitative followed by quantitative, then by a further phase of qualitative) (Box 5.3).

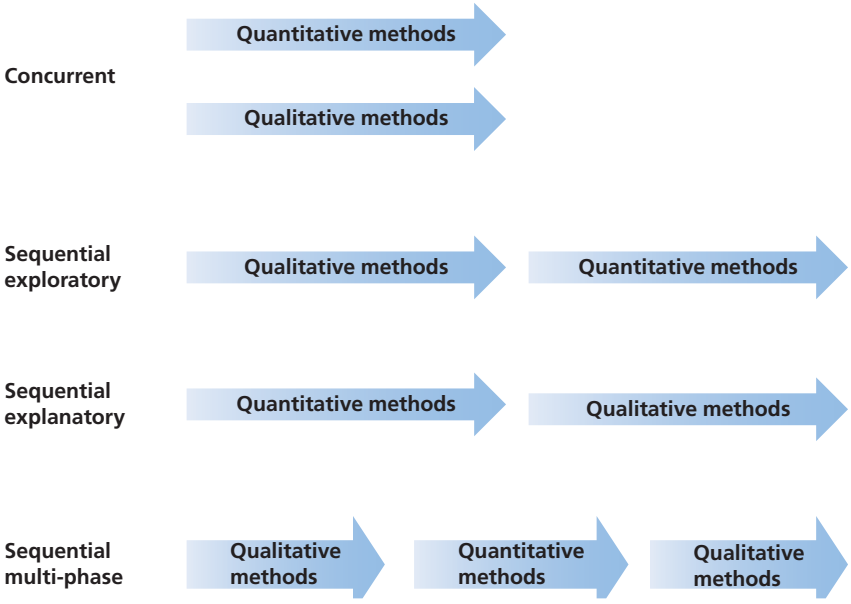


Figure 5.3 Mixed methods research designs

Box 5.3 Focus on student research

Mixed methods research

Andreas conducted research into organisational change in an IT company, using a mixed methods research design. This was designed as a sequential mixed methods research project and consisted of four stages:

1 *Initial exploratory discussions* were held with key senior managers, which combined the purpose of helping to negotiate access, agree the scope of the project and gain essential contextual data. These data were analysed qualitatively in order to get a picture of important internal and external organisational issues.
2 *Individual in-depth interviews* were held with 28 directly employed staff (excluding contractor staff), who formed a sample representing the organisation across its departments and throughout its grade structure. These data were also analysed qualitatively. This was to establish the issues that were important to staff, to help to inform the content of the questionnaire.
3 *A questionnaire* was designed, pilot-tested, amended and then administered to a representative sample of directly employed staff, producing a 42 per cent response rate. The quantitative data produced were analysed statistically to allow the views of employee groups to be compared for differences by age, gender, length of service, occupation and grade. The subsequent production of summary data based on these findings was particularly important to the IT company.
4 A fourth stage consisted of *presentations to groups of employees.* This allowed employees' questions to be answered with care, while continuing to ensure anonymity. It also allowed discussion to occur to clarify the content of some of the questionnaire results. Notes from these presentations were analysed qualitatively.

Using a double-phase or multi-phase research design suggests a dynamic approach to the research process which recognises that mixed methods research is both interactive and iterative, where one phase subsequently informs and directs the next phase of data collection and analysis. The exact nature of this interaction and iteration in a particular research project may shape the way in which qualitative and quantitative methods are chosen and integrated at each phase of the research (Greene 2007; Nastasi et al. 2010; Ridenour and Newman 2008; Teddlie and Tashakkori 2009).

Where you mix quantitative and qualitative methods at every stage of your research (design, data collection and analysis, interpretation and presentation of the research), you will be using a **fully integrated mixed methods research** design. Where you use quantitative and qualitative methods at only one stage or particular stages of your research, you will be using a **partially integrated mixed methods research** approach (Nastasi et al. 2010; Teddlie and Tashakkori 2009, 2011).

Quantitative and qualitative methods may also be 'merged' so that qualitative data are '**quantitised**' (e.g. specific events in the data are counted as frequencies and numerically coded for statistical analysis) and quantitative data are '**qualitised**' (e.g. frequencies are turned into text, although this is extremely rare in practice). Both types of data may also be presented together on a matrix, qualitative data may be presented diagrammatically (Box 12.9) and quantitative data presented using categorisation. This approach to mixing methods may be risky, since there is a danger that the respective value of each form of data may be diluted; for example, excessively 'quantitising' qualitative data may lead to loss of its exploratory or explanatory richness.

Mixed methods research may use quantitative research and qualitative research equally or unequally (Creswell and Plano Clark 2011). In this way, the priority or weight given to

either quantitative or qualitative research may vary, so that one methodology has a dominant role, while the other plays a supporting role, depending on the purpose of the research project. This prioritisation may also reflect the preferences of the researcher or the expectations of those who commission the research (such as your project tutor or the managers in an organisation).

The purpose of the research may emphasise the initial use and prioritisation of qualitative research (as in an exploratory study, where qualitative precedes quantitative) or the initial use and prioritisation of quantitative research (as in a descriptive study, before the possible use of supporting qualitative research to explain particular findings further). The overall purpose of the research may also emphasise the dominance of either quantitative or qualitative research (e.g. as in a sequential project which commences with a qualitative, exploratory phase, followed by a quantitative, descriptive phase and which is completed by a further qualitative, explanatory phase). The purpose of other research projects may lead to the more equal use of quantitative and qualitative research methods. The research approach may also lead to the relative prioritisation of either quantitative or qualitative methods. In this way, an inductive approach designed to generate theoretical concepts and to build theory may lead to a greater emphasis on the use of qualitative methods.

Embedded mixed methods research is the term given to the situation where one methodology supports the other (Creswell and Plano Clark 2011). During data collection, this may occur in a number of ways. One methodology may be embedded within the other during a single means to collect data (e.g. some quantitative questions are included in an interview schedule, or some questions within a questionnaire require a qualitative response). This is known as a **concurrent embedded design**. Alternatively, a single-phase research design may use both quantitative and qualitative methods concurrently but collect these separately, one of which will be analysed to support the other. Within a double-phase, sequential research design, both quantitative and qualitative methods will be collected and analysed, one after the other, with one being used in a supporting role.

The characteristics that help to define mixed methods research highlight how quantitative and qualitative methods may be combined in a number of ways to provide you with better opportunities to answer your research question (Tashakkori and Teddlie 2010). Table 5.3 outlines a number of reasons for and advantages of using a mixed methods design. The specific nature of your mixed methods design will be related to particular reasons and advantages.

Box 5.4 summarises how mixed methods have been used in strategic management research.

Research designs

As we have just discussed, different combinations of mixed methods research characteristics lead to various research designs. The principal mixed methods research designs summarised earlier in this section are: concurrent triangulation design, concurrent embedded design, sequential exploratory design, sequential explanatory design (Creswell 2009; Creswell and Plano Clark 2011) and sequential, multi-phase design.

Techniques

Quantitative data collection techniques and analytical procedures that may be used as part of mixed methods research are considered in Chapters 9, 11 and 12. Structured observation

Table 5.3 Reasons for using a mixed methods design

Reason	Explanation
Initiation	Initial use of a qualitative or quantitative methodology may be used to define the nature and scope of sequential quantitative or qualitative research. May also be used to provide contextual background and to better understand the research problem (e.g. Box 5.3). May also help in the formulation or redrafting of research questions, interview questions and questionnaire items and the selection of samples, cases and participants
Facilitation	During the course of the research, one method may lead to the discovery of new insights which inform and are followed up through the use of the other method
Complementarity	Use of mixed methods may allow meanings and findings to be elaborated, enhanced, clarified, confirmed, illustrated or linked
Interpretation	One method (e.g. qualitative) may be used to help to explain relationships between variables emerging from the other (e.g. quantitative)
Generalisability	Use of mixed methods may help to establish the generalisability of a study or its relative importance. In a similar way the use of mixed methods may help to establish the credibility of a study or to produce more complete knowledge (Section 5.11)
Diversity	Use of mixed methods may allow for a greater diversity of views to inform and be reflected in the study
Problem solving	Use of an alternative method may help when the initial method reveals unexplainable results or insufficient data
Focus	One method may be used to focus on one attribute (e.g. quantitative on macro aspects), while the other method may be used to focus on another attribute (e.g. qualitative on micro aspects)
Triangulation	Mixed methods may be used in order to combine data to ascertain if the findings from one method mutually corroborate the findings from the other method (Section 5.11)
Confidence	Findings may be affected by the method used. Use of a single method will make it impossible to ascertain the nature of that effect. To seek to cancel out this 'method effect', it is advisable to use mixed methods. This should lead to greater confidence in your conclusions

Source: Developed from Bryman (2006), Greene et al. (1989), Molina-Azorin (2011) and authors' experience

is discussed in Section 9.4; Chapter 11 discusses the use of questionnaires, including structured interviewing; and Chapter 12 is devoted to the analysis of quantitative data.

Qualitative data collection techniques and analytical procedures that may be used as part of mixed methods research are considered in Chapters 9, 10 and 13. Collecting qualitative data through observation is considered in Chapter 9; this includes Internet-mediated observation (Section 9.5) and observation using videography (Section 9.6). Collecting qualitative data using semi-structured and in-depth interviews is considered in Chapter 10; this includes group interviews (Section 10.8), telephone interviews (Section 10.9) and

Box 5.4 Focus on management research

Recognition and use of mixed methods in organisational research

Molina-Azorin et al. (2017) note in an article published in *Organizational Research Methods* that while mixed methods research has been recognised and developed as a distinct methodological approach over recent decades in many social sciences fields such as education and health, this does not appear to be the case in organisational research to the same degree. They point out, however, that some caution is required in relation to this apparent difference.

They argue that organisational and management researchers have used quantitative and qualitative methods in an integrated way for a long time without referring to this as mixed methods research. This they consider is understandable before the identification of the term 'mixed methods research' in the latter part of the twentieth century and its subsequent development as a distinct methodological approach. However, Molina-Azorin et al. (2017: 181) also state that, "in the past few years, organizational researchers are also integrating quantitative and qualitative methods without using the 'mixed methods' approach to refer to their studies."

They comment that although the term 'mixed methods research' is not always used, many journals welcome research that integrates quantitative and qualitative approaches. Consequently, searching for such research using the search term 'mixed methods' is likely to reveal only a relatively small number of articles in business and management journals. For greater success, a wider variety of search terms incorporating both qualitative and quantitative research methods is likely to be required.

Internet-mediated interviews (Section 10.10). Techniques to analyse qualitative data are considered in Chapter 13.

5.7 Recognising the purpose of your research design

Earlier we referred to your research following an exploratory or explanatory purpose. Research can be designed to fulfil either an exploratory, descriptive, explanatory or evaluative purpose, or some combination of these. In Chapter 2 we encouraged you to think about your research project in terms of the question you wish to answer and your research objectives. The way in which you ask your research question will inevitably involve you in exploratory, descriptive, explanatory or evaluative research. The purpose of your research may also change over time.

In this section we discuss each purpose in more detail to help you to choose which of these is appropriate to the nature of your research project.

Exploratory studies

An **exploratory study** is a valuable means to ask open questions to discover what is happening and gain insights about a topic of interest. As we noted in Section 2.4, research questions that are exploratory are likely to begin with 'What' or 'How'. Questions that you ask during data collection to explore an issue, problem or phenomenon

will also be likely to start with 'What' or 'How' (Chapter 10). An exploratory study is particularly useful if you wish to clarify your understanding of an issue, problem or phenomenon, such as if you are unsure of its precise nature. It may be that time is well spent on exploratory research, as it might show that the research is not worth pursuing!

There are a number of ways to conduct exploratory research. These include a search of the literature; interviewing 'experts' in the subject; conducting in-depth individual interviews or conducting focus group interviews. Because of their exploratory nature, these interviews are likely to be relatively unstructured and to rely on the quality of the contributions from those who participate to help guide the subsequent stage of your research (Sections 10.2 and 10.3).

Exploratory research has the advantage that it is flexible and adaptable to change. If you are conducting exploratory research, you must be willing to change your direction as a result of new data that appear and new insights that occur to you. A quotation from the travel writer V.S. Naipaul (1989: 222) illustrates this point beautifully:

> I had been concerned, at the start of my own journey, to establish some lines of enquiry, to define a theme. The approach had its difficulties. At the back of my mind was always a worry that I would come to a place and all contacts would break down . . . If you travel on a theme the theme has to develop with the travel. At the beginning your interests can be broad and scattered. But then they must be more focused; the different stages of a journey cannot simply be versions of one another. And . . . this kind of travel depended on luck. It depended on the people you met, the little illuminations you had. As with the next day's issue of fast-moving daily newspapers, the shape of the character in hand was continually being changed by accidents along the way.

Exploratory research may commence with a broad focus but this will become narrower as the research progresses.

Descriptive studies

The purpose of **descriptive research** is to gain an accurate profile of events, persons or situations. As we noted in Section 2.4, research questions that are descriptive are likely to begin with, or include, either 'Who', 'What', 'Where', 'When' or 'How'. Questions that you ask during data collection to gain a description of events, persons or situations will also be likely to start with, or include, 'Who', 'What', 'Where', 'When' or 'How' (Chapters 10 and 11). Descriptive research may be an extension of a piece of exploratory research or a forerunner to a piece of explanatory research. It is necessary to have a clear picture of the phenomenon on which you wish to collect data prior to the collection of the data. One of the earliest well-known examples of a descriptive survey is the *Domesday Book,* which described the population of England in 1085.

Often project tutors are rather wary of work that is too descriptive. There is a danger of their saying 'That's very interesting . . . but so what?' They will want you to go further and draw conclusions from the data you are describing. They will encourage you to develop the skills of evaluating data and synthesising ideas. These are higher-order skills than those of accurate description. Description in business and management research has a very clear place. However, it should be thought of as a means to an end rather

than an end in itself. This means that if your research project utilises description it is likely to be a precursor to explanation. Such studies are known as **descripto-explanatory** studies.

Explanatory studies

Studies that establish causal relationships between variables may be termed **explanatory research**. As we noted in Section 2.4, research questions that seek explanatory answers are likely to begin with, or include, 'Why' or 'How'. Questions that you ask during data collection to gain an explanatory response will also be likely to start with, or include, 'Why' or 'How' (Chapters 10 and 11).

The emphasis in explanatory research is to study a situation or a problem in order to explain the relationships between variables. You may find, for example, that a cursory analysis of quantitative data on manufacturing scrap rates shows a relationship between scrap rates and the age of the machine being operated. You could analyse these data using a statistical test such as correlation (discussed in Section 12.6) in order to get a clearer view of the relationship. Alternatively, you might collect qualitative data to explain the reasons why customers of your company rarely pay their bills according to the prescribed payment terms.

Evaluative studies

The purpose of **evaluative research** is to find out how well something works. As we noted in Section 2.4, research questions that seek to evaluate answers are likely to begin with 'How', or include 'What', in the form of 'To what extent'. Evaluative research in business and management is likely to be concerned with assessing the effectiveness of an organisational or business strategy, policy, programme, initiative or process. This may relate to any area of the organisation or business: for example, evaluating a marketing campaign, a personnel policy, a costing strategy, the delivery of a support service.

Questions that you ask during data collection to seek an evaluative understanding will be likely to start with, or include, 'What', 'How' or 'Why'. As part of your evaluative study you may also make comparisons between events, situations, groups, places or periods, so that you ask questions that include 'Which', 'When', 'Who' or 'Where' (Chapters 10 and 11). Asking such questions would help you to compare the effectiveness of, say, an advertising campaign in different locations or between different groups of consumers. In this way, evaluative research allows you to assess performance and to compare this. An evaluative study may produce a theoretical contribution where emphasis is placed on understanding not only 'how effective' something is, but also 'why', and then comparing this explanation to existing theory.

Combined studies

A research study may combine more than one purpose in its design. This may be achieved by the use of multiple methods in the research design (Sections 5.4 to 5.6), to facilitate some combination of exploratory, descriptive, explanatory or evaluative research. Alternatively, a single method research design may be used in a way that provides scope to facilitate more than one purpose. Box 5.5 provides two examples of multiple methods studies that combine research purposes.

Box 5.5 Focus on management research

Multiple methods studies that combine research purposes

It is useful to look at business and management research published in journals to see whether they are based on a single method or multiple methods, and to recognise the research purpose(s) of each method. While these articles outline the research method(s) their authors used, the purpose of each method is often implied rather than being explicitly categorised as exploratory, descriptive, explanatory or evaluative. Some journals tend to publish articles based on multiple methods studies and it is helpful to examine this type of article to work out how the methods used are related to research purpose. The *Journal of Marketing* publishes many articles based on multiple methods studies, which help to show the relationship between research method and research purpose. Here are two examples.

Dion and Borraz (2017) undertook research whose aim was to examine how stores dedicated to selling luxury brands manage status during service encounters. Their qualitative multi-method study involved the collection of four sets of data based on three research methods: (i) interviews conducted with a sample of luxury brand customers; (ii) interviews conducted with a range of luxury store employees; (iii) a series of semi-structured observations of service encounters in luxury stores in the city of Paris; and (iv) Internet-mediated observation of websites, online stores and blogs to access consumer and employee accounts of their experiences of shopping or working in luxury stores. The exploratory, descriptive and explanatory nature of this research emerges through the description of its design and especially through the presentation of the results of this research project.

Böttger et al. (2017) undertook research whose aim was to conceive of, develop and validate a scale to measure customer inspiration. Some 93 initial possible scale items were generated by the authors using existing literature and the results of interviews with 918 customers, which were then evaluated by an expert panel of marketing academics and organisational managers to form a list of 37 potential items. Subsequently, five distinct studies were undertaken to develop and validate the scale. These studies included the use of laboratory and field experiments and the administration of questionnaires. This research collected both qualitative and quantitative data, which were primarily analysed quantitatively. The various stages of this mixed-methods study illustrate the exploratory, descriptive, explanatory and evaluative nature of this research.

5.8 Choosing a research strategy or strategies

The different research strategies

In this section we turn our attention to your choice of **research strategy** (Figure 5.1). In general terms, a strategy is a plan of action to achieve a goal. A research strategy may therefore be defined as a plan of how a researcher will go about answering her or his research question. It is the methodological link between your philosophy and subsequent choice of methods to collect and analyse data (Denzin and Lincoln 2018).

Different research traditions have led to the development of a range of research strategies, as we outlined earlier. In Sections 5.4 to 5.6 we outlined the research strategies that are principally linked with quantitative, qualitative and mixed methods research designs, respectively. Particular research strategies may be associated with a particular research philosophy and also a deductive, inductive or abductive approach; however, we also

recognised in Sections 5.4 to 5.6 that there are often open boundaries between research philosophies, research approaches and research strategies.

In a similar way, a particular research strategy should not be seen as inherently superior or inferior to any other. Consequently, we believe that what is most important is not attaching labels for their own sake or linking research elements to try to be methodologically aloof. For us, the key to your choice of research strategy or strategies is that you achieve a reasonable level of coherence throughout your research design which will enable you to answer your particular research question(s) and meet your objectives.

Your choice of research strategy will therefore be guided by your research question(s) and objectives, the coherence with which these link to your philosophy, research approach and purpose, and also to more pragmatic concerns including the extent of existing knowledge, the amount of time and other resources you have available and access to potential participants and to other sources of data. Finally, it must be remembered that these strategies should not be thought of as being mutually exclusive. For example, it is quite possible to use the survey strategy within a case study or combine a number of different strategies within mixed methods.

The first two research strategies in the list below that we consider in this section are principally or exclusively linked to a quantitative research design. The next two may involve quantitative or qualitative research, or a mixed design combining both. The final four strategies are principally or exclusively linked to a qualitative research design.

In our experience it is the choice between qualitative research strategies that is likely to cause the greatest confusion. Such confusion is often justified given the diversity of qualitative strategies (many more than those we consider), with their conflicting tensions and 'blurred genres' (Denzin and Lincoln 2018: 10). In our discussion we draw out the distinctions between these strategies to allow you to make an informed methodological choice between qualitative designs (as between or across quantitative and qualitative designs). This is intended to help you avoid the vague assertion that you are 'doing qualitative research', without any further qualification! The strategies we discuss are:

- Experiment;
- Survey;
- Archival and documentary research;
- Case study;
- Ethnography;
- Action Research;
- Grounded Theory;
- Narrative Inquiry.

Experiment

We start with discussion of the experiment strategy because its roots in natural science, laboratory-based research and the precision required to conduct it mean that the 'experiment' is often seen as the 'gold standard' against which the rigour of other strategies is assessed. **Experiment** is a form of research that owes much to the natural sciences, although it features strongly in psychological and social science research. The purpose of an experiment is to study the probability of a change in an **independent variable** causing a change in another, **dependent variable**. Table 5.4 provides a description of types of variable. An experiment uses hypothetical explanations, known as hypotheses, rather than research questions. This is because the researcher hypothesises whether or not a relationship will exist between the variables. Two types of (opposing) hypotheses are formulated

Table 5.4 Types of variable

Variable	Meaning
Independent (IV)	Variable that is being manipulated or changed to measure its impact on a dependent variable
Dependent (DV)	Variable that may change in response to changes in other variables; observed outcome or result from manipulation of another variable
Mediating (MV)	A variable located between the independent and dependent variables, which transmits the effect between them (IV → MV → DV)
Moderator	A new variable that is introduced which will affect the nature of the relationship between the IV and DV
Control	Additional observable and measurable variables that need to be kept constant to avoid them influencing the effect of the IV on the DV
Confounding	Extraneous but difficult to observe or measure variables that can potentially undermine the inferences drawn between the IV and DV. Need to be considered when discussing results, to avoid spurious conclusions

in a standard experiment: the **null hypothesis** and the **hypothesis** (also referred to as the alternative **hypothesis**). The null hypothesis is the explanation that there is no difference or relationship between the variables. An example of a null hypothesis is:

> User satisfaction of online customer support is not related to the amount of training support staff have received.

The hypothesis is the explanation that there is a difference or relationship between the variables. An example of a (directional) hypothesis is:

> User satisfaction of online customer support is related to the amount of training support staff have received.

In an experiment, the compatibility of the data with the null hypothesis is tested statistically. The statistical test is based on the probability of these data or data more extreme occurring by chance (Wassenstein and Lazer, 2016) and in effect measures the probability that the data are compatible with the null hypothesis. The smaller the probability (termed the *p*-value), the greater the statistical incompatibility of the data with the null hypothesis. This 'incompatibility' is interpreted as casting doubt on or providing evidence against the null hypothesis and its associated underlying assumptions. Where this probability is greater than a prescribed value (usually $p = 0.05$), the null hypothesis is usually accepted and the hypothesis is rejected. Where the probability is less than or equal to the prescribed value (usually $p = 0.05$), this indicates that the hypothesis can be accepted. The simplest experiments are concerned with whether there is a link between two variables. More complex experiments also consider the size of the change and the relative importance of two or more independent variables. Experiments therefore tend to be used in exploratory and explanatory research to answer 'what', 'how' and 'why' questions.

Different experimental designs may be used, each with different advantages and disadvantages, particularly in relation to **control variables** and **confounding variables** (Table 5.2). Experimental designs include classical experiments, quasi-experiments and within-subject designs. In a **classical experiment,** a sample of participants is selected and

then randomly assigned to either an experimental group or to the control group. In the **experimental group**, some form of planned intervention or manipulation will be tested. In the **control group**, no such intervention is made. Random assignment means each group should be similar in all aspects relevant to the research other than whether or not they are exposed to the planned intervention or manipulation. In assigning the members to the control and experimental groups at random and using a control group, you try to control (that is, remove) the possible effects of an alternative explanation to the planned intervention (manipulation) and eliminate threats to internal validity. This is because the control group is subject to exactly the same external influences as the experimental group other than the planned intervention and, consequently, this intervention is the only explanation for any changes to the dependent variable.

A **quasi-experiment** will still use an experimental group(s) and a control group, but the researcher will not randomly assign participants to each group, perhaps because participants are only available in pre-formed groups (e.g. existing work groups). Differences in participants between groups may be minimised by the use of matched pairs. **Matched pair analysis** leads to a participant in an experimental group being paired with a participant in the control group based on matching factors such as age, gender, occupation, length of service, grade etc., to try to minimise the effect of extraneous variables on the experiment's outcomes. Those factors relevant to the nature of the experiment will need to be matched.

The basic experimental procedure in classical and quasi-experiments is the same (Figure 5.4), with the exception of random assignment, and we illustrate this procedure with an example related to the introduction of a sales promotion. The dependent variable in this example, purchasing behaviour, is measured for members of both the experimental group and control group before any intervention occurs. This provides a **pre-test** measure of purchasing behaviour. A planned intervention is then made to members of the experimental group in the form of a 'buy two, get one free' promotion. In the control group, no such intervention is made. The dependent variable, purchasing behaviour, is measured after the manipulation of the independent variable (the use of the 'buy two, get one free' promotion) for both the experimental group and the control group, so that a pre-test and **post-test** comparison can be made. On the basis of this comparison, any difference between the experimental and control groups for the dependent variable (purchasing behaviour) is attributed to the intervention of the 'buy two, get one free' promotion. This experimental approach is known as a **between-subjects design**, where participants belong to either the experimental group or control group but not both. In a between-subjects design, if more than one intervention or manipulation is to be tested, a separate experimental group will be required for each test (known as **independent measures**). For example, if the experiment was designed to compare two separate interventions, such as

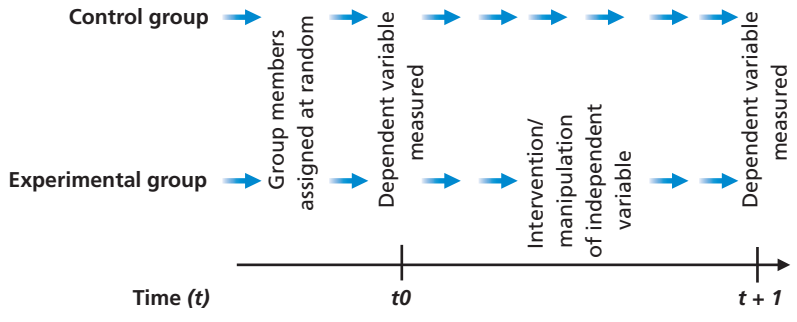


Figure 5.4 A classical experiment strategy

a 'buy one, get one free' as well as the 'buy two, get one free' manipulation, two experimental groups would be required alongside the control group.

In a **within-subjects design**, or within-group design, there will be only a single group, rather than a separation into an experimental group and a control group. In this approach every participant is exposed to the planned intervention or series of interventions. For this reason, this approach is known as **repeated measures**. The procedure involves a pre-intervention observation or measurement, to establish a baseline (or control for the dependent variable). This is followed by a planned intervention (manipulation of the independent variable) and subsequent observation and measurement (related to the dependent variable). Following the withdrawal of the intervention and a period of 'reversal', to allow a return to the baseline, a further planned intervention may be attempted followed by subsequent observation and measurement. A within-subject design may be more practical than a between-subjects design because it requires fewer participants, but it may lead to carryover effects where familiarity or fatigue with the process distorts the validity of the findings. This may lead to a counterbalanced design, where some of the participants undertake tasks in a different order to see if familiarity or fatigue affects the outcomes.

Often experiments, including those in disciplines closely associated with business and management such as organisational psychology, are conducted in laboratories rather than in the field (for example in an organisation). This means that you have greater control over aspects of the research process such as sample selection and the context within which the experiment occurs. However, while this improves the **internal validity** of the experiment, that is, the extent to which the findings can be attributed to the interventions rather than any flaws in your research design, **external validity** is likely to be more difficult to establish (we discuss issues of validity in Section 5.11). Laboratory settings, by their very nature, are unlikely to be related to the real world of organisations. As a consequence, the extent to which the findings from a laboratory experiment are able to be generalised to all organisations is likely to be lower than for a field-based experiment.

The feasibility of using an experimental strategy will depend on the nature of your research question. As we noted, an experiment uses predictive hypotheses rather than open research questions. It may be appropriate to turn your question into hypotheses where you wish to test for expected relationships between variables. However, most business and management research questions will be designed to inquire into the relationships between variables, rather than to test a predicted relationship. This indicates the difference between experiments and other research strategies. Within quantitative research designs, it highlights a key difference between an experimental strategy and a survey strategy.

Survey

The **survey** strategy is usually associated with a deductive research approach. It is a popular strategy in business and management research and is most frequently used to answer 'what', 'who', 'where', 'how much' and 'how many' questions. It therefore tends to be used for exploratory and descriptive research. Survey strategies using questionnaires are popular as they allow the collection of standardised data from a large number of respondents economically, allowing easy comparison. In addition, the survey strategy is perceived as authoritative by people in general and is comparatively easy both to explain and to understand. Every day a news bulletin, news website or newspaper reports the results of a new survey that is designed to find out how a group of people thinks or behaves in relation to a particular issue (Box 5.6).

The survey strategy allows you to collect data which you can analyse quantitatively using descriptive and inferential statistics (Sections 12.5 and 12.6). In addition, data

Box 5.6 Focus on research in the news

Young people rely on parents and credit cards to cover costs

By Lucy Warwick-Ching

In a report published this week, the Financial Conduct Authority (FCA) said half of UK adults – over 25m people – were potentially "financially vulnerable" for reasons including a reliance on high-cost credit, or their inability to cope with a small rise in their monthly bills.

The report, based on a survey of 13,000 adults conducted between January and April of this year, identified 4.1m people, typically between the ages of 25 and 34, who are already in "serious financial difficulty" having failed to pay bills in three or more of the past six months.

A shift in the generational pattern of earnings and income is creating a growing "wealth gap" between the young and the old in Britain, which the FCA said is resulting in more young people experiencing debt problems.

The report highlights just how precarious the financial lives of many under-35s are.

The report found that 25-34-year-olds have above-average holdings of credit or loan products. Despite making up only 18 per cent of all UK adults, this age group accounts for around one quarter of those who hold a personal loan, regularly switch a credit card balance and have a car finance loan. They also account for 22 per cent of those borrowing on store cards, catalogue credit or other retail credit.

FT *Source of extract:* Warwick-Ching, L. (2017) 'Young people rely on parents and credit cards to cover costs', *Financial Times,* 20 October. Copyright © 2017 The Financial Times Limited

collected using a survey strategy can be used to suggest possible reasons for particular relationships between variables and to produce models of these relationships. Using a survey strategy should give you more control over the research process and, when probability sampling is used, it is possible to generate findings that are statistically representative of the whole population at a lower cost than collecting the data for the whole population (Section 7.2). You will need to spend time ensuring that your sample is representative, designing and piloting your data collection instrument and trying to ensure a good response rate. Preparing and analysing the data will also be time consuming, even with readily available cloud-based data collection and analysis software. However, it will be your time and, once you have collected your data, you will be independent. Many researchers complain that their progress is delayed by their dependence on others for data.

Data collected using a survey strategy is unlikely to be as wide ranging as those collected by other research strategies. For example, there is a limit to the number of questions that any questionnaire can contain if the goodwill of the respondent is not to be presumed on too much. Despite this, perhaps the biggest drawback with using a questionnaire as part of a survey strategy is (as emphasised in Section 11.2) the capacity to do it badly!

The questionnaire, however, is not the only data collection technique that belongs to the survey strategy. Structured observation, of the type most frequently associated with organisation and methods (O&M) research, and structured interviews, where standardised

questions are asked of all interviewees, also often fall into this strategy. Structured observation techniques are discussed in Section 9.4 and structured interviews in Section 11.2.

Archival and documentary research

The digitalisation of data and the creation of online archives, along with open data initiatives by governments and businesses, have increased the scope for you to use an archival or documentary research strategy. This means it is now possible to access such sources online from around the world. These potentially provide you with considerable scope to design a research project that capitalises on the wide range of secondary data sources (Chapter 8). There are limitations in attempting to use this strategy and we briefly consider these after outlining types of documentary sources and discussing their attributes.

It is difficult to describe adequately the range of archival and documentary materials potentially available. Lee (2012: 391) suggests that 'a document is a durable repository for textual, visual and audio representations'. This illustrates the wide range of materials encompassed by this definition. Categories of textual documents include:

- communications between individuals or within groups such as email, letters, social media and blog postings;
- individual records such as diaries, electronic calendars and notes;
- organisational documents such as administrative records, agendas and minutes of meetings, agreements, contracts, memos, personnel records, plans, policy statements, press releases, reports and strategy statements;
- government documents such as publications, reports and national statistics data sets;
- media documents including printed and online articles and other data.

Visual and audio documents include advertising posters, artefacts, audio recordings, audio-visual corporate communications, digital recordings, DVDs, films, photographs, products, promotional advertisements and recordings, television and radio programmes and web images.

Many types of archival and documentary materials may be accessed online. Section 8.4 and in particular Table 8.1 provide examples of online data archives and gateways to governmental websites. Organisations' websites may provide access to certain types of documentary sources such as annual reports, company results, financial highlights, press releases and regulatory news. Media websites also provide facilities to search for articles about organisations and business and management topics. As we discuss in Sections 6.2 to 6.4, other internal organisational documents are less likely to be available online and you would need to contact an organisation to seek access, providing these were not considered to be commercially sensitive. Some documents created by individuals may be accessible through data archives (e.g. a collection of papers of a notable business person) but use of recently created materials will probably require you to contact a potential participant to negotiate access, where these are not considered to be private or commercially sensitive (Sections 6.2– 6.4).

Documents used for research are considered secondary sources because they were originally created for a different purpose (see the earlier bullet-point list). Researchers using an archival or documentary research strategy therefore need to be sensitive to the fact that the documents they use were not originally created for a research purpose. We discuss the advantages and disadvantages of using secondary source material in Section 8.3. However, we would like to stress the difference between a secondary data analysis that re-analyses data originally collected for a research purpose and using secondary sources in an archival or documentary research strategy. Where original research data are re-analysed for a different purpose in a secondary data analysis, you should assess the

quality of the original research data – i.e. were these data drawn from a representative sample; was the original research designed to overcome threats to reliability and validity (Section 5.11). In contrast, where documents are used as secondary sources in an archival or documentary research strategy, their original purpose had nothing to do with research and so as a researcher using this strategy, you will need to be sensitive to the nature and original purpose of the documents you select, the way in which you analyse them and the generalisations that you can draw (Hakim 2000).

While great care needs to be taken when using documents for research purposes, they potentially offer a rich source of data for you to analyse. The data they provide may be analysed quantitatively, qualitatively or both. Analysing qualitative documents quantitatively may allow you to generate a rich or 'thick' description of key events, the context within which these events occurred, the roles of the actors involved, the influence of external influences such as economic or commercial pressures, as well as outcomes. Your scope to achieve such an outcome will of course depend on the nature of your research question and whether you find suitable documents. Documents may, for example, allow you to analyse critical incidents or decision-making processes, or evaluate different policy positions or strategies. Using quantitative data in documents such as annual or financial reports will provide you with access to actual data that may, for example, facilitate comparisons between organisations or across reporting periods. Prior (2007) points out that documents can also be analysed to reveal:

- not only what they contain but what is omitted;
- which facts are used and why these might be emphasised while others are not used;
- how they are used in an organisation and how they are circulated and to whom.

Archival or documentary research may be an effective and efficient strategy to use but this will depend on its appropriateness to your research question and being able to gain access to sufficient numbers of suitable documents. You may be refused access to documents or find that some data are restricted for confidentiality reasons. You may also find that the documents you locate vary in quality, especially where they come from different sources. Some data may be missing or not presented in a consistent way, making comparison difficult or potentially leaving gaps in your analysis. Using an archival research strategy may therefore necessitate you establishing what documents are available and designing your research to make the most of these. This may mean combining this research strategy with another. This could be undertaken in a number of ways, so that, for example, you conduct documentary research alongside a Grounded Theory strategy based on qualitative interviews and use a similar procedure to analyse both sets of data. Another example could involve using documentary research within a case study strategy.

Case study

A **case study** is an in-depth inquiry into a topic or phenomenon within its real-life setting (Yin 2018). The 'case' in case study research may refer to a person (e.g. a manager), a group (e.g. a work team), an organisation (e.g. a business), an association (e.g. a joint venture), a change process (e.g. restructuring a company), an event (e.g. an annual general meeting) as well as many other types of case subject. Choosing the case to be studied and determining the boundaries of the study is a key factor in defining a case study (Flyvberg 2011). Once defined, case study research sets out to understand the dynamics of the topic being studied within its setting or context (Eisenhardt 1989; Eisenhardt and Graebner 2007). 'Understanding the dynamics of the topic' refers to the interactions between the subject of the case and its context.

The study of a case within its real-life setting or context helps to distinguish this research strategy from others. In an experimental strategy, outlined earlier, contextual variables are highly controlled as they are seen as a potential threat to the validity of the results. In a survey strategy, research is undertaken in a real-life setting, but the ability to understand the impact of this context is limited by the number of variables for which data can be collected. In contrast, case study research is often used when the boundaries between the phenomenon being studied and the context within which it is being studied are not always apparent (Yin 2018). Understanding context is fundamental to case study research.

A case study strategy has the capacity to generate insights from intensive and in-depth research into the study of a phenomenon in its real-life context, leading to rich, empirical descriptions and the development of theory (Dubois and Gadde 2002; Eisenhardt 1989; Eisenhardt and Graebner 2007; Ridder et al. 2014; Yin 2018). Dubois and Gadde (2002: 554) make the point that, 'the interaction between a phenomenon and its context is best understood through in-depth case studies'. These can be designed to identify what is happening and why, and perhaps to understand the effects of the situation and implications for action. To achieve such insights, case study research draws on data, often both qualitative and quantitative, from a range of sources to understand fully the dynamics of the case.

Flyvberg (2011) refers to the paradox of case study research: case studies have been widely used over a long period, including in business and management, but have been criticised by some as a research strategy because of 'misunderstandings' about their ability to produce generalisable, reliable and theoretical contributions to knowledge. This is largely based on positivist criticisms of using small samples and more generally about using interpretive, qualitative research. This type of criticism has been countered in many works (e.g. Buchanan 2012; Flyvberg 2011) and is generally losing favour as the value of qualitative and mixed methods research is recognised more widely (e.g. Bansal and Corley 2011; Denzin and Lincoln 2018). We return to consider how the quality of both quantitative and qualitative research may be recognised in Section 5.11.

The long and widespread use of case studies has resulted in them being designed in different ways and for different purposes. They have been used by 'positivist' as well as 'interpretivist' researchers; deductively as well as inductively; and for descriptive, exploratory or explanatory purposes. Some positivist researchers have also advocated using case studies inductively to build theory and to develop theoretical hypotheses, which can be tested subsequently. In this way, the use of the case study is advocated in the early, exploratory stage of research as a complement to deductive research (Eisenhardt 1989; Eisenhardt and Graebner 2007). This approach has been called 'indicative case study research', designed to reveal 'specific attributes' rather than rich description (Ridder et al. 2014: 374).

Yin (2018) recognises that case studies may be used not only for exploratory but also descriptive and explanatory purposes. An explanatory case study is likely to use a deductive approach, using theoretical propositions to test their applicability in the case study, to build and verify an explanation (Chapter 13). Interpretivist researchers are more interested, at least initially, to develop richly detailed and nuanced descriptions of their case study research (Ridder et al. 2014). For some interpretivists, making comparisons with existing theory is unnecessary. Stake (2005) says that many interpretivist researchers prefer to describe their case study in ample detail, allowing readers to make their own links to existing theory. Other interpretivist researchers will work inductively, analysing their data, identifying themes and patterns in these data, and at some point locating this in existing literature in order to refine, extend or generate theory (Ridder et al. 2014; Chapter 13). Where you work as an interpretivist, it is highly likely that you will need to follow this second route and provide a clear link to theory!

Lee and Saunders (2017) differentiate between research designs for 'orthodox cases' and 'emergent cases'. An **orthodox case study** strategy involves an approach that is rigorously defined and highly structured before the research commences, with the intention that it will proceed in a linear way. This reflects the rational approach to conducting research where literature is reviewed first, the research question is defined, the research project is designed, preparation for the conduct of the research undertaken, and data are collected, analysed, interpreted and then reported. This approach to case study strategy is likely to be underpinned by realist philosophical assumptions (Sections 5.4 to 5.6). An **emergent case study** strategy involves a researcher strategically choosing a case study environment within which research will be conducted but allowing the focus of the research to emerge through his or her engagement in this setting (involving different stages of data collection and analysis) and with relevant literature. This approach allows the core focus to emerge and is likely to be underpinned by interpretivist-constructivist philosophical assumptions. In this way it is similar to the constructivist grounded theory strategy that we discuss later in this section.

The existence of these various approaches to case study research potentially provides you with opportunities to use this strategy, as well as challenges when using it. Where you are considering using a case study strategy, you may be able to find earlier work in the social sciences if not specifically in business and management, which provides guidance in an approach that fits logically with your research idea and question (deductive or inductive, exploratory or explanatory etc.). To achieve an in-depth inquiry and a rich, detailed flow of analytical data, a case study strategy can offer you the opportunity to use a mixed methods research design (although case studies may rely on a multi-method choice). Case study research often uses a combination of archival records and documentation (discussed earlier and in Chapter 8), different forms of observation (Chapter 9), ethnography (discussed later in this section), interviews and focus groups (Chapter 10), questionnaires (Chapter 11), reflection and the use of research diaries and other research aids (Chapters 1 and 13). Case study research is likely to prove to be challenging because of its intensive and in-depth nature and your need to be able to identify, define and gain access to a case study setting.

You will also need to identify the nature of your case study strategy and we conclude our discussion of this by considering ways in which your case study research may be structured. Yin (2018) distinguishes between four case study strategies based upon two discrete dimensions:

- single case versus multiple cases;
- holistic case versus embedded case.

A single case is often used where it represents a critical case or, alternatively, an extreme or unique case. Conversely, a single case may be selected purposively because it is typical or because it provides you with an opportunity to observe and analyse a phenomenon that few have considered before (Section 7.3). Inevitably, an important aspect of using a single case is defining the actual case. For many part-time students this is the organisation for which they work (Box 5.7). The key here will be to ensure that this approach is suitable for the nature of your research question and objectives.

A case study strategy can also incorporate multiple cases, that is, more than one case. The rationale for using multiple cases focuses on whether findings can be replicated across cases. Cases will be carefully chosen on the basis that similar results are predicted to be produced from each one. Where this is realised, Yin (2018) terms this **literal replication**. Another set of cases may be chosen where a contextual factor is deliberately different. The impact of this difference on the anticipated findings is predicted by the researcher. Where this predicted variation is realised, Yin terms this **theoretical replication**.

Box 5.7 Focus on student research

Using a single organisation as a case study

Simon was interested in discovering how colleagues within his organisation were using a recently introduced financial costing model in their day-to-day work. In discussion with his project tutor, he highlighted that he was interested in finding out how it was actually being used in his organisation as a whole, as well as seeing if the use of the financial costing model differed between senior managers, departmental managers and front-line operatives. Simon's project tutor suggested that he adopt a case study strategy, using his organisation as a single case within which the senior managers', departmental managers' and front-line operatives' groups were embedded cases. He also highlighted that, given the different numbers of people in each of the embedded cases, Simon would be likely to need to use different data collection techniques with each.

Yin (2018) proposes that a multiple case study strategy may combine a small number of cases chosen to predict literal replication and a second small number chosen to predict theoretical replication. Where all of the findings from these cases are as predicted, this would clearly produce very strong support for the theoretical propositions on which these predictions were based. This particular approach to case study strategy therefore commences deductively, based on theoretical propositions and theory testing, before possibly incorporating an inductive or abductive approach (Section 4.5). Where the findings are in some way contrary to the predictions in the theoretical propositions being tested, it would be necessary to reframe these propositions and choose another set of cases to test them.

Yin's second dimension, holistic versus embedded, refers to the unit of analysis. For example, you may have chosen to use an organisation in which you have been employed or are currently employed as your case. If your research is concerned only with the organisation as a whole, then you are treating the organisation as a holistic case study. Conversely, even if you are only researching within a single organisation, you may wish to examine a number of logical sub-units within the organisation, such as departments or work groups. Your case will inevitably involve more than one unit of analysis and, whichever way you select these units, would be called an embedded case study (Box 5.7).

As a student you are likely to find a single case study strategy to be more manageable. Alternatively, you may be able to develop a research design based on two to three cases, where you seek to achieve a literal replication. However, as we have indicated earlier, choosing between a single or multiple case study is not simply related to producing more evidence. While a multiple case study is likely to produce more evidence, the purpose of each approach is different. A single case study approach is chosen because of the nature of the case (i.e. because it is a critical, unique or typical case etc.). A multiple case study approach is chosen to allow replication. Where you are interested in using this strategy, you will therefore need to ensure that the approach chosen is suitable for the nature of your research question and objectives.

Ethnography

Ethnography is used to study the culture or social world of a group. Ethnography literally means a written account of a people or ethnic group. It is the earliest qualitative research strategy, with its origins in colonial anthropology. From the 1700s to the early 1900s, ethnography was developed to study cultures in so-called 'primitive' societies that had been brought under the rule of a colonial power, to facilitate imperialist control and

administration. Early anthropologists treated those among whom they lived and conducted their fieldwork as subjects and approached their ethnography in a detached way, believing that they were using a scientific approach, reminiscent of a positivism, to produce monographs that were meant to be accurate and timeless accounts of different cultures (Denzin and Lincoln 2005; Tedlock 2005). From the 1920s the use of ethnography changed through the work of the Chicago School (University of Chicago), which used ethnographic methods to study social and urban problems within cultural groups in the USA. A seminal example of this work is Whyte's (1993) 'Street Corner Society' originally published in 1943, which examined the lives of street gangs in Boston. This approach to ethnography involved researchers living among those whom they studied, to observe and talk to them in order to produce detailed cultural accounts of their shared beliefs, behaviours, interactions, language, rituals and the events that shaped their lives (Cunliffe 2010). This use of ethnography adopted a more interpretive and naturalistic focus by using the language of those being studied in writing up cultural accounts. However, the researcher remained the arbiter of how to tell the story and what to include, leading many to question how the socialisation and values of this person might affect the account being written (Geertz 1988).

This problem of 'representation' (Denzin and Lincoln 2018) meant that ethnography, as well as qualitative research more generally, was still in a fluid developmental state. Researchers developed a 'bewildering array' (Cunliffe 2010: 230) of qualitative research strategies in the second half of the twentieth century, associated with a great deal of 'blurring' across these strategies (Denzin and Lincoln 2018). We discuss some of these new strategies (action research, grounded theory and narrative inquiry) later in this section. As we shall see, these other strategies were designed for a different research focus to that of ethnography. Ethnographers study people in groups, who interact with one another and share the same space, whether this is at street level, within a work group, in an organisation or within a society. Conflict about how best to achieve this focus led to a range of ethnographic strategies of which Cunliffe (2010) outlines three: Realist Ethnography, Impressionist or Interpretive Ethnography and Critical Ethnography.

Realist ethnography is the closest to the ethnographic strategy described earlier. The realist ethnographer believes in objectivity, factual reporting and identifying 'true' meanings. She or he will report the situation observed through 'facts' or data about structures and processes, practices and customs, routines and norms, artefacts and symbols. Such reporting is likely to use standardised categories that produce quantitative data from observations. The realist ethnographer will write up her or his account in the third person, portraying their role as the impersonal reporter of 'facts'. This account will present a detailed contextual background and the nature of the cultural interactions observed, and identify patterns of behaviour and social processes. It will use edited quotations in a dispassionate way without personal bias or seeking to act as an agent for change. The realist ethnographer's final written account is his or her representation of what he or she has observed and heard.

In contrast, **interpretive ethnography** places much greater stress on subjective impressions than on perceived objectivity. The interpretive ethnographer believes in the likelihood of multiple meanings rather than being able to identify a single, true meaning. Multiple meanings will be located in the socially constructed interpretations of the different participants. This suggests a more pluralistic approach, in which the interpretive ethnographer focuses on understanding meanings, with those being observed treated as participants rather than subjects. This requires an ethnographic researcher to engage in continuous reflexivity to try to ensure reliability/dependability and validity/credibility/transferability in this research process (Delamont 2007) (Section 5.11). The research report will reflect the participation of both the ethnographer (writing in the first person, editing