specify a concept or issue that can be recognized for the purposes of defining what the research is about. So a keyword might be something like 'supply-chain management', 'health-related behaviour' or 'educational achievement'. If we were to separate these words, they would not work. The individual components would not help to provide useful search results. Combined, however, they serve as valuable 'keywords' that could be used for indexing purposes.

A useful way of envisaging what the keywords might be is to imagine that the proposed research has already been conducted and that it is available online on the web. Now, if someone wanted to locate this work using an Internet search engine, which terms would they need to enter to bring up a link to the research at the top of the list? These are the terms that can be used as keywords.

Top tip

Think of the keywords as terms you would use to search online for your research.

One further point is worth mentioning with regard to keywords. In practice, they are likely to echo some of the words in the title. This is not a problem. Indeed, it would be troubling if the keywords did not appear also in the title because this might suggest that the title is not doing its job of describing exactly what the research is all about. So, some overlap between the words in the title and the keywords is a good thing. For example, if the title of the proposed research was

> The perceived risks of online banking: A survey of online shopping behaviour and bank customers' feelings about security and fraud in relation to their use of Internet banking

the keywords might include:

> online shopping, Internet banking, shopping behaviour, customer satisfaction, banking security, Internet fraud

Aims

The aims (or 'purpose statement') of the research indicate the direction in which the research will go and point to the target that the research hopes to

hit. In doing this, they guide the reader's expectations about the nature of the proposed investigation. There is no need at this point to justify the choice of topic or explain why the research will be conducted in a specific manner. That can be done in the Background section (where the substantive, practical issues can be described) and the Literature Review (where the existing theories and evidence can be used to justify the approach adopted by the proposed research). At this stage, the idea is simply to provide the bare outlines of where the research is hoping to go.

Types of research aims

It is important to be clear about which type of aim is being pursued by the proposed research. From the reader's point of view, this helps to provide a clear picture of the overall purpose of the research. It is also important because different types of aims call for different approaches to the research; they tend to be associated with different research traditions or paradigms. Within any statement about the aims of research, therefore, it is good practice to identify clearly whether the research is attempting to do one or more of the following:

- explain the causes or consequences of something;
- criticize or evaluate some theory or belief;
- describe something;
- forecast some outcome;
- develop good practice;
- empower a social group.

Scope and scale of research aims

The list of aims not only shows the direction in which the research will go, it also provides an indication of the scale and scope of the proposed investigation. In doing so, it should alert the readers to the size of the task the researcher is planning to embark upon. There is a danger here that, in an effort to do research that is perceived as worthwhile, the researcher might get too ambitious. It is a common mistake to set targets that cannot reasonably be achieved within the available time and resources. It is important, therefore, to ensure that the aims that are stated have been scoped and that they are realistically achievable.

Link up with **Delimitations and scoping the research**, p. 69

Link up with **The scale of the project**, p. 111

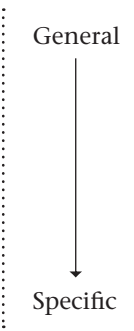
Presentation of aims

The research aims can be written as a paragraph using normal prose. Although there is nothing wrong with this, another style of presenting research aims uses a list of phrases, each of which starts with a verb – a verb that is particularly relevant for research activity. This has become conventional and is more likely to meet the expectations of those who evaluate proposals. There are normally about three to six of these phrases.

Whether using normal prose or using a list of bullet points, it is better to start the list with the broadest of the aims, and then put the list in a logical sequence. So, in the example below, the list starts with the broad aim of conducting research into mass transport systems. This establishes at the start what the whole thing is about. Even at this stage, though, this is qualified by restricting the area of interest to large cities. Next on the list we see that this particular research will focus on one aspect of mass transport systems – buses. And, specifically, it will look at the phenomenon of bunching on urban routes. How will this be done? Well, the subsequent bullet points indicate the approach that will be taken towards achieving the aims.

Example: Research into mass transport systems

- *To investigate* the effectiveness of mass transport systems in large cities.
- *To study*, in particular, the bunching of buses on urban routes.
- *To describe* the frequency and impact of bunching on urban routes.
- *To analyse* the causes of bunching using probability statistics and queueing theory.
- *To understand* the responses to bunching by bus drivers.
- *To develop* recommendations for reducing the incidence of bunching on urban routes.



Background

To understand what the research 'is all about', readers need to know something about the background (or the 'problem statement') to the research. On many occasions, of course, they will be aware of the situation already. But proposals should never take for granted what readers already know. They should operate, instead, on the premise that some readers might *not* know the circumstances surrounding the proposed research and that it is not clear to them why a specific piece of research is being proposed. To avoid this prospect, good

research proposals always ensure that the background to the research is stated explicitly and clearly so that *all* readers of the proposal should be able to understand the rationale for the research.

Top tip

Do not make too many assumptions about what the reader might know about the subject area of the research.

Context

The Background section provides an opportunity to outline the context within which the research will take place. Depending on the nature of the proposed research, this can focus on the historical background and look at developments that have preceded the project. Alternatively, it can focus on contemporary circumstances within which the research is to take place. And on many occasions the Background section will incorporate elements of both the historical and the contemporary context. What matters most is that it blends together the kind of background information that most usefully explains to the readers *the bigger picture*. This can involve locating the proposed research within one or more of the following contexts:

- *Historical context*: Are there particular events or trends that provide a backdrop to the research (e.g. a banking crisis, an ecological threat, an environmental disaster)?
- *Policy context*: Do recent changes in policies, regulations, laws or political views need to be recognized to understand the purpose of the research?
- *Practical problems*: Does the research arise in response to certain practical problems, such as within a work setting, or does it look for new ways of doing things that address such problems?
- *Key ideas*: Are there particular theories, authors or opinion leaders whose ideas form a backdrop to the proposed research?

It is worth emphasizing that the Background section might well include a combination of more than one of these kinds of contextual information.

Top tip

Use the Background section to set the scene for the proposed research.

Evidence, events, and publications

The account of the context should not only be clear and concise, it should also include some *evidence*. It is good practice to support the argument being made by:

- citing publications linked with prominent theories/writers/approaches in the field;
- noting the findings from recent published research in the area;
- using relevant data, including facts and figures (for example, to do with trends, prevalence rates, proportions, volumes);
- referring to key events;
- specifying details of relevant legislation, regulations, policies, and official reports.

By incorporating reference to such things within the Background section, the researcher provides supporting *evidence* relating to the context of the proposed research. The persuasiveness of the case being presented by the researcher does not depend on the reader simply accepting the researcher's impression of how significant and beneficial the proposed research might be. The case is now bolstered by drawing on key published works, backed up by hard facts and figures, and directly linked to events in the real world.

How many references and how much data should be included? Obviously, given the constraints of space, there should be no attempt to develop a discussion drawing together the major themes and research findings associated with the topic – that is something more suited to a literature review (see Chapter 5). But a few well-chosen bits of supporting evidence can have a significant impact on the credibility afforded to the research and on the prospects of the proposal being successful.

Top tip

Provide some evidence to support your account of the background to the research.

Selecting the most significant points

Clearly, it is not possible to cover every aspect of the context because this would take too long and, more significantly, it would not really help to explain to the reader why the particular piece of research being proposed is significant. In practice, the researcher needs to be *selective* about what to include and what not to include. Being selective means making choices and judgements about which of the many contextual factors are the most relevant. This can be a demanding task. Inevitably, within the constraints of the space available, it

requires the researcher to include only the most important points. The consequence of this is that the researcher needs to make brave decisions about what to leave out. There is not the space to 'play safe' and include lots of material just in case it ought to be there. When writing the Background section, the researcher needs to decide what are the most important things for selling the idea of the research and which things are less crucial.

Summary of key points

The aims of the research are specified near the beginning of the proposal. They are covered in the:

- Title
- Keywords
- Statement of aims
- Background.

Those who evaluate research proposals will expect to find the aims presented in a clear and succinct manner, readily available and easy to find. This is because the aims are the starting point from which readers can proceed to (a) understand what the research is all about, and (b) make subsequent judgements about the quality of the proposed research questions and research methods.

There are certain conventions surrounding the ways that the Title, the Keywords, the Statement of aims, and the Background section are presented, and the chances of success for the proposal will be increased when these conventions are recognized and followed.

The title is the first thing that readers encounter in relation to a research proposal and it is vital, therefore, that it conveys the right information about the research. It is worth spending time making sure that the title has three qualities. It should be: (a) clear, (b) accurate, and (c) precise.

The keywords should be three to six words, or combinations of words, that most accurately depict the content of the overall research. Although they are primarily concerned with matters of indexing and bibliographic searches, the keywords can also help readers to pinpoint exactly what the research is all about. In either case, it is in the researcher's interest to make sure that the keywords are appropriate.

In terms of the Aims, it is conventional to present them as a series of 'one-line' phrases starting with verbs such as 'To contribute to . . .', 'To describe . . .', 'To analyse . . .'. The sequencing of the aims normally sees the overarching aims presented first with subsequent aims getting progressively more narrow and specific in terms of their goals. This manner of spelling out the aims is not a hard and fast rule; researchers can describe the aims in other ways as well.

But it is a manner with which most evaluators will feel both familiar and comfortable, and sticking to the convention is more likely than not to meet the expectations of the readers.

Turning attention from *how* the aims are expressed to *what* they express, we noted earlier in the chapter that there are certain 'types' of aims that correspond with styles of research. It may not be possible, or desirable, to pigeon-hole all projects by pinning them down to being one type or another, but it is helpful for the purposes of clarity if the proposal is aligned with one or more of the well-established types of research,

The importance of avoiding over-ambitious aims has been stressed in this chapter. It is important not to get carried away and suggest that the project will cover a massive range of issues. The scope and scale of the proposed research should be narrow enough to render the research feasible – tailored to suit the available time and money for conducting the investigation.

Finally, the Background section sets the scene for the research. It describes the context within which the research will take place and helps to make the case that the research will be worthwhile. Principally it should:

- describe the circumstances within which the proposed research has emerged;
- introduce some evidence supporting the case that there is a need for the proposed research;
- argue that the proposed research meets that need and is thus worthwhile.

Further reading

Creswell, J.W. (2009) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd edn.). Thousand Oaks, CA: Sage (Chapter 5).

Lyons Morris, L. and Taylor Fitz-Gibbon, C. (1978) *How to Deal with Goals and Objectives*. Beverly Hills, CA: Sage (Chapters 1–3).

Marshall, C. and Rossman, G. (2006) *Designing Qualitative Research* (4th edn.). Thousand Oaks, CA: Sage (Chapter 2).

By the time readers reach this section of the proposal, they should have a clear idea of what the research will attempt to do and they will hopefully be persuaded that this is a worthwhile venture. They will now want to know more about how the research is to be conducted and their attention will shift from *what* is to be studied to *how* it will be investigated.

There will be a number of questions in their minds but these essentially boil down to three basic issues. First, *what methods will be used*? Readers will want to know 'in a nutshell':

- What research strategy will be used?
- What kind of data will be collected, and how much?
- How will the data be collected?
- Who, or what, will be included?
- How will the data be analysed?

Once they are clear on these they can then turn their attention to the second issue. They will want to know *why the methods have been chosen* and why the research will be done in the way that has been outlined. They will want to know:

- Are the proposed methods suitable and likely to produce worthwhile data?

The third and final issue readers will be concerned with is *whether the proposed methods can be implemented*. They will want to be assured at a practical level that the proposed methods can be carried out successfully and will ask:

- Will the methods work and are they feasible?

Reflecting these concerns, the Methods section of a research proposal tends to break down into two parts. The first part sets out to provide the reader with the facts about what will be done. The second part attempts to demonstrate that the actions and choices outlined in the first part will be appropriate and are justifiable – that they are 'good' in terms of the overall aims of the research, and that they are practical.

Description of the methods

In the context of a research proposal there should be no chance of any confusion about what is on offer and an outline of the methods 'up front' serves to eliminate the prospects of any uncertainty or ambiguity from the reader's point of view about what the methods will involve. At the beginning of the Methods section, then, there should be a straightforward

description of the methods and the data that will be collected. This should be a *matter of fact* assertion about what will be done. At this point there should be no attempt to justify the methods – the point is simply to inform the readers so that they can better understand the situation. Justifications come later.

The statement should be *brief*. There is little scope for wasted words or the inclusion of irrelevant items. The information that is given to the readers needs to be enough for them to understand the proposed methods but nothing more. Remember, *a research proposal is not an essay*. It is an outline plan of action that provides the reader with the information they require – no more, no less.

A good, crisp outline of the methods is important not just because of the information it provides, but also of the impression it conveys. It says to the reader: 'I know exactly what I am doing in this research project', and this is likely to make the reader feel confident about the quality of the research design that is about to be unfolded in the subsequent parts of the Methods section of the proposal.

What research strategy will be used?

The description of the methods should start with a clear statement about the approach that is to be adopted. It is good practice to specify which *research strategy* will be used – whether the research will be based on a survey or a case study, whether it will use experiments or do ethnography, whether it will use grounded theory or involve mixed methods, and so on. This can be dealt with by statements such as: 'This research will use a case study approach to delve deeply into . . . (the research questions)' or 'This research will adopt a mixed methods strategy that combines a survey approach and case study approach to explore . . . (the research questions).'

What methods of data collection will be used?

Attention should then be placed on the tools used to collect the data. Some commonplace options from which to choose include:

- *Interview*: will the research use unstructured, semi-structured or structured types of interview?
- *Questionnaire*: will the questionnaire use open-ended or closed-ended questions? Or will it include both?
- *Observation*: will the research involve systematic observation or participant observation? What items will be observed?

- *Documents*: will the research focus on documents – diaries, websites, minutes of meetings, official records, etc.?

What kind of data will be collected?

The next thing that is required is a description of exactly what kind of data will be collected. It is useful, therefore, to be explicit about whether the research will use *quantitative or qualitative data* – will the research rely on one or other, or will it adopt a mixed methods approach?

How much data will be collected?

The amount of data to be collected should be specified in a positive and confident manner. It should be based on anticipated numbers and should avoid any sense of uncertainty or vagueness in the way the details are presented. There are two reasons for this. First, the readers need to get a reasonably clear picture in their minds about the scale and scope of the investigation. They can do this on the basis of actual numbers that are given but will struggle to do so if they are given only vague and woolly descriptions of amounts such as 'a large number of', 'many', 'few', 'some', etc. Second, tentative statements which state that the research 'hopes' to collect a certain volume of data or which 'might' manage to obtain a stated amount of data send the wrong message. They suggest a lack of confidence, hesitance about what is being proposed. They convey a sense of doubt – which is definitely the wrong message in terms of being able to persuade the readers that the research methods are workable and good.

Link up with **Precision**, p. 47

What are needed, instead, are bold statements that quantify the amount of data, statements such as:

> Questionnaires will be distributed to 430 employees of the Broadbread bakery company. With an anticipated response rate of 30 per cent, this will provide 129 completed questionnaires available for analysis.

> The research will commence with five lone-parents who have direct experience of raising children who suffer from eating disorders. Using snowball sampling it is anticipated that the total number of parents interviewed will be 30.

However, being so precise about the numbers will worry some people, who might ask: 'How can I know exactly how many responses I will get to my survey?', 'How do I know in advance how many people I will need to interview

as part of my qualitative research?, or 'What happens if in practice I don't manage to get the amount of data I said I would?'

These are reasonable questions to pose, and should not be dismissed lightly. After all, researchers need to be honest when they produce a proposal and they need to be aware that proposals can involve a sense of contractual obligation in which there is a 'promise' to deliver what is being offered. It is important to recognize these points and uphold the principle of honesty in a proposal. However, the figures that are provided about the amount of data to be collected and analysed can be regarded more as *targets* than as promises. No-one will be too worried if a proposal says that it will conduct fifty interviews and ends up actually only doing forty-five. This is no major sin. On the other hand, if the proposal indicated that it would collect 1000 questionnaire responses but, in the event, collected just 100, then this is a serious deviation from what was 'offered' and it would bring into question the integrity of the researcher and the proposal.

Top tip

Indicate target figures you believe you can obtain.

Who (or what) will be included?

The people or things to be included in the research need to be identified with a good degree of precision. This is another key component of the information that readers will need to evaluate the overall value of the proposed research. First, it calls upon the researcher to be absolutely clear about the *research population*. The Methods section of the proposal, perhaps reiterating information provided in the Background section, should pinpoint exactly which people or things are the object of the research. The research population might be, for instance:

- an occupational group (such as 'supply teachers in secondary education' or 'air force recruits');
- a demographic group (such as 'teenagers' or 'pensioners');
- an organization (such as 'dental practices' or 'high street banks');
- a kind of event (such as 'redundancies' or 'visits');
- a type of item (such as 'collectables' or 'computers').

In all likelihood, the research population will involve a combination of two or more of such categories. So, drawing from the list above, the research population might be 'pensioners who visit high street banks' or 'supply teachers in secondary education facing redundancy'.

Second, researchers need to be explicit about their *selection of items* (people or things) to be included in the research. Where the research population is fairly small, the researcher might choose to include *all* of the people or things in the study. This needs to be stated. However, for most research, even small-scale research, the selection of participants tends to be based on some form of *sampling*. And this, likewise, needs to be stated: how will the researcher choose among the overall research population who to include in the study and who to leave out?

A simple statement about the selection of participants will refer to the size of the sample. This would be along the lines of 'The research will be based on a 10 per cent sample of all air force recruits joining the force during a 12-month period.' This is okay as far as it goes, but any statement about the selection of participants really needs to include information about *how* the selection will be undertaken as well. If there is to be a 10 per cent sample, then how will that 10 per cent be chosen? Readers need to know. They need to be supplied with information not just about the sample size but also about the *sampling technique*. It should be clear whether the selection is to be done on the basis of random sampling, quota sampling or purposive sampling. If it is random sampling, for example, there needs to be more information telling the reader whether it will be systematic random sampling, cluster sampling, stratified sampling or whatever. The important point to bear in mind is that a word or two specifying the exact sampling technique that will be used can have a huge impact on the credibility of the proposal.

Top tip

Clearly state which sampling technique will be used in the research.

How will the data be collected?

The practicalities of collecting the data are important. They are not a mundane backdrop to the proposal but a core feature of the Methods section, and the information supplied about how the data will be collected can make the difference between whether a project is deemed feasible or not by those evaluating it.

When describing how the data will be collected the first thing to bear in mind is that simply stating which method(s) will be used does not really go far enough in terms of giving the reader the necessary insight about the practicalities. Stating which method(s) will be used is vital, of course, but as was noted in connection with sampling, it is not really sufficient to leave things at that. The same method can require different means of data acquisition, and this has a direct bearing on issues relating to whether the data collection will be feasible. So, with:

- *interviews*, will they be face-to-face, one-to-one, via telephone, focus group? Will interviews be recorded?
- *questionnaires*, will they be administered to groups or to individuals? Will they be paper/optical mark recognition questionnaires or will they be online web-based versions? Will they use open- or closed-ended questions?
- *observations*, will the data be based on field notes, contemporary notes or an observation schedule?
- *documents*, will they be official documents or informal records? Will they consist of text or images? Will they be online documents like websites or paper-based archive material?

An account of how the data will be collected should also include some indication of the schedule for the research. Simple and straightforward information can be very effective in this respect. In just a few words, this part of the proposal can tell the reader:

- when the data will be collected (month and year);
- how long data collection will continue (duration of research);
- where the data will be collected (location, situation).

Top tip

Provide details of how and when the methods will be put into practice. A good proposal does not rely on a simple statement of which method (or methods) will be used. It complements this with additional information about the particular variant of the method and how the method will be used.

Access and authorization

In many respects, this is an integral part of the issue about how the data will be collected. It is so important, though, that it warrants consideration under a separate heading. What any evaluator of a research proposal will know is that unless you can get access to the necessary sources of data, a research project will be doomed. In fact, it will not take place. Access to the necessary sources of data is absolutely essential for any project.

Experienced researchers realize that access to the data is not something that can be taken for granted. It takes a lot of forethought. It can depend on personal contacts and networks. And it can cost money. So the kind of questions in the back of the minds of the people who evaluate the proposal will include:

- Will the research need specialist equipment for this research? Will the funds be available to pay for the use of this equipment, and has the researcher been trained in its use?
- Has the researcher got the appropriate personal credentials and skills to allow them to conduct the investigation?
- Who needs to authorize access to the settings, organizations, and people and how likely is it that such authorization will be granted?
- Can access to the data be achieved through legitimate and legal means?

Readers will be looking for the kinds of statements that will persuade them that access to the data will *not* pose a practical problem when it comes to undertaking the research. Here are some examples of the kind of statements that work well.

Access to people and organizations
Head teachers at the twelve schools have been contacted and eight have so far agreed to allow their schools to be used in the research, subject to the consent of participating teachers and students.

Company directors at the firm have agreed in principle to the research and have authorized the use of the employees' email addresses for making contact to arrange interviews.

Access to events and settings
The researcher is a qualified nurse working within the hospital and will be able to observe and record the activities within the ward as part of her routine managerial duties.

Access to equipment
The specialized equipment for data collection is available within the laboratory. A training course will be attended and the equipment will be booked for use during the period of research.

Access to documents and records
The research will use archive data that is freely available in the public domain.

Top tip

Explain how you will gain access to key sources of data. The onus is on the researcher to persuade the readers of the proposal that access will not be a problem, and a few well-chosen words in this respect can greatly benefit the proposal's prospects of success.

How will the data be analysed?

The proposal should say how the data will be analysed. There needs to be a brief description of how the researcher proposes to make sense of the data that will be collected, the processes or techniques involved and, where appropriate, some reference to the software program that will be used. This applies as much to the analysis of qualitative data as it does to quantitative data. The information allows the reader to decide whether the techniques of analysis are appropriate and this, of course, will have a strong bearing on the overall evaluation of the proposal.

In the case of quantitative data, the proposal needs to state whether the analysis will be based on frequency counts (using, for example, contingency tables and bar charts) or whether some statistical analysis of the data will take place. It might well involve both, of course. If statistical analysis is to be involved, the technique should be named (e.g. chi-square test, Pearson correlation, linear regression). Experienced readers of proposals will be looking so see that treatment of the data is suitable, bearing in mind the nature of the quantitative data that will be collected (e.g. nominal, ordinal or interval data). And then the software program that will be used to conduct the statistical analysis can be named. This is not really vital, but it is common to find reference to the use of Stata, SPSS, Excel or similar software.

With qualitative data there is as much need to be specific about the process of analysis as there is with quantitative data. Where the analysis involves interpretation, which is the kind of analysis that tends to be more commonly associated with the notion of qualitative data, then readers need to be told about *how* the data will be interpreted – about the process and techniques used in the development of codes, categories, and concepts (e.g. open coding, axial coding). They need to be informed about the use of memos and research diaries as aids to the interpretation of the data. They should get information about how relationships between codes will be established, and about how the emerging themes will be checked back against the data (e.g. constant comparative method, respondent validation). Computer software is increasingly being seen as an essential tool in the analysis of qualitative data and, for this reason, it is quite important to identify the software package to be used (e.g. NVivo, MAXQDA, Atlas.ti).

Top tip

Indicate how you plan to analyse the data. This applies to qualitative as much as it does to quantitative research.

Example 1

A survey approach will be used for this research. The research population will be all students enrolled in Years 10 and 11 of schools in the county of

Easthamptonshire. A cluster sampling technique will be used that will include all Year 10 and 11 students attending four schools in the county (n = 800). A questionnaire will be piloted and then distributed during routine lesson time to all students in the sample. The survey will include questions on the ten factors identified through the literature review as likely to have an impact on smoking behaviour. Regression analysis will be used on the quantitative data from the survey (using the Stata software program). The research has been approved in principle by the local authority and the head teachers of the schools. It will be conducted during the months of May and June 20xx.

Example 2

The research will use a case study approach. This will enable exploratory research into the meaning of loyalty for employees faced with reduced hours and short-term lay-offs during a period of economic recession. The case study organization, Company A, is typical of large-scale manufacturing companies hit by a downturn in demand for car components. The human resources department is supporting the research and providing access to staff names and work-based email addresses. A mixed methods approach will be adopted combining qualitative data from interviews with quantitative data from an online questionnaire survey of company employees. Systematic random sampling will be used to select 30 employees for the interviews and 400 employees for the questionnaire. A response rate of 25 per cent will provide 100 completed questionnaires. Research will be conducted on site over a six-month period. Interviews will be transcribed and used as the basis for a narrative analysis. Data from the questionnaires will be analysed on the basis of themes emerging from the interviews (using *t*-test and chi-square). NVivo and SPSS software will be used. Research will commence in Sept 20xx and data collection will take place over a three-month period.

Example 3

The research will use a quasi-experimental approach to evaluate the impact of an intervention aimed at improving physical fitness among nurses. Research will be conducted with male and female nurses at one hospital in the Northwest region of the country. A representative sample of 100 nurses will be sought based on sex, age, and body mass index. Quantitative measures of their physical fitness will be taken before and after the intervention. Participants will be randomly allocated to an experimental group and a control group: equal numbers in each. The experimental group will engage in a four-month intervention programme involving 20 minutes a day spent doing a treadmill exercise. Comparison of findings between the experimental group and the control group will take place after four months. Logistic regression will be used to adjust for other relevant factors such as the nurses' marital status, working hours,

involvement in sports or other regular exercise. Preliminary approval for the research has been obtained in writing from the director of nursing at the hospital.

Checklist for the description of the methods

Have I included brief information about:

- approach/strategy?
- kind of data (qualitative/quantitative/mixed method, choice of method)?
- how much data?
- who (or what) will be included, and how selected?
- how the data will be collected (when, where, practicalities)?
- access to data and authorization?
- data analysis (process and techniques)?

Justification of the choice of methods

The second component to the methods section explains *why* the proposed methods have been chosen. Its purpose is to justify the choices that have been made and to persuade the reader that the proposed methods will not only work, but work well. It is normally longer than the previous section, describing which methods will be used, and it provides an opportunity for the researcher to go into a bit more depth. References to relevant methodological sources should be included in this section because these can be powerful allies in the effort to address the kind of questions that those who evaluate the proposal will have in their mind. Such questions include:

- Will the methods produce data that are relevant for addressing the research questions?
- Are the methods the best available under the circumstances? Are there better alternatives?
- Will the methods work? Will they do the job?

More detail

There are a number of crucial decisions about the approach to a piece of research that are not automatically communicated by broad umbrella terms such as 'survey' or 'experiment' or other such names of general research strategies. Often, they leave questions about the approach unanswered, including:

- *Cross-sectional or longitudinal time frame*: Will the data come from a snapshot of things on one occasion, or will they follow the development of things over time? Or will the research combine the two?
- *Present, past or comparative data*: Will the data be based on the present day, will the research use historical data, or will it compare instances across societies or over time?
- *Large numbers or small numbers*: Will the data involve large numbers or will the data stem from focused study on a small number of instances?
- *Controlled environment or natural event*: Will the data be produced in a controlled environment such as a laboratory, or will the data be gathered 'in the field' in naturally occurring situations? Or will the research combine both?
- *Exploratory or explanatory research*: Will the research look at new and fairly under-researched topics to describe matters and discover new things, or will it build on a well-developed body of knowledge to explain why things happen and what their underlying causes are?

This list gives an indication of the kind of further information that can be included in the justifications section. It is not an exhaustive list, and it shouldn't be treated as a checklist because it might not be necessary to incorporate each and every dimension into the discussion.

Alternative possibilities

When writing a research proposal, the researcher needs to be conscious that there are likely to be alternative ways of doing things, each with its own strengths and weaknesses, and thus the success of the research proposal will owe a great deal to how well the researcher *justifies* his or her choice of methods. The point is that writing a successful proposal depends not just on selecting a suitable method but also on arguing that this has advantages compared with other possibilities when it comes to producing data that is useful for addressing the aims of the research.

> **Top tip**
> Show how the chosen method is preferable to potential alternatives. Discuss their respective merits and failings.

Methods as 'fit for purpose'?

How, then, can the choice of methods be justified? Well, one fairly straightforward way to tackle this is to use the *Checklist for Methods* (above) and consider the merits of the various components in terms of:

- their suitability for the research questions;
- their implications for the quality of the data.

Obviously, within the confines of a research proposal it is not possible to write a full essay providing a justification of the methods. Space constraints force the researcher to be selective about where to place the emphasis. But, by way of guidance, the discussion could focus on issues such as the following:

- The use of *qualitative or quantitative data*: What are their respective strengths? Which is better suited to the needs of this particular research? Is a mixed-methods approach preferable?
- *Depth or breadth* of data: Will a case study be better than a survey, or vice versa, in terms of the particular research questions being looked at? Is there a need for depth of focus or is there a need for data drawn from widespread sources?
- The *validity* of the data produced: Will the data be accurate? Will they focus on the right issues? Is the chosen method better than alternatives in terms of getting honest responses from participants?
- The *reliability* of the method: Will the method(s) produce the same data if the same research is repeated?
- The possibility of *generalizing* from the findings: Can the findings be extrapolated to other situations/examples? Is this possible and is it important? Is this crucial for the research?
- The extent to which the data are *representative*: Is it better to include all (or a sample) of a population or will research along the lines of a case study be more suitable? Are data based on extreme examples or special instances more *valuable*?
- The extent to which the methods are *objective*: Is this possible bearing in mind the research questions being addressed? How much does it matter?

Risk assessment

It is good practice to undertake some form of risk assessment in connection with a research proposal. Occasionally, this might need to be a fairly formal procedure involving scrutiny of the proposed plan of research by a designated person or committee. This is more likely when the research is large-scale in nature or if it involves research in the areas of health (e.g. medicine, nursing) or biotechnology. In the case of proposals linked with small-scale research for bachelor's degree projects, master's degree dissertations or PhD degree applications, a risk assessment is far more likely to be something conducted 'internally' by the researcher who will reflect on the relevant risks as a part of his or her work towards writing the proposal. Even when an external body

does not conduct a formal risk assessment, however, it is important to *show* that careful thought has been given to the matter.

Top tip

It needs to be evident to the readers that a risk assessment has been carried out.

In the context of the Methods section of a research proposal, the key purpose of a risk assessment is to identify factors that might have a negative impact on the prospects of completing the project. Having identified such factors, it then becomes easier to think ahead and to plan ways of preventing them from occurring or, at least, ameliorating their effects. This will enhance the prospects of the research being successfully completed.

Among the range of risks to be considered one of the most significant is the risk posed by *unexpected events*. Of course, a well-planned piece of research should aim to minimize the prospects of unexpected events arising which can threaten the completion of the project. In practice, however, it is not always possible to entirely eliminate the occurrence of unexpected and unwanted events. Things sometimes happen that have the potential to knock the project off course, to cause delays or, worst of all, to lead to the failure of the project to meet its objectives. The question 'What if . . .?' comes into play a lot in this connection:

- What if I am refused access to the organization and cannot get the data?
- What if new policies are put in place that change the situation?
- What if the funding for use of equipment dries up before I have completed the research?

The people who evaluate research proposals will want to see that some consideration has been given to the kind of events that could pose a threat to the survival of the project. They will be looking for evidence that, on the basis of a risk assessment, the design of the research:

- goes some way to eliminating the most obvious risks;
- has contingency plans for those risks that cannot be eliminated;
- involves enough flexibility to survive if problems arise.

Top tip

Think about things that might go wrong – and how to avoid them.

Link up with **Risk assessment**, p. 131 

Limitations

The Limitations section of a research proposal is concerned with what can, and what cannot, be concluded on the basis of the proposed research. It incorporates caveats about the findings from the research and how they can be used, and it guides readers towards an appropriate understanding of the limits of the research. The Limitations section can appear as a stand-alone section of the proposal, or as a sub-section of the Methods section.

When researchers identify the limitations to their research they are not simply being modest about the potential achievements of the project. Neither are they setting out to 'rubbish' their own work by highlighting all the weaknesses and flaws they can think of relating to the proposal. This, after all, might persuade the reader that the research is not going to be worthwhile! No – what the researchers are actually trying to do is to *provide a measured, balanced appraisal of what the research can do bearing in mind its particular design, its methods, and its scope*.

Being open and honest about such limitations sends the correct signals to those who evaluate proposals. No research is perfect and any research that does not recognize its own weaknesses (as well as its strengths) will be deluded. It is worrying to evaluators if they do not see the researcher clearly acknowledging the limitations to the research, because it could be inferred that the researcher is rather naive or even ignorant about the implications of the research that is being proposed.

Top tip

Be open about the limitations of the proposed research. All research has its limitations.

What kind of things should be included in the Limitations section? In general, the things that warrant attention are:

- limitations associated with the methods; and
- limitations caused by circumstances beyond the control of the researcher.

Approaches and methods each have their respective strengths and weaknesses and the Limitations section of the proposal provides a setting for

acknowledging any relevant limitations associated with the particular methods that have been chosen for the research. So, for example, if a case study approach has been chosen this part of the proposal gives an opportunity to pre-empt likely qualms some readers might have about how far it is possible to generalize from the research findings. If a questionnaire survey is to be used the Limitations section might be the time to acknowledge that questionnaires do not provide the kind of depth of data that an interview method would deliver. The point is not to write an essay on the respective pros and cons of alternative methods but to briefly point out any aspects of the research design that have limitations with respect to the purpose of the specific piece of research that is being proposed. This might include such things as:

- limits to how far the findings lend themselves to being generalized to other situations/examples;
- limits to the possibility of checking the accuracy of findings;
- limits to the ability to confirm that data comes from a representative sample of the research population;
- limits to objectivity resulting from the role of the researcher in data collection and analysis.

There are also limitations that stem from circumstances beyond the control of the researcher and these, too, require consideration within the proposal. Such limitations reflect the fact that research does not take place in an ideal world where researchers are able to decide for themselves exactly what data they need and how they will be collected. In the real world of doing research, there are practical factors that need to be taken into account that inevitably shape the way that the research can be conducted. Things that are routinely referred to in this respect are:

- restricted access to significant sources of data;
- restrictions arising from the resources available (time and money);
- limits to the sample size.

Note how these things are different from *de*limitations, where the restrictions stem from decisions and choices taken deliberately by the researcher. Delimitations concern choices under the control of the researcher, whereas limitations relate to 'external' factors over which the researcher does not have control.

The point of airing these concerns is to acknowledge the ways in which knowledge produced by the research will need to be interpreted cautiously. Its purpose, in a sense, is to warn readers of the dangers of jumping to unwarranted conclusions on the basis of the evidence that is presented to them.

Top tip

Limitations should not imply that an alternative research design would be better. Do not imply that you may have made a poor choice of design or methods. All things considered, they should be defended as the best choice possible.

Other considerations

The justification of the methods can go beyond these matters. There are, indeed, three further things that are highly relevant:

- research ethics
- data protection
- risk assessment.

Sometimes these are incorporated into the broader discussion of the methods. In this book, however, they are treated as separate items and considered separately in Chapter 9.

Summary of key points

The Methods section of a research proposal does two things. First, it provides information on how the data will be collected. This section is brief, precise, and to the point. In positive tones, it should give a factual description of *what, when, and where* the data are to be collected. This should include:

- the research *strategy* to be used;
- the *kind of data* to be collected;
- the *selection procedure* for the people or items to be included;
- the specific kinds of data collection *methods* that will be used;
- the practicalities of *data collection*;
- the processes and techniques for *data analysis*.

The second part of the Methods section tends to be lengthier. It provides an opportunity to explain why the methods are appropriate and to develop an argument that defends the choice of methods on the grounds that they are 'fit for purpose'. This section, therefore, tends to:

- expand on some of the bare bones about the methods;
- evaluate the chosen method and compare this with alternative possibilities;
- use reference to methodology sources in support of the argument.