

The Essence of Research Methodology

A Concise Guide for Master and PhD Students in Management Science

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Chapter 2

The Essence of Methodology

Abstract This chapter explores the notion of ‘research methodology’. The essence of methodology is structuring one’s actions according to the nature of the question at hand and the desired answer one wishes to generate. Exploration is illustrated by means of a ‘Box of Bricks’ elaborated for closed and open questions. This exploration is structured with the help of the ‘Research Pyramid’ which consists of four levels: research paradigms, research methodology, research method(s) and research techniques. This Pyramid provides the structure for a concise introduction to ‘quantitative’ and ‘qualitative’ research. The chapter concludes with some remarks on research design. Like the introduction, this chapter should be regarded as a mandatory chapter for anyone engaged in setting up a research project.

2.1 Introduction

Almost every student associates ‘methodology’ with drawing up a research plan. In educational practice, this is often limited to writing a questionnaire, collecting a limited set of data and, then, learning to apply some rudimentary statistics. This idea is obviously naïve and incorrect. However, it may possibly be a correct expression of the (implicit) perspective of what research is for the average group of students. This perspective is further strengthened by the terminological confusion about the word methodology and its underlying connotations. Terms such as ‘methodology’ and ‘method’ are often used arbitrarily. This can lead to a sort of methodological potpourri. Subsequently, one seldom hears questions asking, for instance, what a certain methodology has to do with a certain type of research, what the nature of the question is and what (core) theoretical perspectives are used to explore and conceptualise the issue at hand. As a result, the importance of defining the nature and possible contribution of a specific kind of research is often ignored. It is not surprising that in many studies – directed either at regular students, teachers or doctoral students – methodology forms a difficult, and preferably avoided, subject of conversation. That is a pity, to say the least. In academic life in general

or at least in carrying out a decent piece of research, proper and transparent choices are the key to success.

In this book, methodology is regarded as a kind of ‘action reading’ or more precisely as, an ‘action repertoire’.¹ Action reading means: preparing a type of repertoire, based on a set of premises, (theoretical) considerations and practical conditions, according to which the researcher structures the logic of his research given the question he wants to answer. An implicit yet important assumption here is that the researcher should be able to justify the reasons for this choice of a specific (research) approach and make sensible choices based on the different requirements of a particular question. There are *methodologies* that steer action for all kinds of activities (both mentally and literally) inside as well as outside organisations (see also Chap. 6); so a methodology is not only about doing research, it is about *acting*. Action reading that centres on doing research helps the researcher to systematically elaborate his approach using an ‘open’ or ‘closed’ question (see Chap. 1). This ‘(re)search behaviour’ is guided by self-evident ‘facts’, notions, beliefs and premises the researcher (implicitly and explicitly) uses to ‘frame’ how he can come to know the world. Simultaneously, a connection needs to be made to the specific ‘world’ – or context – in which the problem or question occurs. Obviously, the central question is ‘how’ the researcher will shape that behaviour. What choices does he have? In which way do these choices play a role in his search behaviour? Where and when are his choices expressed? To make this connection and provide guidance we developed the ‘Box of Bricks of Research’ which is introduced below (see Fig. 2.1).

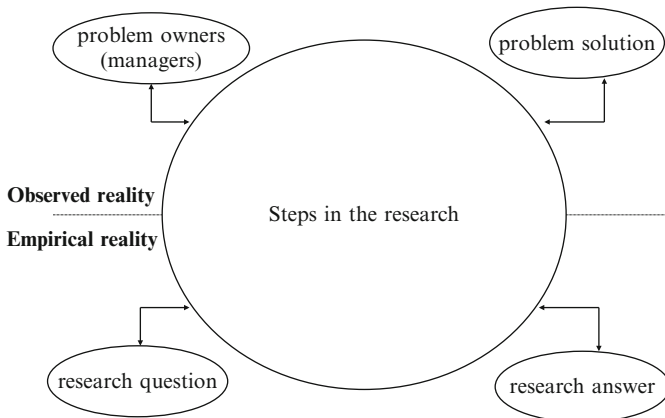


Fig. 2.1 The box of bricks of research

¹We have chosen the words ‘action reading and -repertoire’ given the fact that the English language does not have an equivalent for the Dutch (or related German) ‘handelingsleer’ which, literally translated, means ‘doctrine for acting’.

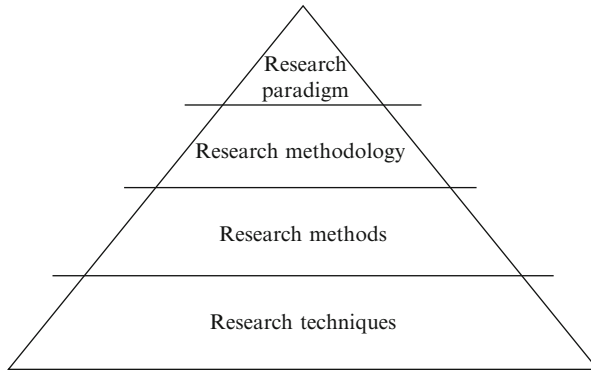


Fig. 2.2 The research pyramid

Direction on how to define appropriate (re-)search behaviour is furthermore supported by means of the ‘Research Pyramid’ (see Fig. 2.2). This pyramid is composed of four ‘action’ levels: paradigms, methodology, methods and techniques. On each of these four levels choices need to be made. One can consider this pyramid as a (logical) chain of interconnected events ranging from rather abstract (on the paradigm level) to very concrete (on the technique level). Moving from top to bottom through this pyramid leads to an elaboration of the research question based on clear-cut arguments leading to specific choices. Making choices on these four levels is steered by both the nature of the question and the researcher’s ‘basic approach’. This ‘basic approach’ can be typified by the distinction between ‘knowing through the researcher’s eyes’ or ‘knowing through somebody else’s eyes’. The result when done well is a dedicated customised methodology for the research project. A fundamental premise here is that the researcher is in a position to manage his research process and can be held responsible for the choices made.² Given the fact that there is an infinite range of possible choices, it is in the end the researcher’s method or reasoning that leads to a transparent and justifiable research design and the subsequent action.

2.2 Search Behaviour: From Problem to Answer

When the researcher starts his research his starting point can be described using the ‘Box of Bricks’. There is a problem (think back to all the previous remarks on the nature of the problem and the process of problematising in Chap. 1). That problem

²For us methodology remains an exciting kind of ‘Alice in Wonderland’ experience. The sheer act of considering and making choices, understanding the underlying structure of the reasoning process: that is maybe what ‘pure’ methodology is all about. One rather important condition in all of this is that there is room to make these choices. Otherwise you can’t be held responsible for the result. We will touch upon this issue again in Chap. 6.

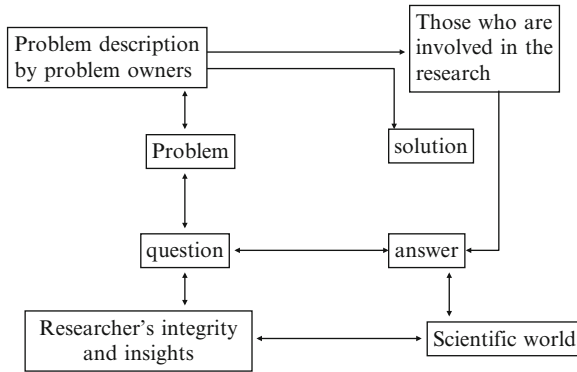


Fig. 2.3 From problem to answer

results in a (research) question demanding an answer. The answer is generated on the basis of research; on the basis of the researcher's deliberate search behaviour. This answer in turn creates the basis for the solution to a problem, although this will not always be the case. One might very well see this as a four-part 'problem-question-answer-solution' puzzle.³ The line of reasoning is visualised in the Fig. 2.3.

This four-part 'problem-question-answer-solution' puzzle is complicated by its 'double context.'⁴ Firstly, there are the problem owners who have certain ideas about the problem (see Chap. 1). Secondly, there are other parties (inside and outside the organisation) who are connected to the problem in various ways and have their own opinions (do not forget: make a stakeholder analysis if necessary and establish how important they are in terms of influence!). Finally, there is the researcher with his personal interpretation of the problem; an interpretation that changes over time. Yet in the end, it is the researcher who needs to provide a solid answer which meets both the demands of the research world, and is also relevant to the world in which the problem occurs.

The difficulty here is that to the problem owners the possible problem solution is not necessarily the answer to the question that is troubling the researcher.⁵ Problem and question sometimes have their home in two different worlds, hence the double

³This diagram is our adopted version of what is generally known in the literature as the 'empirical cycle'. In Chaps 4 and 5 this cycle will be used in an inductive and deductive manner.

⁴This 'double-context' touches upon the problem of hermeneutics, the "art, skill or theory of interpretation, of understanding the significance of human actions, utterances, products and institutions, ... concerned with the theory and method of the interpretation of human action ... from the perspective of the social actor."

⁵Full-frontal we touch upon the manipulability of a problem. Problems can be used by people in organisations to generate additional means of exercising power – solving them is about the last thing they would like to do. Looking at this from a certain distance shows that problems have all kind of dimensions and are not necessarily always perceived from the analytical stance taken here. We cannot provide a 'solution' to this phenomenon, but at least warn you about it.

context. This double context consists of ‘perceived reality’ (by the problem owners as well as by the researcher) and ‘empirical reality’; what the researcher ‘sees’ during the research that he is conducting. The researcher needs to navigate between those two worlds, or contexts. This implies delicate navigating between different demands and criteria, which continuously force him to make choices without knowing what the ultimate consequences are and if these choices are, thus, appropriate. It forces him into constant reflection on which steps to take in his research, steps that take into account how he looks at these ‘worlds’, how he deals with intermediate findings, how he chooses solutions. Making these choices is what structures his research. It is certainly not an easy task!

2.3 The Research Pyramid

It should be clear by now that once the researcher has identified the question at the start of a new project, he is confronted with a number of options he needs to choose from. If the choices are made properly, the research will be sound. However, the problem here is that often a researcher is not really aware of these choices, how they correspond and the fact that he needs to make many of these choices in advance in order to end up with a proper design. In order to help structure this often-difficult decision-making process the Research Pyramid has been introduced here.

The pyramid is composed of four levels. These are:

- The research paradigm: how the researcher views ‘reality’. A paradigm is expressed in his ‘basic approach’
- The research methodologies: ‘a way’ to conduct the research that is tailored to the research paradigm
- The research methods: specific steps of action that need to be executed in a certain (stringent) order
- The research techniques: practical ‘instruments’ or ‘tools’ for generating, collecting and analysing data

The key function of the pyramid is to help the researcher learn to consciously structure his approach to the research. The research will need to be designed in such a way that the researcher is able to justify his research. The assumption here is that the researcher will have to make his actions transparent. In order to be able to do so the researcher needs to reflect on his approach and plans, and try to find out what he feels to be ‘good’ research.⁶ Obviously, the question is then whether his implicit perspective on doing good research actually relates to the question he has to

⁶The notion ‘good’ refers to criteria that can be applied from the different ‘worlds’ as introduced earlier. What is considered to be ‘good’ in the academic context is not necessarily so in the context of the organisation – and vice versa. Naturally reference is made here to validity, reliability, accessibility and so forth. See Chaps. 6 and 8 for further elaboration.

research. So, a first and important step in setting up a research is to reflect on one's basic research attitude and follow it up with corresponding (re)search behaviour. Once this is more or less clear, it is important to complete preparation by making deliberate choices regarding the methodology, methods and follow-up techniques. It goes without saying that this is often a difficult process. In the remainder of this chapter deals in detail with the different choices offered by the Research Pyramid and its four levels.

2.4 Basic Attitude Matching 'Search Behaviour'

The (implicit) way a researcher approaches reality and his research can be referred to as his *basic approach*. Premises and presuppositions regarding how reality can be known characterise this basic attitude. This implies that reality can be known in different ways, from different perspectives and with different purposes.⁷ Usually, a basic attitude is called a paradigm. Gummesson (1999) describes it as: '... the underpinning values and rules that govern the thinking and behaviour of researchers'. Or it can be defined as: "... a term, which is intended to emphasize the commonality of perspective, which binds the work of a group of theorists together in such a way that they can be usefully regarded as approaching social theory within the bounds of the same problem" (Burrell and Morgan 1979, p. 23). Basically, a paradigm can be seen as a coherent whole of assumptions, premises and self-evident facts as shared by a certain group of professionals (consultants, researchers, teachers, managers, etc.) with regard to a specific (a) *domain of reality*, either (b) *a certain object or subject of research*, or (c) *the way in which research can be conducted*. As it is clear from this description, different kinds of paradigms can be discerned for different groups of people either in academia or in organisations. Paradigms can, thus, be considered very useful mental tools, frames of references that help people within a particular group communicate and understand each other. In any domain people pose paradigms in order to guide their acts and behaviour. Just think of nurses, doctors, accountants, consultants or yes, managers. Here a distinction will be made between *theoretical paradigms* and *methodological paradigms*.

A *theoretical paradigm* concerns the prevailing thought(s) about a certain research subject or object. In this case, the term *theory* already refers to certain existing insights and perceptions that consist of (validated) notions and terms and the way they are interconnected. 'A theory is an idea or set of ideas that is intended to explain something. It is based on evidence and careful reasoning but it cannot be completely proved.' Collins Cobuild (1987, p. 1515). Theory helps to observe and

⁷The question about how we know what we know or what we assume to be knowledge is covered by epistemology.

interpret reality and offers, whether justifiable or not, frames of explanation (or an initial impetus) for phenomena in that reality. Or in the words of Cooper and Schindler (2008), p. 51): A theory is ‘. . . a set of systematically integrated concepts, definitions, and propositions that are advanced to explain or predict phenomena (facts); the generalizations we make about variables and the relationships among variables.’ Research cannot be done without theory!⁸ Our interpretation of reality and the phenomena under study always appear because we bring a kind of theory to that (empirical) reality. Any observed phenomenon is, thus, ‘loaded’ theory.

A *methodological paradigm* is specifically about research behaviour and can, therefore, provide indications about the way in which research should be conducted. A specific research methodology directs the behaviour of the researcher, but – conversely – the researcher may have a certain affinity with a specific form of research (no matter how unintentionally). Therefore, the (implicit or explicit) choice of a specific research paradigm is directed by the nature of the question respectively the phenomena to be examined, their context and the affinity of the researcher. This affinity, which we call basic attitude, is quite determining in setting up a research.

2.4.1 Basic Approach

Anyone who examines a problem will not start from scratch but with some kind of pattern, some assumptions and ideas in mind. The researcher will make an attempt to isolate phenomena which need to be examined in reality (e.g., “I’m conducting research on the value chain of this company.”), either using an existing theory or theoretical notions (cautious initiatives). In this way, he aims to obtain insight into the way the phenomenon is functioning or dis-functioning. Each researcher, therefore, has knowledge (no matter how implicitly) about how reality is to be perceived in advance. This could be called a-priori knowledge. What is more important is that this knowledge also contains a number of criteria of what is ‘good’ and what is not. These are not methodological criteria but theoretical criteria regarding the phenomenon under research.⁹ Here the focus is on the researcher’s opinions (often unintentional) about the way the research should be conducted. These opinions are called *basic approach*. We distinguish between approach A and B.

⁸Just let this observation sink in for a moment. If reality cannot be observed without theory then any act, any observation even any reflection is drenched in theory; it cannot be made or pronounced without that theory. This is the ultimate consequence of the double hermeneutics we talked about earlier.

⁹So two sets of criteria are involved here: (a) one regarding the way the phenomenon under review can be judged (a priori) on the basis of available (theoretical) knowledge and (b) criteria regarding the way the research should be approached given the research question.

2.4.1.1 Knowing Through the Eyes of the Researcher

The essence of basic approach A is that the researcher can create an image of the (empirical) reality that needs to be examined in advance, behind his desk on the basis of existing knowledge, etc. Subsequently, this image will be given clear shape by means of a conceptual model that structures the remaining research activities (see Chap. 3). The researcher explores or tests through his research the extent to which the ideas that he has created about reality *beforehand* are correct; whether they are true or false. A core aspect of this approach is that a specific phenomenon in reality can be known a-priori on the basis of (already available) knowledge. This body of knowledge can be found in e.g., publications.¹⁰

2.4.1.2 Knowing Through the Eyes of Someone Else

The essence of basic approach B is that the researcher knows that he needs certain (sometimes vague) theoretical notions about a specific reality. Yet, it is the people in the perceived reality (the company) who hold the key to profound knowledge of that reality. He must therefore try – methodologically – to observe reality through the eyes of someone else. The researcher is able to discover that these two basic approaches – only methodologically typified here – point to concepts (and paradigms)¹¹ used for defining how we know reality.¹² In the context of this text it is how a researcher knows that he has discovered something about reality by means of his research. It would extend far beyond the scope and aim of this book to reflect upon the actual debate in this field of ‘knowing’ and ‘knowledge’ about reality, although interesting in itself. Still it would not make much sense to even try giving a short outline of this field here. The theory of knowledge is indisputably multifaceted. It suffices to provide a popular classification of the two central notions behind these basic approaches. Here this is indicated by the denominators positivism and constructivism.

¹⁰Just one little remark here. Using material from others is of course – when you start thinking about it – also a way of observing or coming to understand the world through the eyes of someone else. So the introduced distinction is less sharp than it might appear at first sight. Yet, for the sake of clarity we stick to these two basic attitudes.

¹¹Please observe the confusing use of the notions of ‘concept’ and ‘paradigm’ here. Although we will elaborate on ‘concepts’ in the next chapter it is worth spending some time considering how these two are related. Do we first need a paradigm to construct a concept? Or can we construct a concept regardless of the (underlying?) paradigm?

¹²The issue raised here is called ‘ontology’: ‘... the theory of existence or ... what really exists, as opposed to that which appears to exist, but does not, or to that which can properly be said to exist but only if conceived as some complex whose constituents are the things that really exist’ (Dictionary of Modern Thought 1977, p. 608). Ontology relates to ‘... our assumptions of reality such as whether it is external or a construct of our minds’ (Jaspahara 2004, p. 93).

Box 2.1: Questioning the Basic Approach of the Researcher

There are two basic approaches. Basic approach A: Knowing through the eyes of the researcher. This implies knowing based on individual experience and test results.

Basic approach B: Knowing through the eyes of someone else. This implies knowing by hypothesizing and discovering.

Please consider for a moment what your approach is and if this approach corresponds with the question you are addressing in your research.

Please consider for a moment what your attitude is and if this corresponds with the question you are addressing in your research.

2.4.2 *Positivism*

The aim of applied research is to provide solutions to problems that occur in practice. Researchers focus on creating (re)designs and plans of action for these problems. Their approach is based on the belief that (scientific) action produces concepts that are useful. Most researchers are taught to deal with these problems during their studies by following a three-step approach: diagnosis, design and change. Firstly, create a clear problem definition, then design a solution and, finally, implement it. This often results in the development and implementation of a number of instruments and techniques: organisational 'recipes' that have to be mixed together carefully if the desired effect is to be achieved. An important condition is that the people who are involved in the research act upon these tools themselves. The fact that in practice it often appears that this approach does not work (or just to a limited extent) is attributed to people's resistance to change and the course alterations which take place during the implementation of the desired changes. Yet, the researcher can claim his innocence, because he handled the project in a methodologically correct way. The researcher decides on the best form of research for a specific situation using his expertise. He bases solutions on facts that are obtained by means of research he justifies 'scientifically'. It should be noticed that in many cases, books in the field of business research which predominantly focus on methodology do not even consider implementation as part of the research. This description, which should be interpreted with a mild smirk, is generally called 'positivism'. We are convinced that valuable research is conducted when the researcher also takes into account the implementation of the research results.

2.4.3 *Constructivism*

Applied research takes place in the complex environment of an organisation. People, systems, processes, procedures, culture, designs, attitudes, behaviour,

rules, politics; everything is going on and changes at the same time. Everything is true or at least valid and results in a variety of problems. Whoever makes an attempt to examine an organisation, let alone tries to change it, will find that each group of people, each department or each location has its own characteristics, habits and rules. That is why each time we face a unique problem, one that is actually only understandable and solvable by reflecting on knowledge and experience gathered during the course of the research inside the organisation.

Employees who are involved in research constantly have to reconstruct their own reality and change it to adapt to the situation and to developments. There are no standard approaches, designs or concepts. At best, they can be of help in developing a kind of guiding notion in order to frame a situation. Examining reality from the outside hardly engenders any new insights into the actual state of affairs. True insight requires reaching an understanding of a situation, together with those involved, in order to develop ‘theories’ regarding the meanings and problems that occur in that situation and – in line with that – create solutions that are suitable, understandable and applicable. The researcher’s role is to shape this process in such a way – together with those involved – that the uniqueness of the situation is done justice. This involves choosing methods that enable people to learn how to discover and change their own reality. In the course of the process, the researcher develops knowledge about the organisation, a learning process that is also shared by the people involved. In this context, the notion of validity obtains a complete different meaning. This concept is also known as constructivism.

Both interpretations can be elaborated in a number of ways. What is important here, though, is that the methodology and theory about knowing are explicitly linked. A connection created through the nature of the question, respectively the problem being examined and the way in which the researcher approaches the problem. It is impossible to develop a specific form of research prudently – let alone a specific kind of methodology – if any of the premises and assumptions regarding the phenomenon (subject or object) to be examined, are not taken into consideration. Choosing a specific *methodology* therefore is not something that takes place randomly. But then, what is methodology?

Box 2.2: Are you a Positivist or a Constructivist?

Form pairs and interview each other briefly in order to find out how the other person views reality: as a positivist or as a constructivist. Use open questions. Discuss the results of the interviews (preferably in a group) so that you can produce a broad overview of characteristics that belong to these two scientific concepts.

Box 2.3: Basic Approach to a Research Question

Look at the research question below and argue what your *basic approach* would be.

“We would like to find out how the workload is perceived in our hospital”.

Discuss the outcomes of your considerations with others in the group (if possible) in order to get a clear understanding of the relation between the nature of the research question and your basic attitude as a researcher.

2.5 Methodology: Not a Map, But a Domain

Methodology is first and foremost associated with conducting research. The etymological and traceable meaning of methodology (deduced from Greek *methodos* = *meta hodos*) is ‘the way along which’, in other words aimed at following a certain route. In this case methodology implies: the way (or route) the researcher will need to take in order to achieve a certain result (knowledge, insight, design, intervention, solution). However, although a route (afterwards or on further consideration) can be established by means of an intentional or unintentional starting- and finishing point, it remains to be seen how the route is elaborated in-between.

Anyone who wants to travel from Paris to Rome can choose to go on foot, by horse, by train, by plane or just take the car. What is more, the means of transport can be changed along the way. Once on the road, unexpected developments (the train does not go any further) can make you change your original plans and force you to think of an alternative to continue on your way. This fundamental idea that ‘there are many roads that lead to Rome’ indicates that there are choices within a specific methodology. Ideally, these choices should lead to a similar result in the end.

Apart from the common use of methodology, the term comprises an additional function for the researcher. Anyone who conducts ‘good’ research may sooner or later be expected to justify the reasons for choices being made to his supervisor, the client, people in an organisation, etc. Justification is only possible when you are aware of the choices that you have made and how you have reasoned those choices. You may need to justify these reasons to different stakeholders and explain why and on the basis of which criteria and considerations you have dealt with certain matters. In other words, you will need to be able to make your actions transparent, thus, comprehensible showing alternatives, providing arguments and demonstrating the reasons for what you have done.

Methodology implies ‘... a system of methods and principles for doing something’ (Collins Cobuild 1987). As such a methodology is ‘empty’¹³, it provides a map, a starting and finishing point, but not the directions for the actual trip through a certain area. ‘Doing something’ covers the methodology to travel, eat, pass an exam or create change. This indicates that methodology is something completely normal

¹³This is a curious word here, ‘empty’. It means that although the methodology provides cues for how to act, it does not give specific instructions for any specific situation.

and convenient in all possible situations. Deliberately having a methodology for different situations, being aware of the construction of your own methodologies and how you will determine whether you have achieved your goal is, thus, very useful. Methodology does not simply mean ‘conducting research’, but in fact specifies way of acting in a particular situation with a clear goal in mind. We have already used the expression ‘action reading’ for this process before. Although it is very helpful to know what methodology is all about, its daily use is not the focal point of interest. This book concentrates on the use of methodology in conducting research. The basic objective is to show how to choose from different – existing – methodologies depending on the particular situation, problem or question. What is also important is the way the researcher himself deals – or wants to deal – with a particular research question. How do you view the question? What do you think when you look at it? Is it a question of gathering knowledge, of insight or of the way people view each other in an organisation? And what would you do about it? Only examine and then leave? Or would you provide recommendations for improvement as well? If so, what would your proposal be? Would you implement the proposal yourself or would you leave that to others? As a researcher you are supposed to deal with this question in such a way that you can explain how *you* have reached certain decisions.

Box 2.4: Defining Methodology

The word methodology is derived from the Greek ‘meta hodos’ meaning ‘the way along which’. In more everyday language it means ‘... a system of methods and principles for doing something’ (Collins Cobuild 1987). A methodology assumes there is a *logical* order the researcher needs to follow in order to achieve a certain predetermined result (e.g., knowledge, insight, design, intervention, change). Defining and defending the logic of this logical order is what methodology is all about.

Box 2.5: The Methodology Needed to Plan a Holiday

Imagine that you want to go on holiday. You have a (limited) budget, but you want to stay away as long as possible. You also want to see and experience a lot. You decide to go with a group of other people. Briefly describe how you determine what you will require to make this trip a success.

Box 2.6: Translating Your Intuition into a Methodology

You are visiting a company for the very first time. You instantly sense that there is a bad atmosphere. Now you need to translate your professional intuition into facts. Describe briefly *how* you could examine this situation. Please elaborate different approaches. Use a limited number of adequate key-words in a logical order to describe your approach. If possible: give a short presentation in which you logically present your considerations and choices.

2.6 Methodology and Method

Based on the preceding arguments, methodology can be considered to be action reading, i.e., what has to be done given a certain attitude, context, and concept in order to achieve a specific goal or destination. A methodology indicates the main path to the destination, but without specifying the individual steps. Methodology thus helps make the main outline of the approach transparent to both yourself and others (in academia and business). In this way, it functions as a compass, a beacon, a set of principles and *global* instructions. However, this does not mean that methodology prescribes what you should do (or not) in a specific situation or a particular moment in time. Such details entail methods and techniques. How one wants to fill in the approach with detailed methods and techniques is based on additional considerations, considerations which will depend on your basic attitude, the question at hand and of course the ‘overall’ methodological approach.

2.6.1 *Methods*

Methods (also often and rather confusingly called methodologies in many textbooks) indicate specific steps (or actions, phases, step-wise approaches, etc.) that should be taken in a certain – eventually stringent – order during the research. It is obviously impossible to analyse data before it is available for example. Prior to the analysis you will need to consider the best way to collect the data. In this way, a method is adopted that can be compared to a railway timetable with arrival and departure times for all stations. Once the train has departed, it will pass all the stations in a fixed order. However, while it is unthinkable that stations will change places, methodologies for research are often not constructed quite as rigidly. However, the more concrete the methodology, the better the result.

However, the more open a question the more freedom the researcher has to create his methodology. Moreover, various aspects will play a role depending on the situation (contextually or organisationally). What access do you have to existing or new information, to data sources? Who owns this information? Are you allowed to talk to people? Under which circumstances will these conversations take place? How about confidentiality and anonymity? How much time do you have for this research? What are the (implicit or explicit) expectations of the results of this research? Who will benefit from these outcomes and in what ways?

It is these kinds of questions that will occur before and during the research, which will partly provide direction to and shape the methodology you will use. Therefore, when you have to give your reasoning for the chosen methodology and methods it will appear that the context in which you conduct your research explicitly influences the final research design. It also becomes clear that the many issues at stake in your research (e.g., ethical, technical, contextual) can easily lead

to sometimes almost unsolvable dilemmas. It is virtually impossible to solve these issues before the start of your research. Still what you can do is treat them properly and in a transparent manner while carrying out your project.

Box 2.7: Distinguish Methodology from Methods

You receive the assignment to investigate a hotel's staff's level of motivation. Consider, argue and describe briefly: (a) which methodology you will choose given the situation at hand and (b) how you will elaborate this choice into a specific method; which specific steps do you plan to take and in which order. Describe the results of this exercise briefly. Reconsider and criticise afterwards the logic of your steps.

2.7 Techniques: Thinking and Acting

Further elaboration of the methods within a specific methodology takes place in choosing *techniques*, also referred to as 'instruments' or 'tools'. It is a matter of technique when the researcher strives to achieve specific goals on the basis of experience, rational consultation, scientific knowledge, calculations and the like. It involves applying a systematic way of working that includes established rules, regulations and procedures as a means to achieving the final goal(s).¹⁴ Techniques can be understood as concrete instructions for acting that have an explicit, compelling and prescribing character.

Although it seems possible to clearly define techniques, it is less easy to indicate what the term really means. Technique roughly implies something like 'ability' or 'experience', which is expressed in a specific form of 'acting' instruction, but also in 'the specific way a specific issue is considered'. Taking a closer look, it can be established that there will always be one form of technique available for something, no matter what you examine. In order to recognise the nature of specific techniques it is useful to proceed by means of a classification. First of all, a distinction can be made between 'action techniques' and 'thinking techniques'. Action techniques are techniques that concern the practical actions (or activities) of people. This kind of technique we use throughout the day when making coffee, opening the door with a key or riding a bike. Acting techniques within the frame of doing research are, therefore, no more or less than a specific category of technique. Thinking techniques are techniques that classify thinking activities. Thinking techniques help to properly structure thought as well as obtain insights into the way one could think

¹⁴It might be good to state clearly that the same goal – or goals – can be achieved via different means and routes. We touch here on the philosophical debate regarding *teleology*, a notion derived from the Greek *telos*, 'end' and *logos*, 'discourse', the science or doctrine that attempts to explain the universe in terms of ends or final causes. Some also call this in a different setting the issue of *equipfinality*: the fact that the same result can be achieved through different means.

about a certain subject.¹⁵ Thinking techniques are therefore more theoretical by nature; they are also methodological in the sense they indicate ‘a way along which to think’. Action techniques point to a certain goal in (organisational) reality that an individual wants to achieve by means of his actions.

The preceding examples are based on the conviction that the researcher has the ability to deliberately choose a certain (set of) technique(s). This would imply that an *intentional* choice is involved. Intentional means that a specific technique is chosen on purpose, with a clear-cut role and function in mind, knowing what the function of that technique is. Precisely by choosing this technique the researcher expects to achieve the desired result fast and efficiently. This implies that the researcher knows beforehand what a specific technique (or combinations of techniques) can and will deliver when applied. Choosing a specific technique, therefore, is normatively steered. The user of the technique has formed an idea of the effect that the technique will have if it is used. No matter how implicitly (apparently unintentionally) used, it is a question of the presumed relationship between a certain technique and the objective the researcher wants to achieve by using it. This links techniques to specific goals. Given a certain situation or question there is a potential supply – or domain – from which a researcher can choose his techniques. Furthermore, he can use the same technique (if need be combined with others) at different moments during the research. Here we are faced again with the principle of equifinality: similar techniques can be used at different moments and in different situations, either as complementary or fixed techniques in the process.¹⁶ Which choices will be made at what moment depends on aspects such as the type of situation in which the researcher needs to operate (context), the course of developments in that situation (process) or the influence respectively the effect of certain (previous) actions by the researcher and/or others in that situation.

The choice for a certain technique (or set of techniques) is guided by:

- (a) Norms and criteria
- (b) Personal preferences
- (c) The principle of equifinality
- (d) Context
- (e) Internal and external developments

¹⁵In philosophy this is known as the ‘double hermeneutics’: one can think in a certain way and think about the thinking itself. We have seen a similar issue previously when talking about the nature of knowledge and more in particular the way we know what we know or when we try to determine what it is we know. Here the ontology issue gets mingled with the hermeneutics. Please check if this could be the case in your work in progress.

¹⁶We refrain here from elaborating what the possible *causality* is between choosing specific techniques and how this causality might develop while applying them in carrying out the actual research process. Let’s stick to the observation that using a specific technique in a specific situation alters *by definition* that situation, even if it is only for a short moment in time. As such it is an *intervention*. When using a series of techniques – either simultaneously or subsequently – this interventional ‘side-effect’ will be reinforced – be it in a negative or positive sense.

Given the limitless opportunity to apply similar techniques at different times and with different purposes in mind the result in (no matter what) practice is a contextualised amalgam of different techniques.

Box 2.8: Understanding the Notion of ‘Technique’

Verify the technique you use for the following situations: (a) lighting a match, (b) making coffee, (c) taking a right or left turn while driving the car and (d) interviewing a person. What can you say about the nature of these various techniques? Are they all the same? If yes: what do they have in common. If not: what makes them differ?

By the way: in Chap. 7 you will find much more on techniques.

Box 2.9: Preparing a Talk

You receive an assignment to provide a talk of 15 min about the role of ‘business alliances’ for entrepreneurs of small and medium enterprises. Leave aside the *content* of your talk for now. Instead indicate: (a) the context of your talk, (b) possible choices you have in preparing it and (c) norms and criteria you – or your audience – are using. Craft a little design for your talk based on the outcomes of these considerations. Then sit back and ask yourself: (d) how you could have done this differently and (e) if there are other developments that can affect your lecture and what you will do if these developments occur.

2.8 Data Techniques

Techniques for doing research indicate how the researcher can either *think* about his research or carry out specific *actions* in that research. To create a proper research design one needs to use both in an iterative way. Thinking about one’s research has everything to do with paradigms and methodologies – that should be clear by now; they provide the means to structure the research thinking. Acting techniques are the researcher’s ‘tools’. They shape and guide the way in which data¹⁷ are generated, established, classified and analysed. Data involve all the information the researcher collects during his research. Techniques for collecting data are used within the framework of certain methods. This may regard data that is deliberately generated (e.g., answer scores of a questionnaire) or data that already existed (collecting a company’s annual reports for the last 3 years). Data can be classified based on its nature. A distinction can be made between *linguistic data* (e.g., transcription of a conversation), *numerical* (in figures) *data* (e.g., a company’s profit and loss

¹⁷Data are considered to be ‘raw’ information, usually in the form of facts or statistics that you can analyse, or that you can use to do further calculation (Collins Cobuild Dictionary 1987, p. 357). Or: facts (attitudes, behavior, motivations, etc.) collected from respondents or observations (mechanical or direct) plus published information (Cooper and Schindler 2008, p. 82).

account) and *visual* data (e.g., drawings, pictures, photos, rich pictures, etc.). It is common for similar techniques to be used although different methods and methodologies are being used (Rose 2001). We distinguish six types of data:

- Data type 1: existing numerical data
- Data type 2: newly generated numerical data
- Data type 3: existing linguistic data
- Data type 4: newly generated linguistic data
- Data type 5: existing visual data
- Data type 6: newly generated visual data

Depending on the choices that have already been made with regard to methodology and method the researcher can choose the technique that fits the nature of the data he wishes to obtain. In principle, four types of techniques can be distinguished:

- Techniques to *generate* data
- Techniques to *register* data
- Techniques to *classify* data
- Techniques to *analyse* data

An example using these techniques is provided below.

In a first step, the researcher chooses to make use of interviews, which is an ‘action technique’ that results in newly generated linguistic data. He can then decide to analyse the data by means of ‘turns’ based on sentences, which is a thinking technique aimed at classifying and analysing the information. After the analysis of the first series of interviews it may be necessary to repeat the procedure again; the same action technique is used once more. Then, based on the outcomes of the first round of interviews the researcher can choose to conduct the second series of interviews using a more ‘open’ approach. In this example the researcher has chosen to ask as few questions as possible to enable the respondents to interpret them as broadly as possible. The researcher applies a technique in a double sense: allowing himself to generate outcome he cannot foresee while at the same time applying a technique which encourages the respondents to think. By choosing this technique the researcher shows that he does not want to steer the way the data is structured. In his preparation he has also paid attention to the fact that the questions themselves are not directive. The way the researcher records interviews, for instance by means of a tape recorder, is a technique in order to collect data. Once recorded, choices have to be made regarding the way the data should be classified and analysed. The act of classification can take place on the basis of a deliberately chosen thinking technique such as sentences, words, actors, turns and others. Considerations for choosing a specific classification technique is normally based on the assumption that the researcher wants to extract a certain meaning¹⁸ out of the collected data. Finally, choices have to be made regarding the way data will be

¹⁸A definition of the meaning of ‘meaning’ is “the customary significance attached to the use of a word, phrase, or sentence, including both its literal sense and its emotive associations.”

analysed that is, how the collected ‘raw’ data will be turned into a whole that makes sense. Classifying and analysing data are, thus, both techniques that will manipulate the original data. It is the researcher who will shape and guide this process of manipulation based on his theoretical notions, skills and assumptions regarding the outcomes he is looking for.

It is assumed that the researcher is able to choose more or less consciously between all the possible techniques he can use in his research (see Chaps. 4 and 5). In this choice, considerations about thinking and acting will irreversibly play a role. The decision to choose a certain technique (or set of techniques) then needs to relate to the chosen method and methodology. It is clear – though not obvious – that the chosen techniques, methods and methodologies are supposed to be consistent with the paradigmatic presumptions. Last but not least, all considerations, premises and choices need to pertain to the matter in question. What is more: the nature of the question should be the starting point.

2.9 The Distinction Between Qualitative and Quantitative Research

All the previous considerations lead to yet another issue. In the corridors of many universities the distinction between open and closed questions, between testing and discovering or between positivism and constructivism is briefly dealt with as the common distinction between quantitative and qualitative research or, even ‘quantitative *versus* qualitative research’. Quantitative research is often regarded as being purely scientific, justifiable, precise and based on facts often reflected in exact figures. Conversely, qualitative research is often regarded as ‘messing around’, being ‘vague’, not scientific and not following a structured plan. Whoever conducts quantitative research adheres to tradition, works on distinct matters and produces reliable figures. On the other hand, anyone who informs his tutor about his intention to conduct qualitative research is likely to face criticism. In most cases, the researcher solves this dilemma by presenting it as a case-study design (see also Chaps. 3 and 5). Packaging it in this way is a generally accepted alternative in business studies and offers a solution to the possible methodological dilemmas that occur while choosing between qualitative and quantitative research. However, some questions remain unanswered. Just to name a few. What is the essence of both forms of research? How can they be distinguished from each other? What determines the choice for either one of them or for an intermediate form?

In the most extreme situation there is a tight relation between the different approaches A and B and the nature of the research question. Thus, research guided by an open question is guided by the attitude of knowing through the eyes of someone else. And research guided by a closed question is related to the approach in which knowing is developed through the eyes of the researcher and is based on conceptualising in advance leading hypothesis and testing. We think that this

relation is not as absolute as stated here, but we will use this rather traditional distinction in order to align with mainstream methodological literature focusing on either a quantitative or qualitative research approach. This way, we can easily show two extreme positions and their consequences when carrying out research. In Chaps. 4 and 5 these approaches will be covered separately. Given the unique character of many of the questions that occur in organisations, deliberately choosing a specific research methodology – or an intermediate form – and elaborating it accentuates its importance.

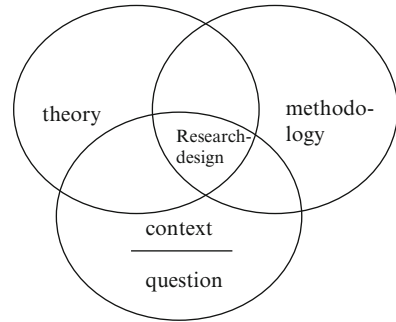
2.10 Research Design

In the previous sections a great number of basic principles, assumptions and premises have been introduced and briefly discussed. Together they offer the researcher an almost unlimited number of combinations and thus choices, which may initially seem daunting. Anyone who has started research recently (or whoever finds himself in the middle of it) will often struggle to *design* his research properly. It is not easy at all to make the right choices at the proper moment without knowing what lies ahead. For us, a design describes a (flexible) set of assumptions and considerations leading to specific contextualised guidelines that connect theoretical notion and elements to dedicated strategy of inquiry supported by methods and techniques for collecting empirical material.

Still, the essence of sound research remains making clear choices that structure the research. This research behaviour is initiated by the (open or closed) question within a certain context (the organisation and conditions it puts forward). On the one hand, this question results in the search for – and elaboration of – a suitable theory or theoretical notions about the question, respectively the problem that has been signalled. In Chap. 3 we will handle this issue within the framework of constructing a conceptual model. On the other hand, the question results in the search for and elaboration of a research methodology that fits that question *and* theory. The choices that the researcher makes are on the cutting edge of question, theory and methodology – the design of research. Please be aware of the fact that in many textbooks research design is restricted to the methodology part. This leads in general to a design without taking into account the context, no elaboration on the nature of the research question and no connection with the chosen theory (see also Chap. 3 in this respect). A sound design should link these three!

At the start of research there is no design, because there is not enough knowledge about the question and a suitable theory has not yet been elaborated, let alone a deliberately chosen and defined methodology. In the course of his research, the researcher often discovers how the three ‘building bricks’ of the research design relate and connect to each other. However, this does not stop the researcher from deliberately and consistently searching for coherence while conducting his research, subsequently outlining it and then providing it with a clear contour. Conducting research does not only involve searching for theory in the form of

Fig. 2.4 Research design related to theory, methodology, question and context



publications or collecting data by means of a chosen technique, such as an interview or a questionnaire. Conducting true research requires the researcher to be in continuous dialogue with himself and others (client, supervisor, respondents) in order to slowly and gradually establish the coherence between these building blocks. Conducting research demands constant reasoning. It requires the temporary results of that reasoning to be explicit and well defined. If that has been accomplished correctly, it will mean the research is methodologically justifiable. This is particularly true if the researcher is able to keep reporting comprehensibly about the way he deals with the development of insights or testing of theory on the subject of research in relation to the utilised theory about conducting research. Since many of the issues raised here are not at all clear in advance it demands from the researcher to keep a systematic track record of his research acts and of his deliberations in handling them. It might be that in the end this track record provides the most valuable insights because it will demonstrate transparently how the researcher has handled the issue along the way Fig. 2.4.

2.11 Chapter Summary

This chapter has provided an explanation of the term methodology.

- The essence of methodology is establishing a path along which research can be directed.
- The choice of a methodology is framed by the nature of the question and by paradigmatic considerations with regard to ‘knowing’.
- Two forms of knowing can be distinguished: knowing through the eyes of the researcher and knowing through the eyes of someone else.
- This distinction is subsequently elaborated in terms of positivism and constructivism.
- A methodology is clearly defined by means of certain (research) steps: the methods and techniques.

- Further finalisation of the method occurs with the help of techniques. Techniques concern the way in which data is generated, collected, classified and analysed.
- Choices with regard to methodology, method and technique can be denominated in terms of qualitative and quantitative research.
- Choices result in a research design

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