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THE LOGIC AND STRUCTURE OF RESEARCH PROPOSALS

• What is a research proposal? • Seven basic questions • The structure of research proposals • The evaluation of research proposals • Who approves research proposals? • What happens to a research proposal once it is submitted? • Summary of key points • Further reading

What is a research proposal?

A research proposal is a relatively brief document that contains an outline plan for a research project. It is produced at the beginning of the research process in advance of any data collection. A well-constructed research proposal offers a blueprint for the research that shows what the parts look like and how they will fit together. It describes what will be done, explains how it will be done, and justifies why the research should be undertaken.

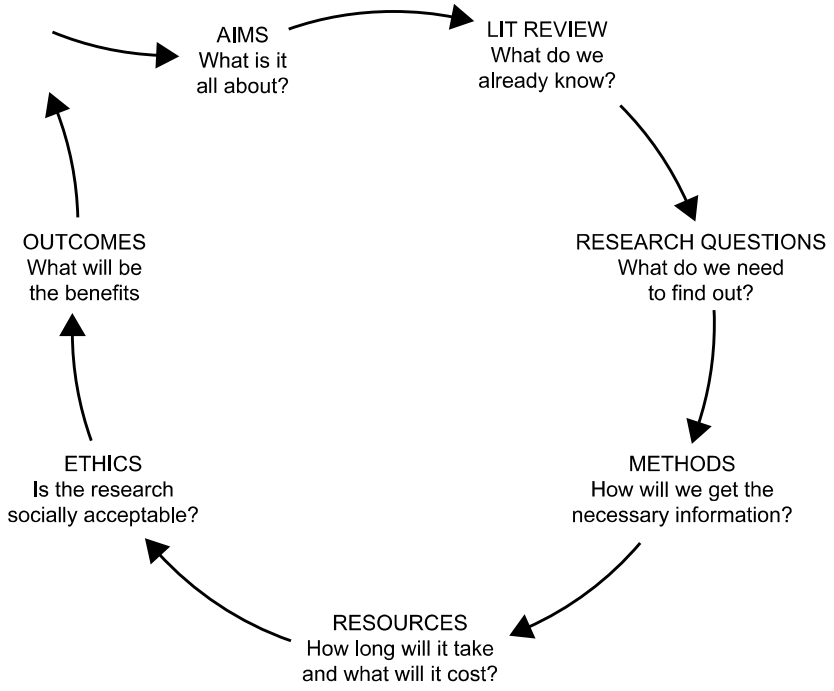
A research proposal is an important part of the research process because the success of any project depends on forward planning and organization. A good

proposal is based on careful thought about how the project will be conducted and involves the kind of advance planning that is required if a project is to run smoothly. There is a useful analogy here with house building. No-one would seriously consider starting work on a house without first having drawn up plans for the building. Without such plans it would be virtually impossible to work out exactly what materials will be required, when they are to be delivered, and how they will fit together. The same applies with a research project. Before embarking on a research project, the researcher needs to prepare the groundwork and give careful thought to the practical issues involved at the implementation stage of the research.

Seven basic questions

There is logic to research proposals, and it is really very simple. It can be expressed as a sequence of *seven basic questions* that it is reasonable to ask about any proposed research (see Figure 1.1). These questions reflect a general

FIGURE 1.1 The logic of research proposals



way of thinking about research and are the ones that most readers will have in their minds when they consider whether a proposal is worthwhile and whether it is feasible. Of course, the sophistication of the answers provided to these questions will vary according to the circumstances; much will depend on the purpose of the proposal and the level of expertise expected of the researcher. Successful proposals, however, have this in common: they manage to address the seven questions in a way that satisfies the requirements of their particular audience.

Question 1: What is it all about?

This is a fundamental question that readers will ask about any research proposal. First and foremost, they will want to know what the topic is and they will be looking for precise information about the subject matter of the research. And they are also entitled to ask what the research is trying to accomplish. What is the purpose of the research and what is it trying to achieve? Without this information the readers of the research proposal cannot evaluate the proposal. They cannot judge whether the methodology is appropriate or whether there will be sufficient time and resources to complete the project. And they will get frustrated and annoyed if they do not get this information supplied clearly, precisely, and succinctly in the proposal.

Question 2: What do we already know about the subject?

Having addressed the question of what the research is all about, the next logical thing that readers of a proposal will ask is: What do we already know about the subject? What has previous research revealed and where have we got to in terms of our knowledge about the topic? This is a relevant and important question to pose in this context. Primarily, this is because a review of the existing information can prevent us from undertaking research that is not necessary. There is no point in 'reinventing the wheel'. If the information already exists, there is no point in repeating the research (unless we have the specific aim of checking the validity of the earlier findings).

Question 3: What does the research need to find out?

Once readers are clear about the aims of the research and what is already known about the topic, the next step logically is for them to ask what *new* information is needed. A review of the existing information not only tells us what we already know, it tells us what we don't know and what it would be useful to find out. This allows the proposed research to be targeted where it will be most useful. It helps to pinpoint the kind of things that need to be studied to shed some light on the topic – the factors (variables, indicators, relationships, etc.) that it will prove useful to focus upon if the research is to produce findings that are relevant in terms of saying anything new or useful

about the topic of research. Readers will be looking for these things to be spelled out clearly and precisely, usually in the form of 'research questions'.

Question 4: How will we get the necessary information?

Having established precisely what the research needs to find out, the next question is fairly obvious: How will the necessary information be obtained? A description of the research methods is called for in order to answer this question. Proposals always include an account of how the researcher intends to collect the data, how much data will be collected, and what techniques will be used to analyse the data. Armed with such information readers can draw their own conclusions about whether the methods are suitable or not for the task at hand, and whether or not the proposed methods are likely to work in practice. It is these kind of judgements, of course, that are crucial when it comes to deciding whether a proposal appears to be worthwhile and feasible, and ultimately whether it is successful or not.

Question 5: What will it cost and how long will it take?

Research takes time and costs money, and this is something that readers of research proposals will recognize. It will be of concern to them in terms of the feasibility of the proposed project. They will want to know what resources are necessary for the successful completion of the research, and they will be looking for evidence within the proposal that the researcher has planned the research in accord with the amount of time that is available and the amount of money at his or her disposal for the completion of the project.

Question 6: Is the research socially acceptable?

Readers will want to feel assured that the proposed research will be conducted in a manner that meets socially accepted standards governing research activity. They will realize that if there are any doubts on this point it is almost certain that the research project will not be allowed to proceed. Mindful of this, they will look for guarantees that the research will be conducted in a manner that abides by the principles of research ethics and accords with the law of the land.

Question 7: What are the benefits?

Most readers will expect a piece of research to be justified on the basis that it will produce some specific, identifiable benefits. Indeed, it is rarely the case that research can be justified 'for its own sake'. For this reason, it is important for research proposals to address questions about the outcomes of the research and the end-products that it is hoped will arise from the research. They need to contain a clear account of the 'deliverables' from the project and an explanation of who, or what, might benefit as a direct result of the project.

The structure of research proposals

As Table 1.1 indicates, these seven questions provide a rationale for the way that research proposals are organized. They provide a basis for providing the readership with relevant information – allowing the vital material to be presented in an efficient manner, in a format that is familiar and a sequence that allows readers to understand things quickly, easily, and with the minimum of effort.

The headings listed in Table 1.1 can be used as the basis for writing a research proposal. They will be recognizable to readers from a wide range of research backgrounds and they provide a sound, generic framework for organizing all the relevant material.

However, we need to be a little cautious about treating them like a 'one-size-fits-all' form that can be pulled off the shelf and used in connection with any research proposal in any context. One reason for this is that the kind of detail that is required in a proposal can vary according to the nature of the subject area of the research. It is easy to understand that proposals might look slightly different if they are written to suit the nature of research in particular areas, especially when those areas are as diverse as business, engineering, medicine, sociology, education, history, languages, and so on.

Another reason is that various agencies and organizations that receive research proposals often produce bespoke forms with their own headings to suit their own purposes. They are at liberty to do so and there is no single body with the authority to enforce the use of one single model of a standard research proposal form. This means that when it comes to writing a research proposal, the first thing that a researcher must do is check whether his or her proposal needs to be submitted using a particular form or needs to adhere to specific guidelines provided by the body to which the proposal will be

Table 1.1 The structure of research proposals

Typical headings/sections	*Basic questions*	*Guidance in this book*
Title Keywords Aims Background	What is it all about?	Chapter 4
Literature review	What do we already know?	Chapter 5
Research questions	What do we need to find out?	Chapter 6
Methods	How will we get the necessary information?	Chapter 7
Planning and resources	How long will it take and what will it cost?	Chapter 8
Ethics	Is the research socially acceptable?	Chapter 9
Outcomes	What will be the benefits?	Chapter 10

submitted. If so, then there is no option but to use the headings and sections as supplied. This is an absolute must. Any attempt to change the stipulated headings and sections is likely to jeopardize the proposal's prospects of success.

Top tip

Always use the prescribed format when one is available.

Although 'No universally applicable and correct format exists for the research proposal' (Locke et al. 2000: 7), there is still a *strong family resemblance* underlying the structure and headings to be found across the whole spectrum of disciplines and organizations involved. This, as we have noted, reflects the seven questions that can be asked about any research project. There is a shared logic to the many alternatives and, as Appendix 3 shows, this results in a familiar feel to the headings and sections adopted across a range of approaches and different research traditions.

The evaluation of research proposals

Most research projects need to gain approval from a relevant authority before they are allowed to start and the research proposal provides the kind of vital information that enables relevant authorities to evaluate the research and make a decision about whether to approve/support the work and allow it to go ahead.

The analogy with house building is again useful on this point. No reasonable person would start the construction of a house without having sought permission from relevant authorities to embark on the construction. Plans have to be drawn up to show that the house will be structurally sound and that it will meet all the necessary requirements in terms of building regulations. Well, the same logic applies to a research project. In the same way that there are regulations and procedures that are designed to protect the public from rogue builders constructing houses that are likely to collapse or which fail to meet environmental standards, there are standards and procedures that researchers need to take into account to avoid poor research designs that are likely to fail. The blueprint for research contained in research proposals provides the kind of information that allows people to check whether the proposed research will accord with the necessary procedures and regulations and it thus allows those who authorize research to make judgements about the quality of the proposed investigation and the likelihood that it will work and that it will have some beneficial outcomes.

The point to remember, then, is that research proposals are essentially documents that will be *evaluated*. They are written for a purpose, and that purpose is invariably connected with getting approval for the plan of research that is contained in the proposal. Proposals are written with a view to being evaluated by individuals or committees who have the authority to allow the research to go ahead, or to prevent it from taking place. This applies whether the proposal is written for an undergraduate research project, a master's degree dissertation or an application for entry to a doctoral research programme. And it also applies when proposals are written as part of a bid for funding or as part of an application for ethics approval. All proposals are scrutinized by experts who use their experience to make judgements about the quality of what is being proposed and the prospects that it can be delivered. Successful research proposals recognize this point. They are produced with a constant eye on the evaluators – who they will be, what they will expect, and what will ignite their enthusiasm.

By their nature, research proposals are documents that are *evaluated* by their readers.

Who approves research proposals?

Broadly speaking, approval can take four different forms (see Table 1.2). Proposals linked to master's dissertations and bachelor's degree projects are generally submitted to tutors who will act as supervisors to the students during

Table 1.2 The evaluation of research proposals

Purpose of the proposal	*People who evaluate the proposal*
Approval for research project on a degree programme	
• master's dissertation	Supervisors
• undergraduate project	Tutors
Applications for acceptance onto a research degree programme	
• PhD application	Research committees, potential supervisors
Funding applications	
• research grant	Review panels, subject experts
Ethics approval	Human research ethics committees, Institutional review boards (USA)

their relatively short-term research project. These people will be concerned with whether the research is likely to prove worthwhile in terms of knowledge in the subject area, but they will also want to be assured that the proposed research is possible within the resource constraints and the tight time constraints within which dissertations and projects need to be completed.

When a proposal is submitted as part of an application for acceptance onto a PhD programme, the people who evaluate the proposal will be potential PhD supervisors or members of committees established to ensure that entrants on a PhD programme will be embarking on a worthwhile piece of research and that the applicant is academically good enough to take on the task. In this case, the evaluators will place high priority on the potential contribution of the research in terms of advancing theory or solving a significant practical problem.

If the proposal has been produced to gain funding for the research, the funding body will nominate who is to evaluate it. They are likely to be experts who are very knowledgeable about what research already exists in the area. They will have a particular eye on the quality of the research design and the potential value of findings from the proposed research, and will be looking for 'cutting-edge' research that can advance knowledge in that particular field of study.

Proposals that are submitted to gain ethical approval are reviewed by committees (or sometimes individuals) with a specific remit to ensure that the research is properly conducted and incorporates appropriate measures to protect the interests of those who will be called upon to participate in the research.

What happens to a research proposal once it is submitted?

Once a research proposal is submitted, the process by which it is evaluated will depend on the purpose of the proposal and on the organization that is involved. Funders, admissions tutors, supervisors, and ethics committees will differ in how formal their systems are and how many stages are involved in the approval process.

In the case of bachelor's degree projects and master's degree dissertations, the procedures for approval are not likely to include the formal review process outlined below. In practice, the 'review' will probably be undertaken by the project supervisor, without the involvement of administrators or committees in the process.

However, in the case of funding, admissions to university programmes, and ethics approval, the systems are likely to be quite formal and, in such cases, the organizations concerned will normally be quite explicit about their

approval system. It should be relatively easy to find out exactly what will happen to such proposals; details will either be given on the application form itself or will be available on the organization's website. In general, however, the process is likely to involve the following stages:

Stage 1: Check and process

Where formal systems operate to evaluate research proposals, they will generally follow a path that starts with an initial check of the proposal to ensure that it meets the stipulated requirements and that it is eligible for consideration. The application is likely to be checked in the first instance by *administrators*. Their role is to check that the proposal is complete and that it meets the conditions, the layout, and remit that have been laid down. The administrators will check that the necessary signatures have been included on the forms (or electronic equivalents), that essential information has been supplied, and that the proposal has not exceeded the word limit.

> The Economic and Social Research Council in the UK estimates that 10 per cent of bids for funding are rejected immediately because they have not been produced in accord with the guidelines set out.

Stage 2: Review and evaluate

The proposal will be sent to relevant experts who will be asked to review and comment upon the quality of the proposal. These 'referees' are selected not only on the basis of their subject expertise but also as being able to offer an impartial and unbiased view on the project. Sometimes the person or team submitting the proposal can nominate one of more of the referees to be used, but in most cases the reviewing process will involve referees who are chosen by the organization. As the applicant, you do not normally get to know the identity of the independent experts who evaluate your proposal.

Stage 3: Selection and decision

The views of the referees are collected and a *decision* is then made either by a specific individual or by a committee. This process can take some time, particularly if the decision is to be made by a committee who are scheduled to meet periodically. Details of the frequency of meetings and the dates on which decisions are notified to applicants should be part of the information that accompanies any application process – either in paper format or online at the organization's website. If in doubt, the administrators can be contacted to supply the dates.

If the *selection* process is competitive, only a few proposals will be successful among the many submitted. This is especially the case for funding applications where the selection process can sometimes involve a number of stages. The early stages involve sifting out projects that are seen to have little chance of success. There might be obvious question marks against aspects of the proposal, which mean it needs to be eliminated. A process of short-listing progressively reduces the number of proposals until the final decisions are made.

Stage 4: Feedback

The decision, together with *feedback* in the form of referees' comments, is sent to the applicant. If the proposal is accepted outright, break open a bottle of champagne! However, the referees often request amendments to, or development of, a proposal. And, unfortunately, many proposals are rejected outright. In either of the latter instances, the feedback that accompanies the decision can be painful for the applicant. First reactions might well be that the feedback involves unfair criticism and a misunderstanding of what was said in the proposal. However, before dismissing the feedback, it is wise to pause for a while and then look for the lessons to be learned and the constructive things than can be gleaned from the feedback because there is generally good advice in there somewhere.

Stage 5: Appeal

If the research proposal is rejected, there may, or may not, be a process of *appeal* against the decision. This will have been made clear in the documentation about the application. In reality, though, even if there is a process of appeal, it is unlikely to lead to a reversal of the original decision.

Summary of key points

Research proposals contain a brief plan for a research project that describes the purpose of the research and how it will be conducted. For the researcher who has produced the proposal, this represents the outcome of a planning exercise in which attention will have been given to fine-tuning the aims of the research and working out how best to conduct the investigation. It involves the kind of planning and forethought that are necessary to enable the project to run smoothly.

Research proposals serve an equally if not more important purpose as well. A brief summary of what will be done and why it will be done provides the basis upon which readers can arrive at judgements about the quality of the research that is being proposed. Crucial among these readers are the individuals

or committees to whom the proposal is submitted who are in a position to approve the project and allow the research to proceed or who can reject the proposal and effectively prevent the work from taking place. Success depends on their verdict.

The process of evaluation sometimes allows resubmission of a proposal if in the first instance it is not approved. At other times, there is no possibility of resubmitting. Either way, the sensible approach is to ensure that the proposal is 'right first time' – that it addresses all of the key concerns that evaluators might have.

As we have seen, these key concerns centre around *seven basic questions* – questions that can be applied to practically any piece of research. These are straightforward questions that the people who evaluate research proposals, whatever their research tradition or academic discipline, are almost certain to ask about any proposed research. Although there is no simple template for the structure of a research proposal that operates in all circumstances, the contents and structure of research proposals generally tend to follow the logic of these seven questions.

Further reading

Krathwohl, D.R. and Smith, N.L. (2005) *How to Prepare a Dissertation Proposal: Suggestions for Students in Education and the Social and Behavioral Sciences*. Syracuse, NY: Syracuse University Press (Chapters 1–3).

Locke, L.F., Spirduso, W.W. and Silverman, S.J. (2007) *Proposals that Work: A Guide for Planning Dissertations and Grant Proposals* (5th edn.). Thousand Oaks, CA: Sage (Chapter 1).

Punch, K. (2006) *Developing Effective Research Proposals* (2nd edn.). Thousand Oaks, CA: Sage (Chapter 2).

2

SUCCESSFUL RESEARCH PROPOSALS

• Worthwhile research • Feasible research • The essential elements of a research proposal • Why do some research proposals get rejected? • Distinctive proposals – what will make a proposal stand out from the rest? • Summary of key points • Further reading

The people who evaluate research proposals are basically concerned with two things only: First, does the proposal convince them that the research is a good idea – is it *worthwhile*? Second, does the proposal appear to be do-able in a practical sense – is it *feasible*? To be successful, a research proposal needs to develop an argument that persuades the readers that the answer is 'yes' to both questions.

Worthwhile research

Research needs to be 'worthwhile' because it takes time and money to undertake and the evaluators will believe, quite reasonably, that resources should not be wasted on activities that are unlikely to produce results of any real value. This would be a waste of the researchers' time and, perhaps more

importantly, a waste of participants' time, if they have volunteered to assist the researchers with their project.

Any research proposal needs to recognize this point. It has to address the issue head-on and persuade the reader that the topic of the investigation is something that matters and that the research is likely to produce some clear and specific benefits. Proposals need to pre-empt questions about the value of conducting the research and they need to make a strong case built around what is to be gained from the research and who will benefit from it.

> Research activity is not a frivolous pastime – it is not undertaken on a whim or done just for fun. To qualify as genuine research, it must be directed towards something positive and have a clear purpose from which benefits can arise.

A need for the research

The most obvious way to convince readers that a piece of research is worthwhile is to pinpoint the *need* for the research. The research, in a figure of speech, should 'scratch where it itches', and what the proposal should do is demonstrate precisely what the 'itch' is and precisely how the 'scratch' will deal with the 'itch'. This is where the *literature review* section of a research proposal comes into play, providing the opportunity to convince evaluators that there is a definite need for the new research outlined in the proposal.

Link up with **Chapter 5: Literature Review**

This point deserves a little elaboration. It might appear that by concentrating on 'needs', and the ability of specific research projects to meet those needs, we might be adopting a very pragmatic stance on research. It might be argued that this does not allow for 'blue-skies' thinking or enquiries based on moments of inspiration. Why should research always be constrained by what fits today's agenda – what we know already and practical problems that already exist? Surely this simply ties all research to a single path constrained by the past, without allowing research to explore off-the-wall ideas and develop genuinely novel directions in thinking? Certainly, there is some validity to such points (for a classic treatise on this topic, see Feyerabend 1993). However, for small-scale social research projects undertaken by relative beginners, the rules of the game will almost certainly involve the need to relate the proposed research to existing, clearly identified

needs. Whatever the merits of the 'blue-skies' approach, it does not accord with the prevailing sentiment governing the evaluation of research proposals. The only sound advice, therefore, is to ensure that your research proposal somehow ties in with existing needs and that the reader can clearly see what those are.

Top tip
Worthwhile research addresses specific needs.

Benefits from the research

People who evaluate proposals will want to know what the likely benefits are. Is anything likely to arise from the proposed research that might be valuable and which warrants the use of people's time and the organization's money to investigate? In their minds, they will be asking how the research will take things forward and they will expect to find in the proposal explicit statements about how the research will make a difference.

To address that question, the proposal should indicate what the *outcomes* of the research are anticipated to be. This is not to be confused with trying to state what the findings will be; the findings are something that can only be stated once the research has been completed. The outcomes, however, can be identified in advance because they concern the kind of 'deliverables' that researchers see as the end-product of their research activity. These can include things like:

- a contribution to knowledge;
- the development of good practice;
- the dissemination and impact of findings.

Within the research proposal, the *deliverables* can be listed in a section under the heading 'Outcomes'. Many research proposal forms include such a heading, and highlight the importance of providing such information. Even if there is no specific 'outcomes' heading in the proposal form, it is important to ensure that those who are to evaluate the proposal have a clear picture of what will be produced by the research, thus making it 'value for money'.

Link up with **Chapter 10: Research Outcomes**

Top tip

Be clear about the outcomes from the research. Specify what will be produced and what will be the benefits arising from the study.

Use of suitable methods

If research is to be worthwhile, it needs to use suitable methods. If it is a good topic but it is researched poorly, then it will be of little value. At best the findings will be not as good as they could have been; at worst the findings could be misleading or useless. For this reason, evaluators will scrutinize the proposal to check that the data collection procedures and the data analysis techniques are suitable.

A good topic poorly researched is of little value.

Whether or not the methods are suitable depends on the match between *what* the research is trying to find out and *how* it is intended to do this. Within a proposal, the 'research questions' are crucial in this respect because they pinpoint exactly what it is that the research will be looking at. Proposals are expected to be clear on this score. The research methods that are chosen can then be judged in terms of how good, or perhaps how poor, they are likely to be when it comes to producing findings that directly answer those questions. But, of course, this can only be done if the proposal also contains sufficient information about what data will be collected, how the data will be collected, and how the data will be analysed.

Link up with **Chapter 6: Research Questions**

Link up with **Chapter 7: Research Methods**

Feasible research

No matter how good an idea for research might be in principle, it will not provide the foundation for a successful research proposal unless it can be put into practice. Evaluators will be thinking: 'Nice idea – but can you actually do it?', and they will need to be persuaded that the proposed research is indeed

feasible. They will pose the questions: Will the research meet its objectives? What are the chances of success or failure? Can the research be done and, equally, can it be done *properly*? Certainly, they will not 'buy into' an idea if they feel that there is little chance of the investigation being successful. So, within the proposal it is the researcher's responsibility to make the case that the research is possible in real terms – that there is a real chance of it achieving its aims. This involves addressing any doubts the readers might have in relation to the following four things:

- the scope and scale of the research
- access to data sources
- available resources
- ethics

The scope and scale of the research

Research proposals should never promise outcomes that cannot be delivered. There is a danger, however, that in the effort to impress the readers the proposal might actually aim too high and become over-ambitious. This can backfire and have the opposite effect because promising too much may be considered a weakness by those evaluating the research. What it does is to reveal a certain inexperience or naivety on the part of the researcher. In practice, the readers of the proposal will be far more impressed by a submission that has a relatively narrow focus but which looks as though it can be investigated reasonably within the time scale and using the money that is available.

Link up with **Chapter 4: Aims of the Research**

Link up with **Chapter 8: Planning and Resources**

Top tip

Do not 'bite off more than you can chew'. Focus upon a topic that is sufficiently narrow that it can be completed using the resources that are available.

Access to data sources

The feasibility of research hinges on gaining access to the necessary data sources; if this is not possible, or even if it is seen as problematic, it represents a major stumbling block for the proposal. Researchers must be certain that they can gain access to the kind of data necessary to investigate the proposed topic. If there is any doubt about this, the proposal is unlikely to be successful.

This is one of the most fundamental concerns of anyone evaluating a research proposal; indeed, there is a case for saying that it is the most important consideration when it comes to the feasibility of a project. If you cannot collect the necessary data, the project is doomed to failure. Thus within the proposal, the researcher needs to provide some assurances that obtaining access to the people, the situations, the events, the databases, etc., that are necessary for the research will not be a problem.

Link up with **Chapter 7: Research Methods**

Available resources

Research occurs within constraints imposed by the available resources to complete it. Time and money are factors that cannot be ignored and, as we have seen, the scope and scale of the proposed project need to be in balance with the resources available. So, when evaluators look at a proposal they will ask themselves: 'Can the research be done properly with the resources that are available?' They will want to be confident that the research project is based on a time and money budget that can be met, and that the researcher is not being unrealistically optimistic about what can be accomplished.

The time scale for delivery of the work will come as a 'given' in most cases. Whether the proposal is written as part of a funding application or for a bachelor's project, master's dissertation or PhD thesis, there is generally a quite specific deadline that has to be adhered to. What evaluators will look for in this regard is some evidence of planning for completion on time. They will want to see some schedule for conducting the various parts of the research, perhaps in the form of a Gantt chart.

The costs involved in the project should also be considered within the proposal, although the amount of detail on this will depend on the purpose for which the proposal has been written. When proposals form part of an application for funding, considerable detail is likely to be required. Details about salaries, travel, and other significant items of expenditure will be expected. In the case of proposals for bachelor's projects, master's dissertations or PhD theses, there is generally less demand for such details. It is implicit that costs are quite small, that the researcher's time comes for free as part of the study for the academic award, and that overheads will be covered by the institution.

Link up with **Chapter 8: Planning and Resources**

Top tip

State what resources are needed and confirm that they are available.

Ethics

The success of a proposal is built on the presumption that the research can be conducted without putting anyone in 'harm's way'. It depends on the proposal being able to confirm, with some certainty, that the research can be completed without infringing the rights of the people involved, without jeopardizing their safety or well-being, and without breaking the law. Evaluators of research proposals will have such matters to the front of their minds when judging whether a proposal is feasible, and they will want to be convinced from reading the proposal that the nature of the proposed research does not violate ethical principles and that there are no other legal or safety issues likely to be thrown up by the research that will make it unacceptable. To this end, they will look within the proposal for a *risk assessment* by the researcher, which anticipates significant problems that might occur and which incorporates measures that can avoid these risks or minimize the impact of such risks.

As part of this concern, evaluators will look at the skills and experience that the researcher brings to the project. On practical grounds, they know that a research project is unlikely to succeed if the researcher overstretches his or her abilities or attempts to use techniques for which he or she does not have the necessary training or skills. Equally, from an ethical point of view, they will need to feel that the researcher has the *competence* to undertake the research without wasting people's time or exposing them to unnecessary risks.

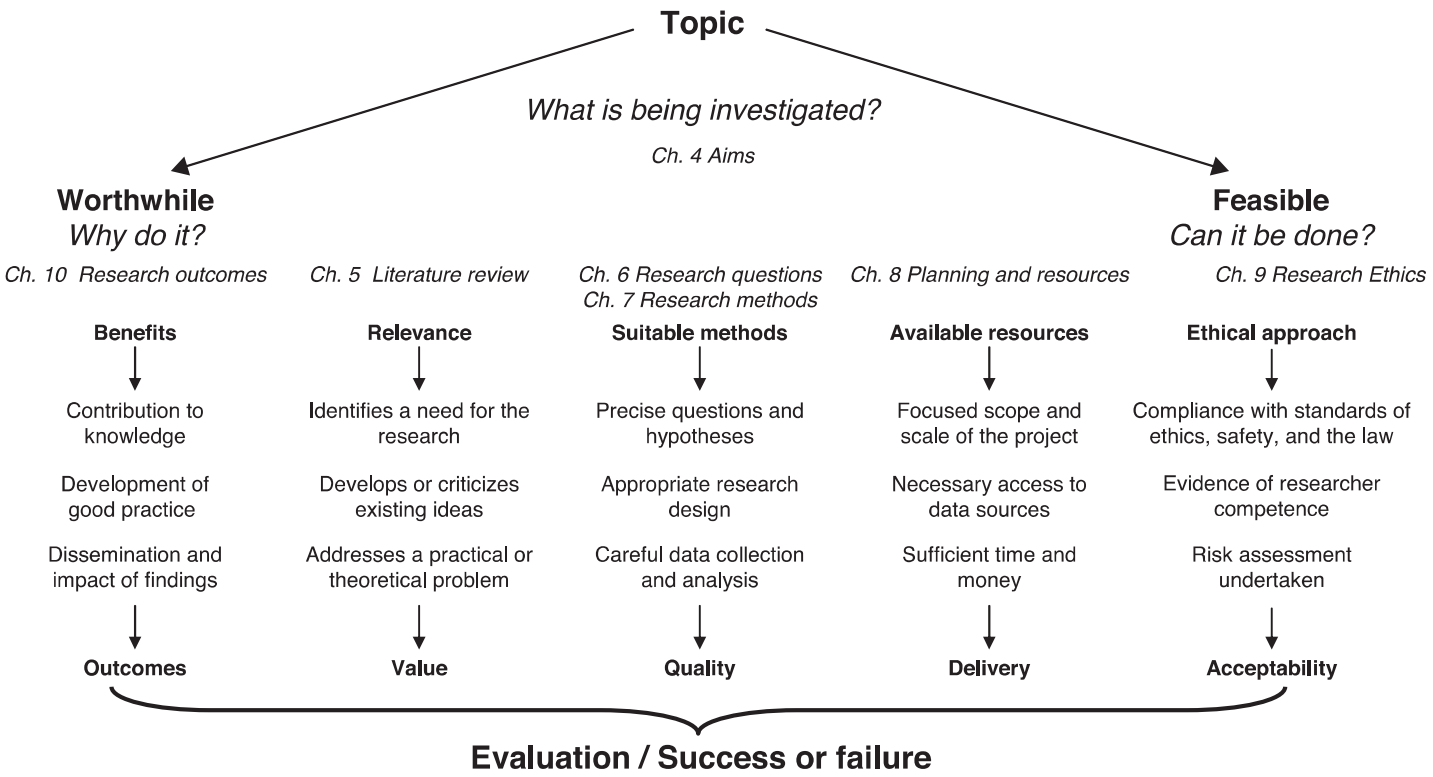
Link up with **Chapter 9: Research Ethics**

> Research that is not ethical is not acceptable, and research that is not acceptable is not feasible.

The essential elements of a research proposal

At the start of this chapter the point was made that research proposals need to address two basic questions: is the research worthwhile and is it feasible? Subsequently, the factors that will persuade readers on these two questions have been briefly outlined so that we can get an overview of what is entailed in a successful research proposal. This overview is depicted in Figure 2.1, which provides a vision of the issues and concerns that need to be discussed within a proposal and the reasons why they need to be included. As well as showing what the elements of a research proposal are, Figure 2.1 also acts as a road map, pointing to where these elements of research proposals are considered in greater depth in later parts of the book.

FIGURE 2.1 The essential elements of a research proposal



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Why do some research proposals get rejected?

Proposals that contain weaknesses are liable to be rejected. Indeed, a large percentage of proposals that are rejected suffer from significant omissions or errors, or have been sent to the wrong place. This is frustrating for those who have the task of evaluating the proposals and, in response, a number of experts have set about cataloguing the main causes of failed proposals (see Table 2.1). This might seem a rather depressing thing to do, but their motive is to flag up the common areas of weakness in research proposals so that people can learn from the mistakes of others. As experienced evaluators of research proposals they see the same kind of error or weakness repeated time and again, and by pointing to these weaknesses they hope others will be able to avoid them, and thus the quality of proposals will improve.

Unfortunately, there is another message that comes through from their work. It is a rather stark warning to prospective proposal writers that failure should not be treated as some remote possibility. It should be treated, instead,

Table 2.1 Common reasons for the rejection of proposals

Weaknesses related to the *research problem*:

- The description of the project is so nebulous and unfocused that the purpose of the research is unclear
- The problem is unimportant or unlikely to yield new information
- The hypothesis is ill-defined, doubtful or unsound, or it rests on insufficient evidence
- The problem is more complex than the investigator realizes
- The problem is of interest only to a particular, localized group, or in some other way has limited relevance to the field as a whole

Weaknesses related to the *research design and methodology*:

- The description of the design and/or method is so vague and unfocused as to prevent adequate evaluation of its worth
- The data the investigator wishes to use are either difficult to access or inappropriate for the research problem
- The proposed methods, measurement instruments or procedures are inappropriate for the research problem

Weaknesses related to the *investigator*:

- The investigator does not have sufficient training or experience for the proposed research
- The investigator appears to be unfamiliar with the literature relevant to the research problem
- The investigator does not have sufficient time to devote to the project

Weaknesses related to *resources*:

- The institutional setting is unfavourable for the proposed research
- The proposed use of equipment, support staff or other resources is unrealistic

Source: Based on, and adapted from, a list presented by Leedy and Ormrod (2009) that draws on research by Allen (1960) and Cuca and McLoughlin (1987).

as a very real danger. And it is a danger that can have very serious consequences. Many research proposals take the form of a 'one-off' application and for this reason they need to be 'right first time'. If the proposal forms part of a bid for funding or an application for a place on a PhD programme, it can quite simply be rejected. This is not only painful, it can also be irretrievable; the rejection may not come with a 'second chance' option. And even when the proposal can be improved through a second or possibly third iteration – for example, when submitted in preparation for a master's dissertation or a bachelor's project – receiving critical comments and poor grades for the proposal is to be avoided at all costs.

Rejection, however, is not necessarily the result of submitting a weak proposal. The harsh reality is that some research proposals will get rejected simply because there are not enough places (e.g. applications to a PhD programme) or there is not enough money (e.g. with funding applications). The number of proposals simply outweighs the available resources. This means that some perfectly good research proposals will be rejected – which is a bitter pill to swallow for the researchers involved. The point here, though, is that proposals are often produced in a competitive environment in which evaluators are faced with the task of sifting through many good proposals and selecting just the very best of the bunch. In such cases, being good may not be good enough. Being best is better.

Top tip

Sometimes, success depends on being 'better than the rest'.

Distinctive proposals – what will make a proposal stand out from the rest?

In a competitive environment, the proposal really needs to contain something that will make it get noticed and stand out above others. It needs to have qualities that make it a particularly attractive proposition – things that not only make it worthwhile but which make it *more* worthwhile than alternative proposals on offer. Bearing this in mind, there are five aspects of a proposal that are particularly important for making the case that the proposed research is more than just worthwhile – it is *very* worthwhile.

Originality

The prospect of doing 'original' research might appear rather daunting, especially to those writing proposals for bachelor's projects and master's

dissertations. But it need not be. There is absolutely no reason to panic at the thought that the proposal will be judged on this criterion alone, and there are two reasons for this. First, expectations will differ according to the level of work involved. Although the notion of original research will apply to PhD theses and to funding applications, for bachelor's projects and master's dissertations the expectations will be adjusted to the level of award for which the work is being produced and the limited time scale and resources available for conducting the research. Second, in practice, it is possible to meet this criterion without the need for ground-breaking, advanced research. The notion that the research should contain an element of originality merely means that when choosing the topic for research, attention needs to be paid to what is *different* about the proposed research – what it is that distinguishes it from other investigations on the topic (for further discussion on this point, see Denscombe 2010).

What the proposal needs to do is to demonstrate to the reader that there is some aspect of the research that makes it stand out from previous investigations in the area – something that might lead to a new insight about the topic. In the proposal this can be done by:

- showing evidence of *critical thinking* – rather than a simple rehash of old ideas;
- acknowledging the existence of *alternative views*, competing theories, and counter-information – engaging with ideas or evidence that do not support your own position;
- *avoiding plagiarism* – resisting any temptation to paste chunks of text from the web or other published sources into the proposal; this is relatively easy to detect and will be treated as 'stealing' the work of others.

Originality clearly requires some effort to find out what has already been written on a particular topic so that both the researcher and the audience for the research feel confident that the research is not 'reinventing the wheel'. The element of originality can be flagged up briefly in the 'Aims' section of the proposal but mostly it is within the 'Literature Review' section that the researcher has the opportunity to evaluate the existing research in the area and to argue that what he or she is proposing can make a contribution that is in some way or other new, different, unique – in some way original – and all the more worthwhile for it.

Timeliness

Research proposals that are 'timely' will have an advantage when it comes to persuading evaluators that the research warrants support. They will be seen as more valuable and likely to make more of a contribution to the field than more routine projects based on topics and methods that have been around for some time. Evaluators are looking for something that is 'up-to-date' rather

than 'old hat'. They will be impressed by evidence contained within the proposal that the topic is engaging with something that is timely and of current interest. And they will feel more assured about the value of the research where the proposal indicates that the researcher is conversant with the latest thinking on the topic. In essence, proposals will have a competitive advantage when they can persuade the reader that the research will be:

- timely in respect of current issues; and
- based on an awareness of current thinking and positions in the field of study.

As with the matter of originality, though, the prospect of producing a 'cutting-edge' proposal might appear rather daunting. But, as with the matter of originality, there are two things that need to be borne in mind. First, expectations will differ according to the nature of the proposal and who is producing it. Whereas evaluators of proposals for PhD research and for research funding might have this high on their agenda when deciding which proposals should succeed and which should not, evaluators of proposals produced in connection with a bachelor's degree project or master's dissertation are less likely to do so. So, let us be clear, this is not an absolutely vital criterion for the success of *all* research proposals – much will depend on the purpose for which the proposal is being written and the level of expertise expected of the researcher.

Second, there are a couple of fairly basic and straightforward ways in which it is possible to address the matter of the timeliness of the work and the extent to which it represents 'cutting-edge' research. The first is to convey an impression of timeliness by including a few well-chosen *buzzwords* in the proposal. The websites and publications of organizations and individuals who evaluate proposals often emphasize certain terms or concepts that are in vogue and considered pertinent in relation to their current research agenda. Without going to excess, there can be a competitive advantage gained by incorporating a few of these into the proposal. Perhaps more crucially, though, the proposal should always include some *references to recent studies in the field*. It is fine to cite classic studies as a foundation for the proposal but, to complement these, care should taken to ensure that at least some of the sources cited in the proposal have been published in the current or the previous year. The date of publication of such studies acts like a signal to evaluators that the researcher is aware of current thinking and positions on the topic; it conveys a sense that the proposed research is up-to-date. The corollary to this is that any proposal that includes only 'old' references is likely to jeopardize the prospects of success by suggesting to the evaluator that the proposed research is 'off the pace', 'old hat' or 'past its sell-by date'.

Top tip

Show that the proposal is in tune with current thinking.

A topic that is of particular interest – one that 'pushes the right buttons'

The chances of success are significantly increased when the topic of the research fits closely with the specific priorities of the individual or organization evaluating the proposal. In the case of applications to funding organizations, there will be boundaries around the kind of research they support and, within these, they will probably have certain priority areas upon which they currently wish to focus their attention. Proposals that fall outside this area are not going to be successful. Similarly, where proposals are produced in connection with academic degrees, there are advantages to be gained by ensuring that the prospective supervisor can see a close link between the topic of the proposed piece of research and his or her own area of expertise. Potential supervisors are likely to prioritize proposals within their sphere of expertise because they are better able to evaluate the potential contribution and better able to supervise the research.

Whether the proposal is being written as part of an academic degree or as an application for research funding, the point to bear in mind is that what you personally believe to be worthwhile may not be the same as what is seen as worthwhile by the reader. In the context of writing a successful research proposal, however, it is the reader's view of what is interesting that is most important. The proposal, therefore, will stand a better chance of success where care is taken to *push the right buttons* and capture the attention of the reader. To accomplish this, it is useful to:

- check the supervisor's specialist area or the priority area of the funding body;
- know the current 'buzzwords' to include in the discussion;
- stick closely to any topic guidelines provided for the proposal.

Wider application

The value of a project will be enhanced when there is some clear link between the specific findings from the research and more general issues linked to the topic. The specific findings can be useful in their own right, perhaps addressing a practical problem or some localized concern. There is nothing wrong with this and, indeed, it can be a wise basis for proposals for bachelor's degree projects and master's degree dissertations. But, whatever the level of research for which the proposal is written, the value of the research will be enhanced when the proposal incorporates a vision of how the findings can be applied more generally.

The wider application of the findings will mean different things depending on the nature of the research that is being proposed. Broadly speaking, it can involve the quest to apply the particular findings (a) in a *practical* sense to other settings or (b) in a *theoretical* sense to the development of ideas and concepts linked to the topic. A wider practical application could involve a consideration of how far the findings from research in one location might be expected to apply in other similar locations, or perhaps different locations. Case studies of organizations will benefit where there is an explicit

attempt to show how the findings might apply elsewhere in other organizations. A wider application in a theoretical sense could involve the use of the findings to develop or to criticize an existing theory on the topic. It could involve challenges to current beliefs or understandings about a topic, or it might even involve the generation of new ideas and concepts.

Top tip

The value of the research will be enhanced by the inclusion of statements in the proposal that demonstrate a conscious effort to apply the findings in a practical or theoretical way beyond the immediate context of the proposed research.

Precision

Research proposals need to be precise so that readers have the relevant information on which to judge whether the research will be worthwhile or feasible. Where readers need to evaluate the proposal, it is vital that they are provided with a crystal-clear vision of exactly what is being proposed because they need to have all the relevant facts at their disposal in order to decide whether or not the proposal is worthwhile: no-one would expect them to make decisions on the basis of guesswork. If the proposal offers only a vague impression of what is being proposed – fuzzy on detail or lacking in relevant facts and figures – they will be rightly suspicious about the value of the research and will have good reason to reject the proposal.

One aspect of this precision is reflected in the plan of work that is outlined in a research proposal. It is reasonable to suggest that a precise plan is going to be of far greater value than a loose plan. Precision, in this context, is the outcome of the kind of planning that is necessary for successful research. It means that the researcher has a clear vision of what is going to be studied and how it will be investigated. And it is exactly this point that will influence those who judge whether a proposal should be approved or not. They need to be convinced that the proposed research has been carefully thought through and that the researcher has a good grasp of what needs to be done and how it will be done. Information needs to be provided on the data that are to be collected (who, what, where, when, how many), and this information should be precise. Do not use words like 'try' or 'hope'. Use something more positive and definite like 'will' or 'intend'. And do not use words like 'some' and 'many' because they are vague. State a specific amount. Although it might not be possible to state exact details in advance, good proposals always provide *anticipated* numbers and amounts.

Top tip

Use words that are specific and positive.

A second aspect of precision concerns the ideas and concepts that are being used; there should be no room for ambiguity on this score. This means paying close attention to:

- *Definitions*: The research is almost certain to involve key terms and concepts and great care should be taken to define them precisely (see Chapter 5: Literature Review).
- *Research questions or hypotheses*: Good proposals manage to convert broad ideas about research into very precise statements about the specific things that will be focused upon to shed light on the research problem. Hypotheses or research questions serve this function (see Chapter 6: Research Questions).

A proposal that contains precise information, then, sends all the right *signals* to the readers. It provides them with what they need to know and what they expect to see. And, of course, the opposite is equally true: if a proposal lacks precision, the message this sends is that the proposal has been thrown together at the last moment by someone who cannot be bothered to pay attention to detail. So it is important for a proposal to *convey* a sense of precision and detail because this says to the reader that the proposal should be taken seriously.

Top tip

Improve the chances of success by providing precise information.

Summary of key points

Evaluators have two priorities in their minds when considering a research proposal: they want to know that the research will be worthwhile and they want to feel confident that the research is feasible. The task for the proposal is to reassure them on both points.

There are certain things that evaluators are likely to look for in a proposal as they ask themselves whether or not the research would be worthwhile. This chapter has outlined the importance in this respect of showing that:

- there is a *need* for the research;
- there are clear *benefits* to be gained from the research;
- *suitable methods* will be used to conduct the enquiry.

Evaluators will also look for information in the proposal that can help them decide whether the proposed research is feasible and, as we have noted, they

will use their experience and expertise to weigh up the prospects for completion of the research bearing in mind the following:

- the scope and scale of the project;
- the available resources in terms of time and money;
- the ability to access data sources;
- the need for compliance with ethical, legal, and safety standards;
- the use of suitable planning and risk assessment procedures.

Success, however, might require something extra. Yes, success does depend on addressing a number of vital issues in the proposal to establish that the project is both worthwhile and feasible. But, in certain situations, this alone cannot guarantee that the proposal will be approved. If a proposal is submitted in a competitive environment where the evaluators need to be selective, its success will depend on it having something extra that makes it *distinctive* and that makes it 'stand out from the crowd'. This is the case particularly with funding bodies and PhD programmes where demand in terms of worthwhile and feasible proposals is likely to outstrip supply in terms of available money or places. Under such circumstances, the success of a proposal will depend on how far it can show that the research will have:

- elements of *originality* that make it different from what has already been done;
- *timeliness*, addressing current issues and being up-to-date;
- particular *relevance* for the evaluators, scratching where it itches and pushing the right buttons;
- *wider application*, linking the findings with more general practical or theoretical concerns;
- *precision*, avoiding any ambiguity or vagueness relating to definitions, data or planning.

Further reading

Fraenkel, J., Wallen, N. and Hyun, H. (2011) *How to Design and Evaluate Research in Education* (6th edn.). New York: McGraw-Hill (Chapter 24).

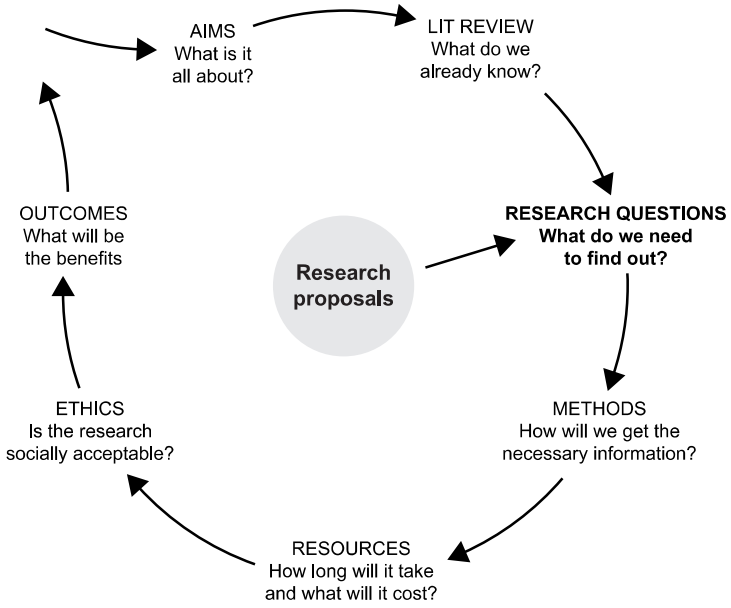
Leedy, P.D. and Ormrod, J.E. (2012) *Practical Research: Planning and Design International Edition* (10th edn.). Cambridge: Pearson (Chapters 1, 2).

Ogden, T.E. and Goldberg, I.A. (2002) *Research Proposals: A Guide to Success* (3rd edn.). San Diego, CA: Academic Press (Chapter 2).

6

RESEARCH QUESTIONS

What do we need to find out?



• The importance of good research questions • The format of research questions • Types of research question • The differences between aims, research problems, objectives, and research questions • Narrowing the focus: the process of formulating a research question • The need for an open-minded approach • An example • Summary of key points • Further reading

Research questions can take the form of questions, propositions or hypotheses. These alternatives might appear to be quite different from one another, and in some respects they are. But there are three things they have in common – things that are extremely important in the context of research proposals. First, they all pose questions that are *vital for addressing the key concerns of the research*. They pinpoint exactly what the researcher needs to find out if the research is to add anything valuable to our knowledge about the topic being covered. Research questions, so to speak, 'hit the nail on the head' by asking the most pertinent questions, the most revealing questions, the most incisive questions about the issues or problems that are driving the research.

Second, whichever form they take, research questions are fairly *precise and specific*. The questions they ask are not vague or abstract. Indeed, the idea behind research questions is that they move things from the realms of the abstract to the realms of the concrete. Research questions transform the debates and ideas that have been analysed in the course of the literature review – things that might well have involved abstract concepts and general theories – and put them into a format that can be investigated empirically.

Third, research questions give an explicit vision of the kind of *data that will be collected* in the empirical phase of the research. In this respect, they occupy a pivotal position in the research proposal. They provide a conclusion to the first part of the proposal where the researcher has established the overall aims of the project and discussed what is already known in relation to the topic. And they are the starting point for the second part of the proposal that deals with the empirical investigation and how it will be conducted. They operate as the bridge between 'what we already know' and 'what we are going to look at'.

Those who evaluate research proposals will be impressed by well-formulated research questions because they will not only appreciate the information that is contained in the research questions about the direction of the research, they will also recognize that well-formulated research questions are the product of clear thinking about the proposed research. Good research questions indicate that the researcher has a good grasp of the issues and has thought carefully about the best way to approach the research. These things will enhance the prospects of success for the proposal.

> Research questions pinpoint exactly what we need to find out.

The importance of good research questions

Why are research questions considered so important for the research proposal? Bryman (2007: 5–6) states:

> The research question is viewed as a crucial early step that provides a point of orientation for an investigation. It helps to link the researcher's literature review to the kinds of data that will be collected. As such, formulating a research question has an important role in many accounts of the research process as a stage that helps to militate against undisciplined data collection and analysis.

By formulating precise research questions it is possible to be more efficient in terms of the collection and analysis of data. It can save a lot of time because researchers can concentrate their efforts on things that matter. And the people who evaluate research proposals appreciate this point and will regard it as a good sign for the prospects of a successful project.

The other side of the coin is that the absence of clear research questions will be seen by readers as meaning that the ideas behind the proposed research have not been given sufficient thought or that the researcher is not really clear about how the aims of the research will be achieved. Obviously, this will not help the prospects of success. Those who evaluate the proposal will operate on the assumption that vague questions are likely to lead to vague answers – something that will undermine any idea that the proposed research could be worthwhile. They will see poorly formulated research questions as a recipe for research that will:

- waste time on meanderings up blind alleys;
- waste time on the collection of unnecessary information;
- flounder in a sea of vast quantities of issues and data;
- lead to poor quality research findings.

Top tip

Be clear in your mind about:

- what you want to investigate
- why you want to investigate it: and
- how you are going to investigate it.

(Lewis and Munn 2004: 1)

The format of research questions

What do they ask about?

Good research questions ask about things that are particularly *relevant* to the aims of the research – things that are likely to provide information that will

offer some new insight relating to the aims of the research. That much has already been said. But they also ask about things that are relatively *concrete*. They avoid asking about abstract or nebulous things and focus instead on things that have substance. In the case of quantitative research, this will tend to be something that is observable or measurable. It could include questions about a particular:

- event that will be observed;
- variable that will be measured;
- indicator that will be checked;
- behaviour that will be monitored.

In the case of qualitative research, it might be something that is not directly observable. Here, the focus of the questions might be on a particular:

- belief or motive that will be interpreted;
- experience that will be described;
- attitude or opinion that will be detected;
- lifestyle or culture that will be portrayed.

Top tip

Research questions should ask about specific 'things' rather than abstract ideas. The questions should be:

- specific rather than general
- precise rather than vague
- concrete rather than abstract.

Where are they placed?

Research questions need to be justified on the basis of a *research story*. This story takes the reader on a logical journey, which narrows the focus from broad aims, through research problems or objectives, to arrive at specific research questions that can clearly be seen as addressing the aims of the research. Usually, this story unfolds during the course of the literature review, and the conclusion to a literature review will often take the form of research questions to be investigated.

Sometimes, the research questions are placed in a separate, stand-alone section of the proposal. This normally follows the literature review. And occasionally the research questions are stated within the Methods section of the proposal. But whichever position they take, the content of the questions clearly depends on the preparatory groundwork undertaken during the

literature review that covers 'what we already know' and which points to 'what we need to know' in relation to the particular topic.

How are they introduced?

The introduction to the research questions should remind the reader of the way in which the list of questions has been derived from an enquiry into the available literature on the topic. For example:

> The research evidence to date suggests that (factor a) and (factor b) are important when it comes to (the topic). Bearing this in mind, this research will investigate the following research questions.

> A review of the literature indicates that there is uncertainty about the existence of (factor a) and that further information about (factor a) will be beneficial in terms of our understanding of (the topic). For this reason, the research will ask the following questions.

> Having considered the relevant and significant research and debates associated with the area, it will be valuable to conduct research into the following specific questions.

> Theories on (the topic) are divided and there is some lack of agreement about the role of (factor a) and the extent to which it is influenced by (factor b). In an effort to clarify this matter and contribute to the debate between (approach a) and (approach b), this research will investigate the following research propositions.

How many?

There are no hard and fast rules on this point. For qualitative research, it is possible that one well-constructed research question might be sufficient to specify exactly what is to be studied. Quantitative research, by contrast, can involve a list of hypotheses and alternative hypotheses that can be relatively lengthy. By way of some general guidance, however, it is quite normal for research proposals to have between three and seven research questions.

What do they look like?

Research questions can be presented as a series of bullet points or they can be listed as a sequence of statements. They are not normally embedded within a paragraph of text or merged in some other way within a larger body of text. So the first point to bear in mind about the look of research questions is that they are normally a clear, separate, and *visibly distinct component* of a research proposal.

The second point is that research questions need to work as *self-contained* items. For them to make sense, they should not make too many assumptions about what readers already know about the topic. Nor should they beg another question in response. The question 'Why is the bus system poorly managed?' is an example of a bad question in this respect. It is based on the assumption that the bus system is indeed poorly managed. Is this true? It begs the question, 'What *is* the quality of the management of the bus system?' A good research question avoids the need for any such supplementary question.

The third point is that research questions need to be *straightforward*. The questions should stick to one point and avoid combining what are really two or more separate issues within the one question – so-called 'compound' questions. Again, a poor example would be a research question along the lines, 'Why are some bus companies run efficiently and others not, and what recommendations can be made from looking at the management of profitable bus companies?' In terms of being a research question, it needs to be broken down into its component parts with each research question being both self-contained and straightforward. For example:

- What are the distinctive features of the management of bus companies that are profitable?
- In what ways, if any, do management practices in profitable bus companies differ from management practices in less successful companies?
- What elements, if any, of the management practices of profitable bus companies can be used to enhance the performance of less successful companies?

This might seem rather pedantic and long-winded compared with the original question but it is the kind of thing that is vital for the purposes of precision and clarity. It establishes distinct, stand-alone items to be investigated, dealt with one by one in order to address the overall aims of the research.

The fourth point is that research questions should be presented in a *sequential order* – logically building from one to the next. Start with the most general and move to subsidiary questions that derive from the initial one. The example above does this.

Fifth, research questions need to be framed in a way that is 'open' and that lends itself to more than one finding. They need to be genuine questions that open up the possibility of obtaining findings that run contrary to expectations. The questions should *avoid foregone conclusions*. In the example above, note the wording of the second and third questions and the way they keep things genuinely *open*. It is neither a foregone conclusion that there is any difference between profitable and less successful bus companies in terms of their management, nor is it assumed that, even if the research does reveal significant

differences, these elements of good practice can be simply transplanted into the less successful companies. The questions are open.

Types of research questions

It is possible to formulate research questions in more than one way. Broadly speaking, the three options from which to choose are questions, hypotheses, and propositions. These different options tend to be associated with different styles of research and different research paradigms but as White (2009: 36) points out, broadly they serve the same purpose.

Questions

To help with formulating research questions, the best advice is to start with the standard 'Ws' – what, when, where, who. You can also add 'do' to this list even though it does not fit so neatly in an alphabetical sense! These are good for producing questions that help descriptive or exploratory research where the focus is on finding out what the situation actually is – getting to the facts of the matter. To illustrate the point, imagine a piece of research that is interested in the efficiency of public transport and, in particular, the phenomenon of clustering of buses along urban routes. (You wait for ages and then two or three buses come along together.) Initially, the research would need some evidence on which to base its conclusions. The research questions in this instance will be geared towards finding out what this situation actually is and describing things 'as they are' currently. Here, suitable research questions might take the following form:

- *What* is the frequency and extent of bunching on the bus routes?
- *When* does the bunching occur most severely during the day?
- *Where* does the bunching occur along the urban routes?
- *Who* are most affected in terms of the kinds of people using the bus route?
- *Do* bus companies currently take action to avoid bunching of buses along their routes?

Other questions lend themselves better to finding out about the causes of things and explaining why situations exist: 'why' and 'how' are valuable in this context. 'Explanatory' research questions about the bunching of buses, for example, might include:

- *Why* does the bunching of buses on urban routes occur?
- *How* can the bunching of buses be avoided?

Top tip

Keep research questions straightforward – one thing at a time.

Hypotheses

Hypotheses are the classic, scientific way of formulating a research question. In essence, hypotheses propose a *relationship* between two or more *variables*. They do so on the basis of *previous theories* and findings on the topic. And they do so in a way that is *testable*.

There are, then, four components to hypotheses, each of which deserves a little more attention. First, there is the matter of the *variables*. Hypotheses state very precisely what is going to be observed or measured. This means that for a research question to take the form of a genuine hypothesis, the subject matter to be investigated has to be of a kind that allows specific variables to be identified. Not all topics are suitable. Hypotheses are more commonly linked with the use of quantitative data and statistical analysis. However, this does not mean that they cannot be used in conjunction with qualitative research (Mason 2002; Creswell 2009). White (2009: 57) makes the point that although 'hypotheses have traditionally been linked to theory testing . . . any prediction about research findings is "hypothetical". They can be useful in many different types of study and are not just restricted to "quantitative" research or statistical analysis.'

> A variable is any characteristic, quality or attribute which can vary (i.e. which can take on different values), and which can be used to distinguish between the people, the objects, or the items that are being studied.
>
> A variable may be either quantitative or qualitative. A quantitative variable refers to a characteristic which can be measured, scored, or placed in order of magnitude (rank order), while a qualitative variable cannot be measured or expressed numerically, only classified or labelled.
>
> (Clark 1987: 30)

Second, hypotheses predict a relationship between particular variables. It is important on this point for the hypothesis to be clear about the nature of the relationship that is being predicted. So, for example, if the variables being studied were 'bunching of buses' and 'traffic congestion', the hypothesis should be clear about whether the link will be:

- *non-directional* (bunching of buses is linked to traffic congestion) or *directional* (the extent of bunching of buses increases when the level of traffic congestion increases);

- *causal* (the bunching of buses is caused by traffic congestion) or *correlational* (the extent of bunching of buses varies in accord with the level of traffic congestion).

Third, hypotheses are based on previous theories and are logically derived from previous knowledge in the field in a very transparent manner. As Clark (1987: 30) stresses, 'An hypothesis is not merely based on guesswork, but is a tentative, carefully thought out, logical statement of a predicted outcome. It is supported by a rationale and must be consistent with existing theory.'

Fourth, hypotheses set out to test whether some relationship exists. They predict a relationship between variables in a way that can be *empirically* supported or refuted. Research hypotheses 'both indicate the question in testable form and predict the nature of the answer' (Locke et al. 2000: 14).

Following from these points, hypotheses can take the form:

> If . . . (this is true as current theories suggest)
>
> then . . . (we might expect to find the following to happen/exist)
>
> when . . . (other factors are controlled for and certain conditions apply).

The hypothesis takes as its starting point some existing state of affairs from which it is logically possible to deduce some further expected finding, and the research sets out to compare the 'logically expected' with what is 'actually found'. So, for example, if a research project was interested in the launch of a new product (product A), the following hypothesis might be developed:

> If . . . (i) consumers are motivated by self-interest, and (ii) product A offers better value for money than product B,
>
> (*two theoretical premises*)
>
> then . . . we can predict that consumers will switch from buying product B to buying product A
>
> (*expected outcome*)
>
> when . . . product A is introduced to the market and consumers have equal opportunity to purchase either brand.
>
> (*under given conditions, 'all other things being equal'*)

Such a statement has the virtue of being succinct and of indicating exactly what the research needs to accomplish. The research will measure the extent

to which traditional purchasers of product B shift to buying product A to test whether this holds true. If it does, the findings will support the hypothesis.

Top tip

Never say that your findings will *prove* a hypothesis is correct. Results from research do not prove or disprove a hypothesis; they test the hypothesis and provide evidence that *supports* or *does not support* the hypothesis. It is important not to jump to conclusions on the basis of the findings, and the wording used to express what can and cannot be concluded from the findings is important. There is a vast philosophy of science behind the point but the basic thing to remember is that you must avoid making unwarranted claims on the basis of your findings.

Propositions

Research questions can be stated as propositions. These are declarative statements that propose things that can be checked to determine whether they hold true or not. As such, they work along the same lines as hypotheses in the sense that they formulate the research question in a way that involves a positive statement about something that the research might expect to find. Propositions, however, do not necessarily need to meet all the conditions that apply to hypotheses. They are still quite explicit about what will be focused upon during the research but they can be a bit looser than hypotheses when it comes to the way they stem from previous research, how variables will be 'measured', and how relationships will be 'tested'.

For these reasons, propositions are a useful format for research questions when researchers are investigating fairly uncharted territory and where the research evidence to date does not provide a well-established set of theories on which to base a hypothesis. A proposition can be based on more of a hunch or a bit of inspiration rather than firmly established knowledge about the topic. Continuing with the 'bunching of buses' example above, research propositions might take the form:

- Reducing traffic congestion will ease the problem of buses bunching together along urban routes.
- Styles of management influence the profitability of bus companies.

Both of these statements are testable but do not contain the specific predictions associated with a hypothesis.

The differences between aims, research problems, objectives, and research questions

The term 'research question' is occasionally used rather loosely as an umbrella term that covers a range of things concerned with the subject matter of the investigation. Aims, objectives, and research problems are all treated as falling under the broad heading of 'research questions'. However, strictly speaking, the term *research questions* should be used in a more specific way that separates its role in research proposals from that of the *aims* and the *research problems* or *objectives*.

The *aims* of the research are concerned with the direction in which the research will *go* – its targets and the benefits involved. They also indicate the scale and scope of the proposed investigation.

Link up with **Chapter 4: Aims of the Research**

The terms *research problem* and *objectives* both refer to the next level down in the processing of funnelling ideas towards research questions – a level at which the concern is primarily with what the research is trying to *do*. There is a shift in emphasis from the abstract to the concrete and an effort to translate the aims into the kind of things that have substance and which take the form of problems to be resolved, issues to be clarified, etc. This brings them in touch with research questions and, indeed, when research problems are sub-divided, 'Oftentimes, a one-to-one correspondence exists between the sub-problems and their corresponding hypotheses or questions' (Leedy and Ormrod 2004: 60).

The *research questions* show how the research will put things into practice. They specify what factors and what relationships will be investigated to provide data that will be useful in relation to the research aims and objectives. Importantly on this point, research questions should not be confused with 'data collection questions' – the kind of questions that might be asked during an interview or appear on a questionnaire. It is important to keep the distinction clear, as Gorard (2003) and White (2009) have both emphasized.

Top tip

Avoid reiterating the aims when writing the research questions. The research questions should identify specific and relevant things that will be looked at rather than broad ambitions to be aimed for.

Narrowing the focus: the process of formulating a research question

Research questions are the end-product of a process that progressively narrows the proposal's focus of interest. The process starts from the broad aims of the investigation. It then narrows down the focus to particular objectives or research problems. Finally, from these problems or objectives, research questions are formulated which pinpoint the exact things that will be investigated (see Figure 6.1).

The narrowing process

In practice, the formulation of research questions is not a one-way journey that neatly travels the logical pathway from beginning to end. There are two reasons for this. First, many people start from a position where they already have a hunch or a shrewd idea of the things they need to look at and the nature of the research problem they wish to address. Their starting point is a fair way through the 'logical' process and they are not setting out on the process with a blank sheet. Second, in reality the formulation of research questions tends to be an *iterative process* in which the eventual aims and research questions are the end-product of going back and forth, visiting and revisiting relevant ideas and issues (see Figure 6.2). The aims and the research questions are adjusted and synchronized in a sequence of modifications that take place during a protracted process of developing and refining the focus of the proposed research. It is a lot more complicated than simply starting with the aims and smoothly progressing towards the questions in a one-way, one-off fashion.

FIGURE 6.1 Narrowing the focus of research

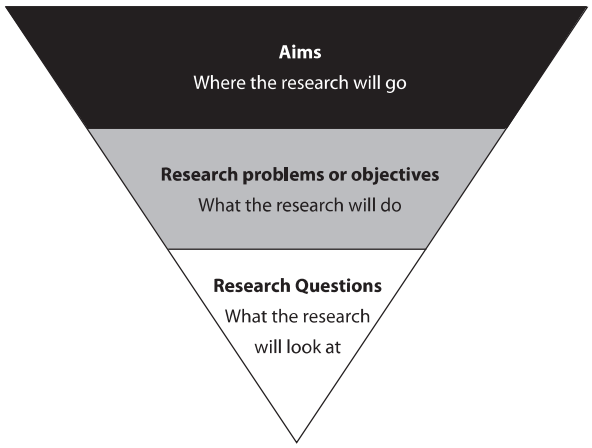
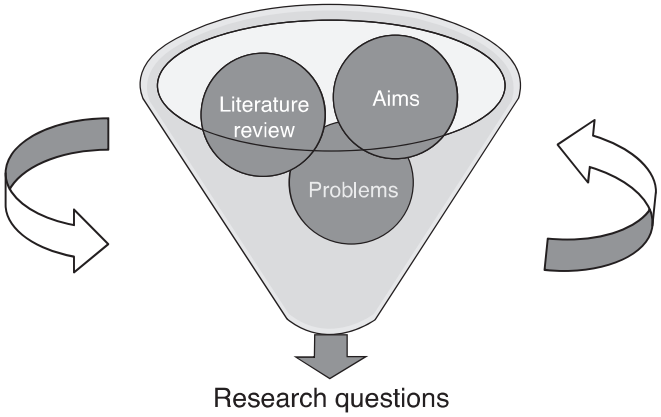


FIGURE 6.2 The iterative process of formulating research questions



Link up with **An iterative process**, p. 65

Neither of these points poses a major problem. It really does not matter what the starting point is, or how messy the journey towards the final research questions turns out to be, provided that two conditions are met. First, within the eventual research proposal the rationale for the questions, propositions or hypotheses must be *presented as a narrative* that is quite neat, logical, and easy to follow from the readers' point of view.

Second, the research questions that are eventually presented in the research proposal must have an obvious relevance to the aims of the research. This relevance should be made clear to the readers through the arguments developed in the Background and/or Literature Review sections of the proposal. As Figure 6.3 illustrates, the proposal needs to present a vision of the research as one that stems from a broad area of interest but which then focuses on increasingly specific things, arriving at the research questions which pinpoint the exact indicators that will be looked at.

Top tip

Research questions are not the same as aims. When writing research questions, avoid simply reiterating the aims. Commit yourself to the investigation of specific, relevant factors that will provide useful information.

FIGURE 6.3 Developing research questions – narrowing the focus

		Example	*Comment*
AREA	Narrowing focus	Employment and work motivation	General area of interest (e.g. a sub-area of a discipline, or a work-related concern)
TOPIC		Absence from work	Specific topic of concern from within the general area
LITERATURE REVIEW		Absence rates are related to pay and job satisfaction as well as other factors, such as job security, work conditions, health and safety at work, worker morale, career and promotions	What is already known about the topic? Background research to identify the key issues and existing knowledge about the topic
RESEARCH AIMS		To investigate how rates of absenteeism are linked with levels of pay and levels of job satisfaction To gauge how far rates of absenteeism can be reduced through changes to the pay structure and changes to levels of job satisfaction To explore the link between these factors in the context of lower-paid workers	These are statements about the general purpose of the research. They are relatively non-specific, abstract indications of where the research is going – its ambitions, its targets, its *goals* It is 'all about' absenteeism, pay and job satisfaction
RESEARCH OBJECTIVES		To apply existing knowledge about the relationship between rates of absenteeism and levels of pay and job satisfaction to the specific situation of low-paid workers in the UK retail sector with a view to finding appropriate means for reducing absenteeism To focus on employees in three case study companies as a good example from which to draw more general conclusions	Here is a statement about what the research will *do* It will use existing knowledge, *apply* it to a particular context, and *develop* new knowledge that can have a practical value
RESEARCH QUESTIONS		Is there a statistical correlation between levels of pay and absenteeism among employees working for the three case study retailers? What is the profile of employees working in the shops (age, sex, etc.)? Do certain kinds of worker have higher absenteeism rates than others? Are certain kinds of employees more frustrated by their work role than others, and is this correlated with a tendency to take days off work? What reasons do employees give for being absent from work? What aspirations do the shop workers have in terms of intrinsic rewards from the job and career progression? To what extent is job satisfaction related to levels of pay?	These are the questions that the research will actually *ask* to find out what it wants to know They focus on specific *key indicators* and *relevant factors* on which information is needed

The need for an open-minded approach

The point has been made above that research questions need to be phrased in such a way that the findings can either support or challenge any expectations the researchers might initially hold. Whether constructed as questions, hypotheses or propositions, they need to be phrased in a way that offers a genuine chance of finding the unexpected. They should never pre-empt findings or suggest in any way that the findings are a foregone conclusion. Even when hypotheses and propositions posit a relationship that might be expected to exist, they do so in the spirit of an open-minded approach whose purpose is to check whether a particular finding occurs rather than presume it will exist.

This is more than just a matter of wording. It is an important aspect of research thinking that research is conducted to check and test our expectations rather than to confirm what we already know. Researchers need to approach things with a genuine spirit of discovery and exploration in which they recognize that what they thought was true might not necessarily be borne out by the findings of their research. Researchers have to be open to the possibility of being wrong, of finding the unexpected, of discovering something new – and the wording of the research questions should reflect this.

Qualitative research and grounded theory approaches

There are types of qualitative research that have a particular concern about open-mindedness. *Exploratory research*, which sets out to describe things (e.g. types of ethnography and types of phenomenology) or to discover things (e.g. grounded theory) can sometimes take the position that researchers should start with a completely open mind about what will be found by the investigation and that researchers should not have their open minds tainted by prior expectations derived from reading previous work on the topic. The worry is that if researchers use existing theories as the basis for producing research questions, this will create a mental straitjacket that will constrain their thinking and cloud their minds. It will stop them from 'seeing' things afresh and seeing things 'as they really are'.

In the context of writing successful research proposals, there are two points that are worth making about this approach. The first is that it is a fairly radical position to take and it is also controversial. This does not make it 'wrong' – and this is not the context to engage in a discussion of the epistemological merits of such a stance on research – but it does mean that it is not a stance that is likely to be shared by the vast majority of those evaluating research proposals. Right or wrong, the practical reality is that the chances of a research proposal being approved are very slim if it says: 'I will approach the study with a completely open mind and will therefore not read previous work on the topic and will not have specific research questions before I begin

the research.' The second point is that exploratory qualitative research can generally manage to get a suitable balance between the need to 'see things afresh' and the need to start research with some form of research questions in mind. Indeed, there is a definite need for qualitative research to do so. As Marshall and Rossman (1999: 38) state:

> The proposal should be sufficiently clear both in research questions and design so that the reader can evaluate its do-ability; on the other hand, the proposal should reserve the flexibility that is the hallmark of qualitative methods. This suggests that the research questions should be general enough to permit exploration but focussed enough to delimit the study. Not an easy task.

To accomplish this balancing act, the proposal is more likely to formulate its research questions in the form of statements than hypotheses or propositions, and the statements themselves are likely to be relatively general. As Creswell recommends, they should take the form of a central question followed by associated sub-questions that narrow the focus of the research and which, keeping within the spirit of emergent research designs, should start with appropriate verbs. Cresswell (2003: 106) suggests the following possibilities:

- Discover . . . (e.g. grounded theory)
- Seek to understand . . . (e.g. ethnography)
- Explore a process . . . (e.g. case study)
- Describe the experiences . . . (e.g. phenomenology)
- Report the stories . . . (e.g. narrative research).

An example: research on the distribution of bakery products

In the example below, imagine that the researcher wishes to investigate transportation issues, specifically those relating to the delivery of bakery products. The researcher is approaching the topic in a way that draws on two 'disciplines': management practice and transport logistics. These two strands will provide the starting points for reviewing the literature and for getting a feel for the theories and practical concerns that are important for getting a good understanding of the topic. A review of the literature might well reveal that two factors are particularly important: the costs of transport and the punctuality of deliveries. The nature of bakery products with relatively small profit margins and a particularly short shelf life makes these two factors

important for the commercial survival of bakery companies. The researcher has limited time and resources to conduct the research and, in light of this, opts to conduct a case study of a company where the researcher already has personal contacts – Broadbread Ltd. In the proposal produced by the researcher, the research questions could be presented as questions, hypotheses or propositions depending on the kind of research that is to be carried out and the kind of research tradition from which the researcher comes. Some indication of what these might look like is provided in Table 6.1. But whatever approach is taken, note how:

- the research questions *link to the aims* and the objectives, and
- the research questions involve specific *factors that are to be 'looked at'* in order to meet the aims of the research.

Table 6.1 Research questions – an example

Topic	*The distribution of bakery products*	*Comments*
Aims	To evaluate transport logistics in relation to the delivery of bakery products To identify elements of 'good practice' that can be applied at an industry-wide level To make recommendations for reducing the costs of delivering bakery products and improving the punctuality of deliveries to local stores	*This indicates* what *the research will be about and* why *it should be worthwhile* *The aims explain where the research is going and what its targets are*
Objectives	*To do this, the research will*: Describe and analyse existing delivery practices at Broadbread Ltd. Compare practices at Broadbread Ltd. with best practice in the transport industry Examine the key cost components influencing vehicle purchasing in the company Identify the main causes of delays in the delivery schedule	*This identifies what the particular areas of investigation will be* *The objectives point to what the research will actually do*
Research questions . . .		
as Questions	1. What are the main factors disrupting the punctual delivery of the bakery products? 2. How frequently do delays occur in the delivery of bakery products to local stores in East Anglia? 3. What measures are taken at Broadbread Ltd. to deal with the occurrence of delays? 4. What proportion of Broadbread's annual budget is spent on the purchase of new delivery vehicles? 5. Are there particular features of Broadbread's transport management that can be held responsible for delays in deliveries?	*The questions focus on key factors that need to be investigated* *They do not rely entirely on existing theories and allow for exploration of new factors*

Topic	*The distribution of bakery products*	*Comments*
as Hypotheses	1. If management fails to take advantage of transport logistics software and if costs/delays continue at current rates, then Broadbread Ltd. will lose 12% of its market share within the next two years 2. If industry best practice with respect to transport management is implemented at Broadbread Ltd., then this will lead to a 10% improvement in the punctuality of deliveries to local stores 3. If leasing agreements replace current purchasing and maintenance arrangements at Broadbread Ltd., then overall transports costs will be reduced by 15%, all other things being equal	*Hypotheses involve specific predictions about the result of introducing new factors They rely on detailed knowledge and are based heavily on well-established theories*
as Propositions	1. Management practices at Broadbread Ltd. do not accord with current best practice in the industry 2. Cost savings can be made through changes to company policy relating to vehicle purchasing 3. The punctuality of deliveries can be improved by the use of transport logistics software to reduce the impact of predictable and avoidable delays	*Propositions assert a fact which the research can proceed to investigate to see if it is supported by the evidence The predictions are less specific than those associated with hypotheses*

Summary of key points

Well-formulated research questions improve the prospects of the proposal being successful. They are likely to impress those who evaluate the proposal because they reflect a good degree of precision in the researcher's thinking and planning about the research. Equally, the absence of crisp, precise research questions will jeopardize the research proposal's chances of success because evaluators will regard it as evidence of fuzzy thinking or poor preparation for the project.

Research questions can take the form of questions, propositions or hypotheses, depending on the style of research that is being used. Whatever their form, they should tell the reader of the proposal what the research is going to *look at*. The things that will be 'looked at' need to fit two criteria. They need to be:

- *relevant*: the literature review should have been used to identify what factors can be used as relevant in relation to the aims of the research;
- *specific*: in the case of quantitative data, this is something that is observable or measurable; in the case of qualitative research, it is something that can be described or interpreted.

Whatever form they take, research questions should be clear and concise. Good research questions:

- are *apparent* as a distinct feature within the research proposal;
- are *self-contained*: they do not combine questions or include questions that beg other questions, nor do they make unwarranted presumptions;
- are *straightforward*: each question/proposition/hypothesis deals with a distinct issue or idea – one sentence, one issue;
- *avoid foregone conclusions*: they should be 'open' and not presume an outcome;
- are presented in a *logical sequence*.

Within research proposals, research questions are normally presented as the end-product of a 'funnelling' process in which there is a narrowing of focus from aims through to objectives and finally to research questions.

Further reading

Andrews, R. (2003) *Research Questions*. London: Continuum (Chapters 2, 3, and 6).
Campbell, J.P., Daft, R.L. and Hulin, C.L. (1982) *What to Study: Generating and Developing Research Questions*. Beverly Hills, CA: Sage.
Creswell, J.W. (2009) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (3rd edn.). Thousand Oaks, CA: Sage (Chapter 7).
Fraenkel, J., Wallen, N. and Hyun, H. (2011) *How to Design and Evaluate Research in Education* (6th edn.). New York: McGraw-Hill (Chapters 2 and 3).
Kumar, R. (2010) *Research Methodology: A Step-by-Step Guide for Beginners* (3rd edn.). London: Sage (Chapters 4, 5, 6, and 13).
White, P. (2009) *Developing Research Questions: A Guide for Social Scientists*. Basingstoke: Palgrave Macmillan (Chapters 2–4).