INTRODUCTION

We have discussed the importance of mutually consistent choices when developing a scientific approach that matches the purpose and character of a research task. In Chapter 3 we introduced a research roadmap (an all-important mental model) to guide the reflexive process of research design and implementation. In Chapters 6, 7 and 8 we illustrate the use of this mental model (Figure 3.1, page 23) for research approaches based on positivist, interpretivist and criticalist philosophies of science respectively. We use two examples for each of these chapters, one drawn from MIS research and one drawn from strategic marketing research. To help set the scene, a snapshot of some important similarities and differences between the three philosophical positions is presented in Table 4.1, 4.2 and 4.3.

Table 4.1 Research aims and the form of inquiry reflect the philosophy of science

<table>
<thead>
<tr>
<th>Aspect of research</th>
<th>Positivism</th>
<th>Interpretivism</th>
<th>Criticalist research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose</td>
<td>Test theory or theoretical prediction</td>
<td>Develop descriptive theory</td>
<td>Develop theory to address real-world problems.</td>
</tr>
<tr>
<td>Using extant literature</td>
<td>Identify theory to test. Identify hypotheses to test the theory.</td>
<td>Identify need for theory. Develop sensitizing concepts.</td>
<td>Select knowledge of structural nature. Identify approach to explain/change problem.</td>
</tr>
<tr>
<td>Form of inquiry</td>
<td>Develop hypotheses as posited relationships between variables</td>
<td>Explore social world to develop key questions and new theory.</td>
<td>Empirical facts and tentative theory generate new questions and actions.</td>
</tr>
<tr>
<td>Tactic in conducting study</td>
<td>Hypotheses are fixed in order to test a theory. Theory is expanded, reinforced, confirmed, qualified or rejected.</td>
<td>Hypotheses emerge as meaning is constructed using building blocks of local integrating descriptive theory.</td>
<td>Combination of iterative hypothesis formation and hypothesis testing to build explanatory theory</td>
</tr>
</tbody>
</table>
Table 4.1 highlights differences in the overall approach to the form of study depending on the chosen philosophy of science. Important differences are reflected in different fundamental aims of inquiry and forms of inquiry, as well as differences in the role of literature as being a primary or secondary basis for initiating or continuing inquiry.

Table 4.2 highlights differences between the way data are assembled and treated during inquiry. Important differences reflect, first, a linear, iterative or recurrent approach to assembling data; and second, a linear or threaded approach to assembling and analysing data and producing findings through the process of inquiry.

Table 4.3 highlights important differences that reflect, first, compact and objective accounts of metadata that describe the general fit between the studied phenomena and extant theory on the one hand, or elaborated and idiosyncratic exemplification of original data as structured cases or as typifying constructed local theory on the other. Second is the general and specific applicability of the findings to broader or narrower classes of phenomena.

### Table 4.2  Approaches assembling and analysing data reflect the chosen-philosophy of science

<table>
<thead>
<tr>
<th>Aspect of research</th>
<th>Positivism</th>
<th>Interpretivism</th>
<th>Criticalist research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of data</td>
<td>Test hypotheses. Typically answer IS-ARE (testing) questions.</td>
<td>Generate understanding. Typically answer WHAT (descriptive) questions.</td>
<td>Stimulate explanations. Answer HOW-WHY (causal) questions.</td>
</tr>
<tr>
<td>Nature of data</td>
<td>Collect data.</td>
<td>Generate data.</td>
<td>Combination of generation and collection.</td>
</tr>
<tr>
<td>Dealing with data</td>
<td>Analyse after all data collected.</td>
<td>Analyse concurrently with data generation.</td>
<td>Combination of analysis during and after data collection.</td>
</tr>
<tr>
<td>Purpose of analysis</td>
<td>Qualify hypotheses according to disaffirming evidence.</td>
<td>Produce typified meanings.</td>
<td>Imaginatively construct a mechanism that is validated by testing.</td>
</tr>
<tr>
<td>Process of data analysis</td>
<td>Statistical tests of significance.</td>
<td>Inductive generalisation or abductive distillation (reduction) to categories.</td>
<td>Iterative modelling.</td>
</tr>
</tbody>
</table>
Table 4.3  Similarities and differences between three philosophies of science

<table>
<thead>
<tr>
<th>Aspect of research</th>
<th>Positivism</th>
<th>Interpretivism</th>
<th>Criticalist research</th>
</tr>
</thead>
<tbody>
<tr>
<td>Validation</td>
<td>Validity as appropriate operationalisation of concepts and likely objective truth of resulting statistics.</td>
<td>Findings shared with participants who attribute a truth value to study's descriptions and interpretations.</td>
<td>Independent peer review.</td>
</tr>
<tr>
<td>Reporting</td>
<td>Often compact and quantitative.</td>
<td>Often detailed and qualitative.</td>
<td>Often a combination of quantitative and qualitative.</td>
</tr>
<tr>
<td>Generalisation</td>
<td>Produce generalisable findings and the possibility of making predictions about general phenomena.</td>
<td>Time and space specific. Deep understanding about particular or categorical phenomena.</td>
<td>Explanatory mechanisms to allow users to predict or understand specific phenomena.</td>
</tr>
<tr>
<td>Representation</td>
<td>Nomothetic and objective statements.</td>
<td>Idiosyncratic and relativist statements.</td>
<td>Combined objective and nuanced view.</td>
</tr>
</tbody>
</table>

HELICOPTER VIEW OF THREE RESEARCH APPROACHES

Overwhelmingly nowadays doing empirical research requires a choice of one consistent guiding philosophical framework, and this is evident from an increasing majority of examiners who now regard the specification of the research paradigm and the justification for its choice to be mandatory in a thesis. As noted in Chapter 1, this guiding framework is usually called the research paradigm, and it reflects a fundamental choice about the philosophy of science and the scientific approach that is considered most appropriate to the purpose, context and focus of the research task.

PARADIGMS – GUIDES TO POSITIVIST INTERPRETIVIST AND CRITICALIST APPROACHES

In this chapter we define and distinguish three alternative paradigmatic approaches for doing business and management research. Each paradigm has different characteristics. To make these paradigms more user friendly, we illustrate each as a template (see later Figure 4.8 (a template for positivist research), Figure 4.14 (a template for interpretivist research) and Figure 4.17 (a template for Criticalist research)). Each template highlights important components of a research approach and the relationships between its components. We hope each template will serve as a roadmap which can help researchers to apply their
chosen paradigm. Important characteristics of the three paradigms and key differences between them are also illustrated using an example about gender, education and income.

All research paradigms take a view of ontology (the assumed nature of reality being studied as realist or idealist/relativist) as a foundation step. It is the combination of a type of epistemology (a direct or indirect way of knowing - absolutist or constructionist) with the type of ontology (a view of reality) that defines and delineates the paradigm.

In this book about demonstrating how to conduct paradigmatically rigorous research, we have chosen to work with the three most cited research paradigms whose ontologies are sufficiently discrete. This enables the reader to see when important choices should be made.

In this conceptual arrangement, while some ontologies are not entirely discrete, other ontologies such as those implemented in positivism and interpretivism are widely seen as being diametrically opposed or at least distinctly different. This is shown in Collis and Hussey’s (2003: 51) continuum of core ontological assumptions, in which reality is shown as:

- a concrete structure
- a concrete process
- a contextual field of information
- a realm of symbolic discourse
- a social construction
- a projection of human imagination.

The third paradigm in this book involves criticalist research, which introduces the notion that views and interpretations of reality may further be influenced by covert (unexpressed) phenomena such as power inequalities.

While there are further distinct paradigms that have been identified and applied in recent business and management research, our intention here is to introduce the three major paradigms and to illustrate their characteristics. In doing so we aim to reinforce the importance of, first, understanding the nature of all three in order to choose one at a time (the one that fits the character and purpose of a research project); and second, consistently specifying and implementing the relevant steps of the chosen paradigm.

In the philosophy of the social sciences, Blaikie (2007: 1-29) carefully distinguishes the conceptual possibility of six ontologies and six epistemologies. As this book concentrates on providing usable templates (roadmaps, or what we also refer to as mental models) for three popular paradigms for actually conducting research, the ontologies and epistemologies in typified and simplified. His ontologies for example take an overview of the various ways in which philosophers of the social sciences have handled the nature of reality, without necessarily differentiating the types of reality.

Each paradigm's template involves a series of contingent steps which must
be taken by the researcher in order to complete a rigorous study. While the names of the steps are the same in each paradigm, the characteristics of the steps change subtly across each paradigm, as do the relationships between the steps. These steps are highlighted in the templates on pages 52 to 67 of this chapter.

In demonstrating the key differences between the three paradigms, it is important to be clear about types of questions that collectively demonstrate the differences between the paradigms. These are used to select, elaborate and confirm the choice and implementation of an appropriate paradigm. These types of questions and their interrelationships are depicted in Figure 4.1.

**Figure 4.1**

<table>
<thead>
<tr>
<th>1. Choose a paradigm</th>
<th>2. Design the study</th>
<th>3. Verify the design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Characterise the research problem’s context, aims, challenge and likely outcome format. Based on these, tentatively choose a research paradigm.</td>
<td>Specify and align the steps for the inquiry consistent with the research’s context, aims and challenges, and the requirements of the most appropriate paradigm.</td>
<td>Check that details of proposed investigative theory and investigative practice are consistent with the context and aims of the research and the chosen paradigm.</td>
</tr>
</tbody>
</table>

Steps in choosing and describing a paradigmatically consistent approach to research

Type 1 questions involve the derivation of a research question from a problem or a topic which specifies, or points to, a particular paradigm. For instance, if the general topic of interest is possible relationships between gender, education and income, and the aim is a study of historical or contemporary national profiles, a positivist paradigm (such as a statistical analysis from national census data) might initially appear to be appropriate.

However, if any relationship between the variables is to be explored in depth within a particular subset of the national population or within an industry, an interpretivist approach might provide more information. For instance, it could help in exploring what actually happens to men and women and how this relates to education, opportunity and income. Finally, if potential barriers to access opportunities are to be studied, a criticalist approach is indicated.
Type 2 questions are used to specify the steps needed to ensure a rigorous implementation of the research according to the chosen paradigm.

Type 3 questions are typically used to affirm, and where appropriate modify, the steps in the research design so the implementation of the chosen paradigm remains rigorous. Occasionally, a paradigm change may be needed if a fundamental change to the research question or the character of the research problem is indicated.

To help the reader to understand the three-step question-and-choice process noted in Figure 4.1, we illustrate the nature of business and management research and practice challenges that may readily be seen as positivist in nature; introduce a positivist template for conducting research into phenomena that can be viewed this way; and raise important questions that are used to identify, discriminate between and confirm the defining differences and character of the study to be conducted. The questions are: When is it appropriate to select a particular research paradigm or template? What is the relationship between extant theory and research concepts? What typical perception of reality (ontology) is assumed in the template's underlying philosophy? What sorts of questions does the paradigm's template typically address?

We need to ask what important theoretical and practical issues typically arise in relation to:

- the process of arguing from the data (for example, by induction, deduction, abduction or reproduction)
- the researcher's position (as outsider or insider)
- the nature of truth (objective or subjective, meaning realist or idealist/relativist)
- the nature of data (text or numbers)
- the logic of inquiry (static or recursive)
- the form of the research product (for instance, documented or demonstrated)
- the use of research findings (generalizations or specific cases).

**The example we use in the rest of this chapter**

In this overview chapter we seek only to highlight major differences between the three paradigms or templates (depicted in Figure 4.2), and accordingly, the examples that follow (based on questions about gender, education and income) are indicative rather than exhaustive.

**Example and template for a positivist approach**

For the positivist example a hypothesis could be drawn up that, for similar levels of education (the independent variable), male income is significantly higher than female income (income being the dependent variable). To test this
Differences between paradigms that influence fundamental choices in research design can be apprehended as differences in the way that inquiry and its context are subjectively or objectively framed.

hypothesis we could choose a profession (such as law) and conduct a survey of practitioners in this profession over various appropriate geographical and practice areas in one jurisdiction (say a state, county or borough). This could be used to establish prima facie if there is a variation in income (the dependent variable) by gender for the same level of education. Statistical tests would be used to evaluate the hypothesised relationships between the dependent and independent variables.

Figures 4.3 to 4.7 illustrate elements of our template for this simple positivist example. The most obvious feature of this template is its linear format, in which each step is usually fully or substantially completed before the next. Figure 4.3 outlines the four major phases of the study, and Figure 4.4 to 4.7 show the main features of each phase.
Figure 4.3

This part of a positivist study focuses on the substantive topic, the topic audience and possible outcomes and their expected uses.

This part focuses on literature about the substantive topic, investigative theory and practice and the chosen research questions.

This part reflects the research strategy, the formation and testing of propositions and their associated data and data analysis.

This part of a positivist study highlights the findings from the data, comments on their validity/reliability and reports the results.

Positivist studies typically progress through four phases in a linear step-by-step manner

Figure 4.4

Possible relationship between income and gender in the legal profession.

Legal profession in a given jurisdiction and timeframe.

Policy for professional development and remuneration.

A possible first phase (the substantive topic, topic audience and possible outcomes and use) of a positivist study of gender, education and income
Figure 4.5

**Literature**
Legal administration, management and organization studies, gender studies. Quantitative research methods.

**Research question**
In the legal professional, for instance, is there a significant difference between the incomes of comparably educated males and females?

A possible second phase (literature and research question) for a positivist study of gender, education and income

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Figure 4.6

**Research strategy**
Use a survey of legal practitioners comprising equal numbers of males and females of comparable education. Deductively establish and inductively assess concept variables.

**Concepts and hypotheses**
Concept variables may relate to income, education, professional role, level of experience and gender. If a hypothesis is employed, an appropriate one could be that 'there is a higher level of income for male legal professionals than for female legal professionals'.

**Data**
Self-reports of objective data about income, education and demographics (including professional location (e.g. country or city) and type of practice (e.g. solicitors, barristers, family law, corporate law, criminal law)).

**Analysis**
Frequency distributions, statistical tests of correlations and measures of significance involving variables that operationalise the chosen concepts.

A possible third phase (research strategy and data) for a positivist study of gender, education and income
Figures 4.4 to 4.7 collectively form a template for positivist research. This template is summarized in Figure 4.8.
Example and template for an interpretivist approach

For the interpretivist example about a research study into gender, education and income, rather than a hypothesis that aims to test theory, we would draw up questions. The study might ask male and female professionals of similar educational backgrounds whether they perceive any differences in the rewards and opportunities available to them, and if they do, what factors they think explain these. To explore and answer this question we would choose a profession (such as law) and conduct a survey of approximately equal numbers of similarly educated male and female lawyers in one jurisdiction (for instance, a state).

In-depth or focused interviews would be conducted with the respondents in order to explore concepts from the literature, and concepts that emerge from participants' reported experiences and the meanings they draw from them.
this way, qualitative data are continually generated and progressively analysed to create new insights into the topic.

These emerging findings can be checked with participants to validate their suitability as succinct but comprehensive accounts of how rewards and opportunities operate. The overall approach is depicted in Figure 4.9.

Interpretivist studies typically comprise four phases. The central phase is an iterative and reflexive approach to generating and analyzing data and determining valid findings with participants.

The process shown in Figure 4.9 is largely linear but appears to contain two mutually dependent steps. In most cases, however, and especially in substantial and challenging interpretivist studies, it is the two mutually dependent generative steps (generate data and concurrent analyses, and generate and validate concepts) that are the major and most challenging part of the study.

The components of each of the four phases of a typical interpretivist study
are shown in Figures 4.10 to 4.13. We continue to use the example of a study of gender, education and income.

**Figure 4.10**

- **Substantive topic**: Perceived relationships between income and gender in the legal profession.
- **Topic audience**: Legal profession in a given jurisdiction and timeframe.
- **Outcome and use**: Developing awareness of perceptions of income and gender in the legal profession and policy for professional development and remuneration.

A possible first phase (the substantive topic, client audience and possible outcomes and use) of an interpretivist study of gender, education and income.

**Figure 4.11**

- **Literature**: Legal administration, management and organisation studies, gender studies and qualitative research methods.
- **Research question**: In the legal profession, what are the perceptions of income and gender and their relationships (if any) between comparably educated males and females (for among females alone)?
- **Strategy**: A focused interview-based study of legal practitioners comprising either equal numbers of males and females of comparable education, or a sample of females only. Typifications are abductively generated.

A possible second phase (literature, question and strategy) of an Interpretivist study of gender, education and income.
Figure 4.12

A possible third phase (generating and analyzing data and deriving and validating concepts as theoretical descriptors and explanations) of an interpretivist account of gender, education and income

Important characteristics of the third phase of interpretivist study are the successive cycles (1, 2, 3 in Figure 4.12) in which data are generated and analysed in order to identify specific patterns and subtle distinctions, as might a taxonomist. This leads to integrating concepts that serve to comprehensively yet succinctly describe, and sometimes even explain, the phenomena being studied. The other distinctive activity step in this third phase is validation. Here representatives of the phenomena being studied (including but not limited to participants) test and conform the merits of the concepts as meaningful and reliable ways of describing and accounting for the phenomena.

Together, Figures 4.10 to 4.13 provide a template for interpretivist research. This template is summarized in Figure 4.14.
Figure 4.13

- Report: approach and findings
  - Present the study’s aims, scope, approach and strategy.
  - Present themes, typifications and implications of perceived relationships between gender and income in the legal profession.

- Report: Validation and implications
  - Summarise the manner of validation of the findings and discuss the implications of the findings in terms of their possible uses and limitations.

A typical fourth phase (reporting the validated findings) in an interpretivist research project on gender, education and income.

Figure 4.14

Substantive topic

Topic audience

Aims: outcome and use

Literature

Research question

Strategy

Generate data and metadata

Synthesise hypotheses and concepts

Analyse data and metadata

Validate interpretations meanings and uses

Report approach findings and implications

Report validation and implications

Template for the typical hybrid linear-recursive approach of interpretivist research
Example and template for a criticalist approach

In the criticalist example, a working hypothesis emerges from exploratory research which maybe based on any paradigmatic approach, but quickly leads to a sense that there is some structured inequality that might be influencing reality. Using the same example as previously, the structured inequality would relate to gender differences leading to differences in professional opportunity. In order to reveal what may be deliberately or unconsciously hidden, we use a combined nomothetic and idiographic stance.

First, we develop a research question that is designed to progressively reveal confirming and discontinuing evidence for the tentative hypothesis. The aim is to Judge how successful it is in challenging social constructions that are taken for granted, that might be either explicit or covert, and that might operate to systematically disadvantage some individuals or groups. Once it becomes apparent what social constructions might play this role, the researcher increasingly focuses on exploring their nuances and the mediating arrangements and resulting impacts that gender differences may have on professional opportunity and rewards.

As a precursor to constructing a hypothetical model, we use a literature search and a purposively chosen sample. The researcher combines concepts from the literature, and secondary statistical data on income and gender, with collection and analysis of primary objective survey data and in-depth or focused interviews (such as participants' reported experiences, observations and explanatory accounts). These data are then creatively synthesized into a tentative model.

Next, disaffirming evidence is sought, in the form of further secondary statistical data on income and gender. As a result of this, the initial model may be iteratively refined. Then, through more primary data generation, the model is further refined. The underlying logic in these steps is to look for disconfirming evidence. In its absence the plausibility of the hypothesised model increases.

Throughout this approach the researcher's practice skills and theoretical imagination combine to mediate the emerging focus and scope of the study. At the same time the participants' experience, power and equity interests combine to increasingly mediate the validation and use of the emerging model.

The changing proportional role of the researcher in relation to the participants is depicted in Figure 4.15, which highlights the following dynamic. First, the researcher dominates initial design work and participants are involved to the extent that their knowledge about the substantive topic is accessed together with their needs and motivations. Then participants play an increasing part in enabling and shaping the accumulation and analysis of data, although the research methodology is still largely driven by the researcher. Finally, through validation, refinement; reporting and use of findings, participants take the lead role in determining the constraints and focus for deploying
A criticalist research programme may be developed so that the initial descriptive and explanatory model proposed by the researcher evolves into a prescriptive or predictive, model that is accepted and used by participants and others.

Figure 4.15

A distinctive feature of this template is the overlapping nature of the various modes of research activity. This emphasises the reflexive nature of the research process, in which the very purpose of the study and its potential findings and uses may be mediated by the participants and audience as much as by the researcher(s).
Figure 4.16

Major modes of a criticalist research approach

Figure 4.17

Template for typical criticalist research which develops an explanatory and predictive model from ‘externally framed objective data’ and ‘internally framed subjective data’ to account for power-equity differences between stakeholders
A slightly more expanded representation of the modes of criticalist research and their relationships is shown in Figure 4.17. This depicts the overlapping nature of all the modes, and in particular, the overarching and concurrent roles of 'Questions and strategy' and 'Challenges and literature' in informing and being informed by the assembly and analysis of data and the synthesising and testing of successive explanatory models.

Typically, criticalist research reflexively combines interpretivist and neo-positivist forms of inquiry into different but related aspects of the phenomenon of interest. Reflexivity is often in the form of a dialectic between, first, the evolving high-level purpose, scope and approach to inquiry, and second, a detailed-level synthetic and analytic process that produces progressively better explanatory models to account for, and predict, the phenomenon of interest. Figure 4.17 tries to show this. The research modes shown in Figure 4.17 are linked through a process that it aims to successively generate increasingly more informative and revealing explanations that account for comprehensive retrospective data, and predictions designed to disconfirm the best-explanatory model constructed so far. Central to this process is the researcher's theoretical imagination, which is best supported by their familiarity with the field of inquiry and a wide survey of literature. It is also essential to develop a disciplined way to retroductively affirm or modify tentative theoretical models using primary and secondary empirical data.

The process of creating more comprehensive and rugged models ceases when, despite diligent effort, disconfirming evidence can no longer be generated or located, and when the best explanatory model meets acceptable descriptive and explanatory criteria that are set by researcher(s) and by representative participants from the field of inquiry.

To provide an example of the sorts of choices that this research approach suggests, we shall again use research about remuneration and gender in the legal profession.

The components of each of the three phases of a typical criticalist study (is shown depicted in Figure 4.17) are outlined below and summarised in Figures 4.18 to 4.21.

Figure 4.18 shows how the focus may be, for instance, on objective and subjective relationships between gender, qualifications and income in the legal profession, with the aim of establishing an explanatory and prescriptive (or predictive) model to inform policy and facilitate change. A core group of stakeholders could be considered as the cohort of male and female legal practitioners, legal practice industry bodies and academic institutions who train practitioners and also research in the field.

Figure 4.18 also introduces the criticalist agenda of seeking to construct explanatory and prescriptive models that account for power and differences between stakeholders. This political dimension may become apparent through many, if not all, of the steps of a criticalist study. For instance, the study's focus
In criticalist research, the research focus and stakeholders are mutually dependent and may continue to shape the research.

In terms of our salary-gender-qualifications example, Figure 4.19 shows how strategy may be the progressive construction of a working hypothesis from stakeholders and from literature. This would evolve as nomothetic and idiographic stances are combined through deductive, inductive and abductive logic to construct a model of patterned inequalities which is then retroductively validated.

Literature could be expected to span professional, industry and academic publications and exhibitions that underpin both statistical and idiographic insights about regularities, trends and diverse perspectives on historic and current arrangements. This will then inform the construction and testing of an initial model linking income and gender.

Questions might focus on two areas of interest: first, patterns and explanations, partly structured by elements of inequality, that may account for linkages between remuneration and gender arrangements in the legal profession; and second, whether there are groups within the legal profession who wish to alter the status quo.

Challenges may be expected to include matters to do with how we recognise, illuminate and deal with covert differences in realities (including opportunities), and the nature of the researcher's role in political studies in
which stakeholders' positions about reality or change may be unclear and/or contested.

These are illustrations of the nature of strategy, literature, questions and challenges, but there are some more general aspects that are also worth noting at this introductory stage.

Criticalist research typically formulates and deals with two classes of questions: first, questions about variables and their interrelationships, and second, questions about power and (in)equality between stakeholders. In Figure 4.19 the core question about salary, qualifications and gender variables may be elaborated with sub-questions about substantive and mediating variables (such as employee status). The researcher helps to reveal and illuminate the way in which power and differences between stakeholders influence the study's variables and their interrelationships with questions like 'Is there a structure of (in)equality that is differentially perceived by stakeholders?' and 'Is political influence present/absent in the study's scope or conduct?'

The research strategy sequences the research questions and indicates how they will be answered; typically combining statistical data-oriented inquiry
with (inter)subjective inquiry about stakeholders' perceptions and accounts of what happens and why.

Literature refers not only to publications about studies and practice in the substantive field, but also to publications about modes and methods of inquiry and their contextual efficacy.

Methodological and substantive challenges of a conceptual and practical nature inevitably limit a study. For this reason an important early design task is to negotiate the study's scope and likely deliverables so as to best balance the requirements for disciplined research with the need for informative and helpful outcomes.

Formulation and clarity about questions, strategy, literature and challenges more or less evolve as a criticalist study progresses. It is mutual consistency between these four aspects that helps to ensure informative and useful progress with the twin detailed tasks of assembling and analysing data, and constructing and testing a satisfactory explanatory and predictive model. The result is a succession of models that are refined and tested so as to eventually offer the most comprehensive and reliable explanatory, predictive and prescriptive model. This model can then be used to enhance representation and equity rather than amplify the disenfranchising use of power.

Assembling and analysing data, and then synthesising and testing or validating an acceptable explanatory and prescriptive or predictive model, may be expected to include the concurrent generation and analysis of primary

Figure 4.20

In a criticalist study, data and modeling activities co-evolve
objective survey data and in-depth subjective data from focused interview. The purpose is to establish mutually consistent typified concepts from regularities in the data. Progressive synthesis of emerging hypotheses and analytic constructs is expected to evolve and refine a model which is constantly tested against an active search for disconfirming evidence. Validation is expected to involve a deliberate and ongoing process in which different stakeholders react to the model's basis and utility.

**Figure 4.21**

<table>
<thead>
<tr>
<th>Report: aims, approach and findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report the study's purpose, scope, conduct and findings. Self-assess the study's rigour and recommend improvements and further research challenges. Highlight relationships between salaries, qualifications and gender and suggest policy applications and guides for possible uses.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Application: interpret reported findings ‘in-use’ and their limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report the results of using the findings in terms of lessons about (ineffective forms of use and (contra)indications of further use.</td>
</tr>
</tbody>
</table>

**Reporting a criticalist study**

Finally, there are two major aspects to reporting a criticalist study. The first aspect is about the study's aims, scope, approach, strategy, findings and their implications, as well as reflections on the study's rigour and recommendations for further work. Describing the findings requires a description of the model that illuminates previously covert realities and also provides policy options. The second aspect presents reflective comments about the study's design and conduct, and suggestions about issues for further study and how this might be carried out. The second aspect would follow findings in practice in the event that such experience exists. Reports of such experience would comment on insights from use of the findings and the results that arose from such use, as well as suggestions about aspects of the findings that were affirmed or challenged and tips for targeting further application.
CONCLUSION

Our explanation in this chapter of the three paradigms we have focused on, and the details of how they could be put into practice using the example about income and gender in the legal profession, should show that we can expect dramatic variations in the research design\(^1\), consequent revelatory power and knowledge that is likely to arise from a study conducted within different research paradigms, even when the topic is the same. So, it follows that the choice of paradigm must reflect a prudent judgement about the fit between the study's context and the study's purpose.

It is the researcher's responsibility to weigh up the strengths and weaknesses of candidate paradigms according to the context and purpose of the research before finally choosing a research paradigm and then specifying the study's design details.

The templates introduced in this chapter are offered as a guide to research according to each of the three paradigms. Together with the research roadmap in Figure 3.1, the templates serve heuristic purposes for researchers.

ACTIVITIES AND RESOURCES

This section at the end of each chapter suggests further reading, and offers discussion and practice development activities.

EXERCISES AND QUESTIONS

1  (a) Find examples of exemplary seminal positivist, interpretivist and criticalist research studies in business and management research.  
     (b) On what basis are they considered exemplary?  
     (c) What systematic ways are there of finding (reputedly) exemplary research studies?

2  (a) Construct a comparative table (the same as, or an alternative to Tables 4.1, 4.2 and 4.3) that highlights important differences and similarities between the exemplary studies identified in Exercise 1. (Note: this exercise can usefully be extended to cover other forms of scientific study in business and management research, and not just positivist, interpretivist and criticalist forms of research.)

3  (a) Identify some of the debates that persist in relation to the concept of scientific paradigms and scientific traditions.  
     (b) Note the implications for choosing, justifying and applying a particular scientific paradigm to a business or management research problem of interest to you, or to one that you know is of major importance.  
     (c) From your readings in the philosophy of science, develop your own
meanings and illustrations for the following terms: objective, subjective, intersubjective, meaning, truth, realist, idealist, relativist,

(b) When meanings in the literature differ, consider the contexts in which these different meanings apply, and note the implications that arise for developing a working concept of science.

IN-DEPTH TOPICS

1. Construct, in your own terms, and with illustrations that you have directly experienced, descriptions and examples of the meaning of ontology and epistemology.

2 (a) Examine the structure of a variety of exemplary or seminal positivist research studies.

(b) To what extent do they broadly fit the template shown, and do they share a structural pattern that is distinctly different from that shown in the template (Figure 4.8)?

3 (a) Examine the structure of a variety of exemplary or seminal interpretivist research studies.

(b) To what extent do they broadly fit the template shown, and do they share a structural pattern that is distinctly different from that shown in the template (Figures 4.9 to 4.13 and combined in Figure 4.14)?

4 (a) Examine the structure of a variety of exemplary or seminal criticalist research studies.

(b) To what extent do they broadly fit the template shown, and do they share a structural pattern that is distinctly different from that shown in the template (Figure 4.17)?

N.B.: As the basis for designing and conducting a rigorous research study, the choice of a scientific paradigm must consider, and justify (through evidence and logical argument), the fit between the study's context (for example, the characteristics of the substantive phenomenon of interest) and the study's specific purpose, focus and core research question.

FURTHER READING


Following on from the six research examples outlined in Chapter 2, the next three chapters illustrate in more detail key elements of the three paradigms in action. Chapter 6 discusses the positivist paradigm, Chapter 7 the interpretivist paradigm and Chapter 8 elaborates the paradigm of criticalist research. Each of these chapters highlights, then details, specific features of important components of each paradigm so you can gain an overall appreciation of typical essential characteristics and differences between the paradigms. This approach emphasises the importance of fitting investigative theory and investigative practice to the context and purpose of each research problem.

Each of the following three chapters is presented in three sections. The first section reminds the reader of major elements of investigative theory and investigative practice that typify the research paradigm being illustrated. Theory spans the research question, the philosophy of science, principal logic of inquiry, research methodology, researcher's stance and research methods. Practice spans the proposal, ethics, funding, scheduling, conduct and reporting.

The second section summarises, in a tabular format, important principles of research theory and practice that apply to two examples provided in the chapter. This helps the reader to apprehend at a glance important aspects of investigative theory and practice to consider when formulating a research approach.

The third section of each chapter presents two examples of research planning choices and their rationale, which span investigative theory and investigative practice for the research paradigm on which the chapter focuses. Each chapter provides one information management example and one strategic marketing example.

**RESEARCH DESIGN AND IMPLEMENTATION CHOICES**

The choices that researchers make reflect awareness of philosophical, epistemological and practical issues and possible responses. When taken together, these more or less reflect the power, suitability and rigour of a research-based approach to addressing a challenging inquiry.
Principles of what constitutes good research usually reflect at least two things: general principles that apply to many paradigms, and specific principles that only hold for specific paradigms. Taken together, patterned evidence of the general and specific principles is a basis for doing and also assessing research.

Important decisions that collectively help to typify a paradigm in action are informed by a combination of the nature and context of the substantive research topic, the research roadmap and the character of the selected paradigm. This is shown in Figure 5.1.

Each of Chapters 6, 7 and 8 uses an information management and a strategic marketing example to highlight considerations that reflect the paradigm choice and research roadmap in action. Tables 5.1 to 5.6 summarise these six examples.
Figure 5.1

Research design and implementation choices are successively informed by three perspectives.
Table 5.1 Illustrative elements of investigative theory when proposing scoping, resourcing and managing a **positivist study**

<table>
<thead>
<tr>
<th>Investigative theory</th>
<th>Example 1</th>
<th>Example 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positivist research</td>
<td>Information management</td>
<td>Electronic service goods</td>
</tr>
<tr>
<td>Question or hypothesis</td>
<td>Are alignment-capable managers more often linked with project success than other managers?</td>
<td>Are the sales of products and services more affected by price, functionality or brand recognition?</td>
</tr>
<tr>
<td>Philosophy of science</td>
<td>Ontology</td>
<td>Positivist</td>
</tr>
<tr>
<td>How reality is viewed</td>
<td>Reality is assumed to be objectively definable and exists independently of humans.</td>
<td></td>
</tr>
<tr>
<td>Epistemology</td>
<td>How knowledge is generated</td>
<td>Independent and objective</td>
</tr>
<tr>
<td>A hypothetico-deductive structure which follows a linear process to generate confirmation or refutation of hypotheses derived from a theoretical position.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Argument structure</td>
<td>Inquiry's main logic</td>
<td>Linear</td>
</tr>
<tr>
<td>Deductive reasoning builds and tests hypotheses.</td>
<td>Inductive reasoning leads to tentative generalisations.</td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td>Purpose</td>
<td>Nomothetic - create and qualify general findings.</td>
</tr>
<tr>
<td>Tactic</td>
<td>Using empirical data, test hypotheses deduced from theory.</td>
<td></td>
</tr>
<tr>
<td>Researcher's stance</td>
<td>Etic - the researcher operates as a dispassionate outsider.</td>
<td></td>
</tr>
<tr>
<td>Main methods</td>
<td>Quantitative (e.g. statistical methods).</td>
<td></td>
</tr>
<tr>
<td>Approach and outcomes</td>
<td>Large-scale survey of managerial capabilities and project outcomes ... that results in ... statistical correlations and measures of significance.</td>
<td>Statistical analysis of sales and market data from surveys and other sources ... that results in ... statistical correlations and measures of significance.</td>
</tr>
</tbody>
</table>
Table 5.2 Illustrative elements of investigative practice when proposing, scoping, resourcing and managing a posivist study

<table>
<thead>
<tr>
<th>Investigative practice</th>
<th>Example 1 Information management</th>
<th>Example 4 Electronic service goods</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positivist research</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposal focus to highlight ...</td>
<td>The importance of alignment scores as indicators of alignment capability and its importance in reducing the high failure rate of investments in IT systems.</td>
<td>The importance of knowing the comparative significance of price, functionality and brand on buying decisions.</td>
</tr>
<tr>
<td>Indicative ethical issues</td>
<td>Institutional discrimination that may constrain the study, taint the data and limit or result in misuse of findings.</td>
<td>Biasing the sample or the data and using results to manipulate unwitting customers.</td>
</tr>
<tr>
<td>Likely funding sources</td>
<td>Prospective value of the study invites government, industry and firm funding and in-kind support.</td>
<td>Funding to be sought from individual firms that might benefit from results.</td>
</tr>
<tr>
<td>Significant scheduling considerations</td>
<td>Operationalise the concept of alignment and administer the survey instruments to the sample.</td>
<td>Sampling, administration and analysis of questionnaire.</td>
</tr>
<tr>
<td>Key conduct factors</td>
<td>Organisationally and socially sensitive research administration and management as well as sound technical supervision of the research.</td>
<td></td>
</tr>
<tr>
<td>Reporting</td>
<td>(a) Importance of the study for improved firm and industry practice (b) Ethical expression and use of findings (c) Further research challenges.</td>
<td></td>
</tr>
</tbody>
</table>

Among other commonalities, both positivist examples feature:

- an objective nature of the reality studied
- standardisation of research instrument
- measurable variables
- direct apprehension of reality (positivist epistemology).
<table>
<thead>
<tr>
<th><strong>Interpretivist research</strong></th>
<th><strong>Example 2</strong></th>
<th><strong>Example 5</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing knowledge workers</td>
<td>What are the distinctive characteristics of expert practice for managing knowledge workers?</td>
<td>What characteristics of effective decision making help make (more) competitive product portfolios?</td>
</tr>
<tr>
<td>Question or hypothesis</td>
<td>Ontology</td>
<td>Epistemology</td>
</tr>
<tr>
<td><strong>Philosophy of science</strong></td>
<td>How reality is viewed</td>
<td>How knowledge is generated</td>
</tr>
<tr>
<td><strong>Ontology</strong></td>
<td>Constructionist</td>
<td>Relativist and intersubjective.</td>
</tr>
<tr>
<td>Reality as perceived relative to a participant's explicit and enacted experience and consequently being socially constructed by, and relative to, different humans.</td>
<td>A process of reflexive hermeneutic interpretation of intersubjective experience generates and validates meanings and associated theory.</td>
<td></td>
</tr>
<tr>
<td>Argument structure</td>
<td>Inquiry's main logic</td>
<td>Adaptive (evolutionary).</td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td>Purpose</td>
<td>Abductively create and verify theoretical concepts from abstracted significations.</td>
</tr>
<tr>
<td>Idiographic - describe the nuances of specific instances and their distinctively idiosyncratic meanings and, from this, form an integrating set of descriptive and/or explanatory concepts and principles.</td>
<td>Inductively reason and test creatively founded themes and theoretical concepts that are grounded in data about experience.</td>
<td></td>
</tr>
<tr>
<td>Tactic</td>
<td>Iteratively generate intersubjective data with participants and, in parallel with data generation, construct descriptive/explanatory theory.</td>
<td></td>
</tr>
<tr>
<td>Researcher's stance</td>
<td>Emic: the researcher explicitly operates as a (quasi) insider with the research sample.</td>
<td></td>
</tr>
<tr>
<td><strong>Main methods</strong></td>
<td>Qualitative</td>
<td>[e.g. hermeneutic analysis of language within a dialogic method).</td>
</tr>
<tr>
<td>Qualitative</td>
<td>Focus groups and depth interviews</td>
<td>Observations, focus groups and depth interviews</td>
</tr>
<tr>
<td>.. that result in .. verifications of effective practices explained by managers and knowledge workers.</td>
<td>.. that result In.. ideal typical decision making principles and practices associated with persistently competitive product portfolios.</td>
<td></td>
</tr>
<tr>
<td>Approach and outcomes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.3 Illustrative elements of investigative theory when proposing, scoping, resourcing and managing an interpretivist study
Table 5.4 Illustrative elements of investigative practice when proposing, scoping, resourcing and managing an interpretivist study

<table>
<thead>
<tr>
<th>Investigative practice</th>
<th>Example 2</th>
<th>Example 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investigative research</td>
<td>Managing knowledge workers</td>
<td>Deciding on competitive product portfolios</td>
</tr>
</tbody>
</table>
| Proposal focus to highlight...                                                       | (a) The importance of knowing distinctive features of expert management practice as well as improved ways to know this.  
(b) The value of a tentative theory of expert practice to help manage knowledge workers. | (a) The value of better understanding effective decision practices and the study scope needed for this outcome.  
(b) The value of alternative marketing strategies to better match consumer preferences. |
| Indicative ethical issues                                                             | Protect weak participants and employees from adverse impact of disclosures in the study, and avoid preferential treatment of stronger interested parties. | Manipulation of data and support by stakeholders with competing values, interests and influence with resulting possible discrimination between customer segments. |
| Likely funding sources                                                               | Government funding support as well as industry and specific firm support. | Funding from individual firms and industry associations interested in the benefits of such a study. |
| Significant scheduling considerations                                               | Access to busy senior managers and informative and experienced knowledge workers as well as technical support for data analysis. | Negotiate budget and timetable. Interim reports to maintain support. Get good focus groups and access to diverse consumer views. |
| Key conduct factors                                                                  | Locate appropriate experts, analyse data and interpret findings. | Sensitising concepts, sampling, data interpretation and theorising. |
| Reporting                                                                            | Methodological improvements and uses for education and marketing. |                                                                   |

Among other commonalities, both interpretivist examples feature:

- the social construction of reality (ontology)
- hermeneutic epistemology
- narrative and discursive data (such as text)
- generation of typologies from data.
<table>
<thead>
<tr>
<th>Investigative theory</th>
<th>Example 3</th>
<th>Example 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Criticalist research</td>
<td>Business information systems investments</td>
<td>Politics of portfolio choices</td>
</tr>
<tr>
<td>Question or hypothesis</td>
<td>Do (and how do) political and technical considerations influence executives' go/no-go decisions about investments in strategic IT business information systems?</td>
<td>How are executives' preferences and choices for the firm's product portfolio mix informed and influenced by their organisation-political contexts?</td>
</tr>
<tr>
<td>Philosophy of science</td>
<td><strong>Ontology</strong> How reality is viewed</td>
<td><strong>Realist and relativist.</strong> Dual reality: objective realities exist as institutional arrangements concurrent with local and individualistically relied on subjective realities.</td>
</tr>
<tr>
<td></td>
<td><strong>Epistemology</strong> How knowledge is generated</td>
<td><strong>Pragmatic constructionist</strong> - a composite of objective and inter-subjective data from which knowledge of reality is negotiated. An iterative process of pragmatic critical theorising generates a descriptive and explanatory model which is further used in a prescriptive or predictive way for the purpose of emancipation.</td>
</tr>
<tr>
<td>Argument structure</td>
<td><strong>Iterative</strong> and evolutionary development of plausibility that increases with more diverse evidence and the absence of contradiction.</td>
<td><strong>Retroductive</strong> reasoning iteratively refines an analogic model that is grounded in diverse objective and subjective data.</td>
</tr>
<tr>
<td>Inquiry's main logic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methodology</td>
<td>Purpose</td>
<td><strong>Nomothetic</strong> - explain particular phenomena. Using empirical data, construct explanatory theory to inform change.</td>
</tr>
<tr>
<td></td>
<td>Tactic</td>
<td></td>
</tr>
<tr>
<td>Researcher's stance</td>
<td><strong>Etic/emic.</strong></td>
<td></td>
</tr>
<tr>
<td>Main methods</td>
<td>Quantitative and qualitative (thread statistical and dialogic methods).</td>
<td>Classify and test elements of case-specific decision making ... to produce ... a model of causal links between characteristics of social context and new product choices.</td>
</tr>
<tr>
<td>Approach and outcomes</td>
<td>A typology of practice principles ... <em>that results in</em> ... a model of causal links and actions between funding decisions and funding outcomes for investment cases.</td>
<td></td>
</tr>
</tbody>
</table>
**Table 5.6** Illustrative elements of investigative practice when proposing, scoping, resourcing and managing a **criticalist study**

<table>
<thead>
<tr>
<th>Investigative practice</th>
<th>Criticalist research</th>
<th>Example 3</th>
<th>Example 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Proposal focus to highlight ...</strong></td>
<td>The importance of knowing more about decisions that enhance the life time value of a firm's portfolio of strategic IT-based business information systems.</td>
<td>The importance of knowing about, and being able to better mediate, the impact of organisational-political influences on decisions that affect the overall strengths of a firm's product portfolio.</td>
<td></td>
</tr>
<tr>
<td><strong>Indicative ethical issues</strong></td>
<td>Manipulation of data and findings to advantage or disadvantage executives as well as particular institutional views.</td>
<td>Discrimination and misuse of resources with differential advantage to different areas of the firm and its customers.</td>
<td></td>
</tr>
<tr>
<td><strong>Likely funding sources</strong></td>
<td>The potential value of the study implies that industry and government support should be sought plus support from firms.</td>
<td>Funding from individual firms that see benefit in the types of results that may emerge from such a study.</td>
<td></td>
</tr>
<tr>
<td><strong>Significant scheduling considerations</strong></td>
<td>Obtaining comparable objective lifetime data for each business information system in the sample. Identify and access executives' and stakeholders' relevant first-hand experiences with sample cases.</td>
<td>Obtaining comparable product portfolio data. Identifying and accessing executives with first-hand experience of decisions, their contexts and their consequences.</td>
<td></td>
</tr>
<tr>
<td><strong>Key conduct factors</strong></td>
<td>Good technical supervision and strong samples with rich and comparable data. Wise political counsel about how to deal with political influence as well as ensure good participation and access to busy executives.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Reporting</strong></td>
<td>Industry and practice uses of the new model and accounts of, and reflections on, its explicit/implicit practice and ethical implications as well as advice about further research.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

See Chapter 8 for a comprehensive illustration of these elements of a typical Criticalist study using Example 3 (business information systems investments) and Example 6 (politics of portfolio choices).

Among other commonalities, both criticalist examples include:

- dealing with or accepting dual realities (ontologies)
- higher research reflexivity (for example researcher, participants, other stakeholders)
- integration of structural/institutional/patterned data with discursive data.
In the case of a criticalist epistemology, it is important to recognise that power and systemic inequities (subtle or blatant) may manifest as a pragmatic influence on the selection and comparative interpretation of objective and subjective data, and in this way power can be expected to mediate socially constructed meanings. In turn, the consequent generated meanings and experience of constructing these meanings may be expected to mediate the ongoing nature of power. This likely dynamic in criticalist research must be accounted for in design, conduct and reporting. In particular it is prudent to treat, as somewhat prescient and transient, the generation, verification and use of knowledge in the form of a model of causal links between political and other considerations on the input side and decisions and their outcomes as outputs.

**ACTIVITIES AMD RESOURCES**

This section at the end of each chapter suggests further reading, and offers discussion and practice development activities.

**EXERCISES AND QUESTIONS**

1. Examine a variety of seminal or exemplary business and management studies.
   (a) Do they all exhibit explicit, justified and mutually consistent ontological, epistemological and practical positions and treatments?
   (b) If they do not, does there appear to be a distinguishing feature that separates those studies that do from those that do not?
   (c) What implications do the above findings have for your intended research?
2. Select a topical area of interest and review a variety of leading positivist, interpretivist and criticalist studies on the topic.
   (a) What general principles (that is, principles that are independent of the particular paradigms expressed or implied) appear to be exhibited across these different studies?
   (b) What implications do your observations have for designing and developing chains and patterns of evidence to answer a research question convincingly?
3. Examine a range of exemplary positivist studies in business and management, research and in behavioural fields beyond business and management studies.
   (a) Do the four characteristics noted at the bottom of Table 5.2 apply to all these studies?
   (b) Are there other characteristic assumptions that also apply to all these studies?
4. Examine a range of exemplary interpretivist studies in business and management research and in behavioural fields beyond business and management studies.
   (a) Do the four characteristics noted at the bottom of Table 5.4 apply to all these studies?
   (b) Are there other characteristic assumptions that also apply to all these studies?
   (c) What implications do your findings suggest for designing and conducting exemplary interpretivist business and management studies?

5. Examine a range of exemplary criticalist studies in business and management research and in behavioural fields beyond business and management studies.
   (a) Do the three characteristics noted immediately after Table 5.6 apply to all these studies?
   (b) Are there other characteristic assumptions that also apply to all these studies?
   (c) What implications do your findings suggest for designing and conducting exemplary criticalist business and management studies?

6. (a) From your own experience and using first-hand accounts from experienced organisation researchers, list examples of subtle, and also blatant, forms of power that have influenced the selection and/or interpretation of data.
   (b) From your examination of a variety of reputedly exemplary criticalist management studies: (i) Are forms and influences of power/inequalities on the development and interpretation of data explicitly acknowledged and discussed? (ii) What implications do your tentative findings have for designing, conducting and reporting a criticalist study?

FURTHER READING

PART III

ILLUSTRATIVE CASES
INTRODUCTION

In this chapter about examples of two positivist studies, the illustrations and reasoning address elements shown in the Question or hypothesis row of Table 5.1. These elements are the scientific approach and outcomes and the research strategy including the chosen methods (such as techniques of data generation, data reduction and analysis).

The chapter does not include detailed discussion of the philosophy of science, strategy, methodology, stance or methods already covered in earlier chapters and shown in the rows that highlight aspects of investigative theory in Table 5.1.

We deliberately avoid specific and detailed discussion of technical aspects of positivist methods and techniques (as there is already a vast literature on this). Rather, our purpose here is to emphasise and illustrate the importance of contingent choices that help to establish the overall integrity within and between a positivist study’s investigative theory and investigative practice.

KEY ELEMENTS IN POSITIVIST STUDIES

Positivist studies can be thought of as comprising two distinctive but mutually dependent parts. Investigative theory accounts for and describes design choices and their justification based on principles appropriate to the paradigm. Investigative practice accounts for constraints and practical possibilities.

Investigative theory and investigative practice each apply to distinctive steps of positivist research. Positivist research is characterised by its typical linear structure, which is indicated in Figure 6.1 and was discussed in Chapter 4.

Investigative theory

Investigative theory comprises the following elements.

Positivist studies assume that an objective reality (ontology) exists and that neutral observation by researchers is possible. Key elements of such studies typically include the following elements.
Linear reasoning

The logic for addressing the question in a positivist study typically depends on a linear chain of deductive and/or inductive reasoning. Linear reasoning typically involves collecting evidence and assessing it against the question or hypothesis in a predetermined way. The general orientation in this process is that steps already done do not get redone or altered as a result of later steps.

Choice of central concepts and their operationalisation as variables

The development of concepts is a common early step in attempting to form or confirm descriptive and explanatory theory for a phenomenon or a class of phenomena, whether they are complex or straightforward. A variable is a measurable proxy for a key aspect of a concept, and its typical form is nominal, ordinal or interval.
Selecting aspects of a concept to be measured usually reflects a judgement about theoretical and practical elements of the study. Theoretical considerations include assessments about the study's validity and reliability inasmuch as it depends on the chosen variables (proxies) as authentic representatives of the phenomenon of interest, as well as depending on the forms and methods of their measurement.

Practical considerations include assessments of the actual ease or difficulty with which corresponding measurements of selected variables can be achieved, the sensitivity of the measures and the ways in which they are later able to be analysed, compared and contrasted.

*Measurement of variables*

Variables are the result of abstracting and operationalising concepts as objective and measurable. There are typically three types of variables: independent, dependent and intervening. Variables may be either discrete (such as units or categories) or continuous (such as height or income); in the case of continuous variables, we must distinguish clearly between the nature of the variable, and the instrument and unit of measure that are used to record instances of the variable). Magnitudes of the independent variable are measured in order to assess its assumed relationship with the dependent variable, with best efforts made to identify and control for intervening variables which may affect assumed relationships between the other two types of variable.

When it comes to measuring variables, important considerations in positivist studies usually include:

- The structure of the positivist study. For instance, is it an experimental study, survey or an observational study? In experimental studies, the independent and known intervening variables may be deliberately set, whereas in observational studies these input variables are simply measured and recorded as they occur independently of the researcher.
- The form of the study. For instance, is it a snapshot study, a modelling study or a longitudinal study. In each of these three cases, protocols and their associated disciplines are needed to ensure, commensurability between all instances of a variable as well as clarity about the contexts in which instances of variable's measures are recorded - so that interpretation of patterns, anomalies and other tests of posited relationships can be-incisively interpreted.

*Considering intervening factors*

It is important to attempt to recognise and account for likely intervening variables. This typically occurs through:

- sample design and specification of demographic data to be collected
- data analysis that considers the sample's demographic characteristics
when analysing associations between dependent and independent variables

- reporting and interpreting findings

Consideration must also be given to other factors such as:

- vigilance about the assumption and nature of causality
- strong correlations not necessarily implying causality between the variables
- incomplete knowledge about substantively important concepts and the possibility of further intervening variables.

**Population and sampling**

A technically and purposively appropriate representative sample needs to be chosen to reflect the relevant population of the research and the intended use of the findings.

Generally, there are two important aspects to be considered when designing a positivist study:

- a clear description (and rationale) for the nature of the population and its defining characteristics (for the representativeness and breadth of sampling)
- the purpose of a sample - which might be for investigating the wider merits of a particular theoretical proposition, testing the merits of a methodological improvement associated with an existing and accepted theoretical proposition, or challenging a theoretical proposition and hence some underlying theory.

Depending on the purpose of sampling, the nature of the relevant population and the choice of its sample may be best assessed together with the merits and limitations of the consequent study.

Once the rationale and characteristics of the population and sample have been determined, it remains to describe the protocols and note the specific methods needed to select the samples and collect associated data instances.

**Measurement of relationships between variables and tests of significance**

This is about the reduction of datasets into metadata as metrics and other procedurally determined representations that typically characterise patterns, regularities, clusters, relationships and their associated conditions that may be derived from the dataset(s). The result is a concise and informative set of findings which are crucial in answering the research question or testing a hypothesis. Typically these metadata are descriptive statistics (such as frequency distributions or (co)variance) and/or inferential statistics (such as measures of
significance of relationships between variables in appropriate population samples).

*Interpreting findings*

This reflects a disciplined and craft-based set of activities that translate the findings into usable knowledge within explicitly stated limitations. Skilful interpretations can help avoid the misuse of statistics and statistical relationships. In this part of positivist research it is important to identify and assess limitations on the meaning of patterns, irregularities and derived metameasures in samples appropriately drawn from relevant populations.

*Results as inferences from findings*

These arise from the skilful application of extant and traditionally accepted, knowledge as well as a creative theoretical imagination. This may produce interpretations which, after further analytic and empirical testing, can be used to produce inferences and conclusions about the meaning of statistics and other metadata. It is also the case that in situations beyond the circumstances in which the knowledge was generated, inferences, implications and tentative conclusions may be drawn. In such cases further testing is needed to warrant increasing the truth value of such out-of-bounds inferences and tentative theory.

*Critique of validity and reliability*

It is commonly valuable to reflect on the study's conduct with reference to the extent to which the operationalised variables are adequate proxies for the theorised concepts they represent. With respect to reliability it is also important that the conduct of the study be adequately described so that other researchers can confidently and cogently affirm the study's merits, and also build on its approach and findings.

*Investigative practice*

Investigative practice comprises the following elements.

*Proposal*

This typically identifies the motivation, importance of and purpose for the study as they relate to methodology, substantive theory and empirical practice. It is not uncommon to expect there to be competition for access to research resources, including but not limited to funds. So, it is often the case that a political and/or commercial aspect of a research case must be apprehended and addressed. This goes to consideration of the processes, timings and participants in review and approval processes as well as a focus on both academic merit and practicalities.
Ethics

This typically relates to institutionalised positions on substantive and philosophical theory, research practice and reporting, and differential impacts on researchers and other living and material things that may arise during the conduct of, or as a result of, the research and its findings.

An important and often useful orientation when developing an ethics proposal for a research study is to consider the various stakeholders - those with influence and also those with little or no influence - and identify:

- prospects for harm to stakeholders arising directly from the motives, scope, design, conduct and expected uses of the study's findings
- proposed policies, design choices and supervisory and implementation practices that specifically avoid or mitigate harm to the extent that this is acceptable to impacted stakeholders.

Funding

The means and permissions needed to resource the research design and its implementation are essential to allowing for effective research progress and outcomes. It is not unusual to expect that funding a study will depend on rhetoric and persuasion as well as reasoned evidence about the purpose, conduct and expected benefits of the study.

Successfully accessing established as well as new funding schemes frequently depends on the specific characteristics of a proposed study. There are particular requirements and constraints that must be fulfilled if a grant application or funding proposal is to succeed. For this reason, it is essential to find and work with those who have substantial successful experience in funding applications if a research proposal is to succeed. Finally, in-kind support and access to facilities can affect the capacity of a research project to meet its aims as much as winning access to direct funding.

Schedules

These typically span important theoretical and practical blocks of work including

- establishing the study and its operational resources
- literature reviews
- theoretical and practice design
- assembling and analysing data
- assessing the merits and limitations of the findings and their use
- formally reporting and more broadly promulgating the study and its findings.
**Conduct**

This typically covers implementation of the research design through to and including the generation and verification of the study's findings. Important aspects of conduct that often need to be planned for, described and supervised, or even formally reviewed and reported, include:

- administration and stakeholder communication throughout a study
- development and training in specific tools and techniques;
- supervising or auditing proposed ethical policy and practice
- overseeing the preservation of confidentiality and data integrity as well as related security issues
- technical supervision to ensure rigour meets the standards required by the study's aims and commitment.

**Reporting**

This usually spans the study's purpose, scope and constraints, highlights of the study's conduct, presentation of the study's findings, discussion of likely practical uses of the findings, and a critique of the study with recommendations regarding substantive and research theory.

Tables 6.1 and 6.2 highlight aspects of investigative theory and investigative practice respectively that are associated with positivist investigations of MIS practice (Example 1) and strategic marketing of personal electronic service goods (Example 4). Following the two tables, each aspect of investigative theory and then investigative practice is illustrated and discussed; first for Example 1 and then for Example 4.
Table 6.1  Highlights of investigative theory for two positivist examples

<table>
<thead>
<tr>
<th>Investigative theory</th>
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<th>Example 4</th>
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<tr>
<td>Philosophy of science</td>
<td></td>
<td></td>
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<tr>
<td>Ontology</td>
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<td></td>
</tr>
<tr>
<td>How reality is viewed</td>
<td></td>
<td>Reality is assumed to be objectively definable and exists independently of humans.</td>
</tr>
<tr>
<td>Epistemology</td>
<td></td>
<td>Independent and objective</td>
</tr>
<tr>
<td>How knowledge is generated</td>
<td>A hypothetico-deductive structure which follows a linear process to generate confirmation or refutation of hypotheses derived from a theoretical position.</td>
<td></td>
</tr>
<tr>
<td>Argument structure</td>
<td>Inquiry's main logic</td>
<td>Linear</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deductive reasoning builds and tests hypotheses. Inductive reasoning leads to tentative generalisations.</td>
</tr>
<tr>
<td>Methodology</td>
<td>Purpose</td>
<td>Nomothetic - create and qualify general findings.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Using empirical data, test hypotheses deduced from theory.</td>
</tr>
<tr>
<td>Researcher's stance</td>
<td>Etic</td>
<td>- the researcher operates as a dispassionate outsider.</td>
</tr>
<tr>
<td>Main methods</td>
<td></td>
<td>Quantitative (e.g. statistical methods).</td>
</tr>
<tr>
<td>Approach and outcomes</td>
<td></td>
<td>Large-scale survey of managerial capabilities and project outcomes ... that results in ... statistical correlations and measures of significance.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Statistical analysis of sales and market data from surveys and other sources ... that results in ... statistical correlations and measures of significance.</td>
</tr>
</tbody>
</table>
Table 6.2  Highlights of investigative practice for two positivist examples

<table>
<thead>
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<th>Investigative practice</th>
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<tr>
<td>Example 1: The importance of alignment scores as indicators of alignment capability and its importance in reducing the high failure rate of investments in IT systems.</td>
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<td>Example 2: The importance of knowing the comparative significance of price, functionality and brand on buying decisions.</td>
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<td><strong>Indicative ethical issues</strong></td>
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<tr>
<td>Example 1: Institutional discrimination that may constrain the study, taint the data and limit or result in misuse of findings.</td>
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<td>Example 2: Biasing the sample or the data and using results to manipulate unwitting customers.</td>
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<td><strong>Likely funding sources</strong></td>
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<tr>
<td>Example 1: Prospective value of the study invites government, industry and firm funding and in-kind support.</td>
</tr>
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<td>Example 2: Funding to be sought from individual firms that might benefit from results.</td>
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<tr>
<td><strong>Significant scheduling considerations</strong></td>
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<tr>
<td>Example 1: Operationalise the concept of alignment and administer the survey instruments to the sample</td>
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<td>Example 2: Sampling, administration and analysis of questionnaire.</td>
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<td><strong>Key conduct factors</strong></td>
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<tr>
<td>Example 1: Organisational and socially sensitive research administration and management as well as sound technical supervision of the research</td>
</tr>
<tr>
<td>Example 2: (a) Importance of the study for improved firm and industry practice (b) Ethical expression and use of findings (c) Further research challenges.</td>
</tr>
</tbody>
</table>

EXAMPLE 1: INFORMATION MANAGEMENT PRACTICES

**Investigative theory**

Investigative theory for this positivist study is discussed below.

**Question**

Are alignment-capable managers more often linked with project success than are other managers?

**Nature of linear reasoning**

To address this question an inductive logic is used to argue from cumulative evidence in the data. This involves gathering observed corresponding instances of the variables of interest in order to test the posited relationship between the variables. From these observed instances a statistically based estimate is made of the strength or weakness of an association between variables.
Induction involves moving from a collection of single (idiosyncratic) data instances to conclude whether a general (nomothetic) relationship exists.

**Choice of central concepts and their operationalisation as variables**

*The independent variable is 'alignment-capable manager'.* This is a scalar value between 0 and 10 which is determined from questions about three independent dimensions - awareness, practice and focus. The three dimensions are:

- awareness of business, organisation, technology and management factors
- practice competencies that are typical in managerial and leadership activity
- focus that reflects the decision and action bias across business, organisation, technology and management factors.

*The dependent variable is 'project success'.* This is a scalar value between 0 and 10 which is determined from questions about two independent dimensions - value and risk. The two dimensions are:

- value arising from stakeholders' project linked capabilities and expectations
- risks arising from stakeholder's project linked experiences and expectations.

Assessment of the scalar value of both variables is typically determined either from answers to questionnaires administered as a survey, or as a result of structured evaluation by a certified consultant using a standardised data collection instrument.

*A likely intervening variable is 'manager's duration in a project'.* In this example it is commonly the case that several (project) managers may be linked with a project's evolution and outcomes, and that the duration of a manager's involvement with a project can be expected to influence more or less the project's outcome.

*Another possible intervening variable is 'project novelty'.* For projects that are much larger than, and/or significantly different from, a firm's common experience, it is possible that alignment-capable managers will not be sufficient to ensure project success.

Awareness Of these intervening variables may be reflected in the duration of the study as much as the definition of the population and the selection of the population's sample.

**Measurement of variables**

In this example values for alignment-capable manager and project success are assessed by constructing two questionnaires that will be administered together via a large scale and population representative survey. The resulting data will be reduced into statistical correlations with measures of significance between the variables which constitute the evidence in the data that is sought by the study's logic of inquiry.

In this example it is commonly the case that several (project) managers are
linked with a project's evolution and outcomes. The duration of a manager's involvement with a project can also be expected to influence more or less the project's outcome.

**Considering confounding factors**

While intervening variables help to account for known factors that may mediate findings and interpretations of statistical associations between independent and dependent variables, other (sometimes unknown factors) may also influence descriptions about and/or explanations of the behaviour of dependent variables. In this example we might expect firms' IT maturity, strategic stability and governance practices to be associated with project outcomes in immeasurable or unanticipated ways.

Tactics to help consider confounding factors such as the above commonly include redefining definitions of populations and/or samples, as well as more finely grained initiatives spanning data generation, data reduction and statistical analysis, and even the interpretation of findings.

**Population and sampling**

The purpose of this study is to help inform the better management of technology projects across a range of industries and types of projects. Designing a strata sample (at least 120 respondents and at least 30 projects) comprising a wide variety of project types and sizes, industry types, and firm sizes and maturity can be expected to help ensure informative representation. A variety of demographic characteristics such as age, educational background, professional experience and gender would also be included.

**Measurement of relationships between variables and tests of significance**

From the survey responses the scalar values of the independent and dependent variables are subjected to descriptive analysis (such as statistical measures of association, like correlation and measures of significance) and inferential analysis (such as generalisability from the sample to the study's population).

**Interpreting findings**

There are usually two ways in which findings about statistics are technically reported and interpreted; first, the factual aspects of the findings, and second, a plain speaking statement that conveys the practical meaning and limitations of these facts.

**Inferences from results**

The implications and consequences of the findings are discussed with particular reference to possible conditions under which extrapolation is appropriate and wider use of the findings may be considered reasonable.
Critique of validity and reliability

A conventional and important aspect of reporting positivist research covers consideration about the related concepts of validity and reliability. *Validity* is concerned with the extent to which operationalisation of theoretical concepts is appropriate and dependable. A proper discussion of validity must include the identification of intervening variables which may change the hypothesised relationship between the independent and dependent variables, and the extent to which the chosen sample truly represents the population from which it is drawn in order to test the relationship.

*Reliability* is concerned with the repeatability and replicability of the approach and findings by the same and/or other researchers operating in the same paradigm and in a similar context. This depends on a comprehensive and accurate description of the setting, steps and contingent choices that collectively constitute the intended and actual research approach.

Investigative practice

Investigative practice for this positivist study comprises the following elements.

Proposal

The motivation is to generate useful knowledge about alignment-capable managers and project success, and in doing so, to qualify a theory about factors associated with the long-run success of IT-based business information systems projects.

Ethics

The substantive theory to be tested challenges widely assumed knowledge that is relied on by commercial and academic institutions, and this may influence support for, and critique of, the study and its findings. Executive participants have reputations and careers to protect, while also disclosing data and supporting research that could be used to affect their and others' reputations and careers.

Funding

Because of the immediate and ongoing importance of findings that affirm associations between alignment-capable managers and long-run IT business systems success, funding from three sources is likely:

- from firms (such as IT-intensive corporations needing to significantly reduce the cost of IT systems failures)
- information industry bodies (such as professional computer societies and commercial associations of technology services providers)
• governments wishing to strengthen relevant management education and IT-reliant industries.

Schedules

Important scheduling considerations include access to sufficient data, and verification of findings.

Conduct

Important elements of conduct cover implementation of the research design through to and including the generation and verification of the study's findings. Sourcing and collecting data on projects and data about executives' and managers' profiles is a challenging aspect of this study, and can be expected to require political and social sensitivities as well as methodological rigour and competence.

Reporting

Highlights of the reporting process can be expected to cover:

• the aim of the study, to help address the chronically bad failure rate of investments in IT-based business information systems
• findings that can be used to help improve the long-run outcomes of IT-based business information systems
• contributions to methodology and substantive theory that may usefully inform further research.

EXAMPLE 4: PERSONAL ELECTRONIC SERVICE GOODS

Investigative theory

Investigative theory for this positivist study is discussed below.

Question

Are the sales of products and services more affected by price, functionality or brand recognition?

Nature of linear reasoning

To address this question we first use a deductive logic to generate three hypothesised relationships:

• between sales (a dependent variable) and price (the independent variable)
• between sales (the dependent variable) and functionality (an independent variable)
• between sales (the dependent variable) and brand-recognition (an independent variable).
There might be three alternative hypotheses to be tested, that:

- sales success is most affected by price competitiveness
- sales success is most affected by functionality of the product
- sales success is most affected by brand recognition.

Once the hypotheses have been established, inductive logic is used to argue from data instances (which could be generated from a questionnaire-based survey, for instance) that general relationships do or do not hold, and therefore that the corresponding hypotheses are supported (for now) or disconfirmed. From these instances a statistically based estimate is made of the strength or weakness of any associations between the dependent and some or all of the independent variables.

**Choice of central concepts and their operationalisation as variables**

*The independent variables are 'price', 'functionality and 'brand association'.* Price is any positive scalar value. Functionality is a set of nominal categories that are prioritised by respondents; these categories describe the product's capabilities (including new or unique features) compared with other products for the same market. Brand association is a composite of nominal categories: familiarity with the brand or brand novelty, and attribution of trust in the brand compared with others.

*The dependent variable is 'sales success'.* This is a compound value comprising total revenue and total quantity sold over a specified period.

*Some possible intervening variable(s) may confound relationships between the variables.* In this example, which is concerned with consumer choices about new forms and updated versions of personal electronic goods and services (.sometimes colloquially referred to as techno-gadgets), confounding factors such as peer sensitivity, economic climate, consumers' discretionary income levels, age and level of education may affect sales success.

Awareness of these intervening variables may be accounted for through redefining the study's population and/or sample structure, as well as through collection of demographic data and the subsequent reduction and analysis of data and its reporting and interpretation.

**Measurement of variables**

In this example corresponding data instances of 'price', 'functionality', 'brand association' and 'sales success' are collected through a questionnaire administered as a survey of the sample of consumers. To test the hypotheses, the resulting data will be reduced into statistical correlations with measures of significance calculated between the variables. Together, these constitute the evidence in the data that is sought by the study's logic.
Considering confounding factors

Judging from extant theory about buying behaviour, it can be expected that in this example, confounding factors such as economic and social pressures will also mediate consumer choices. Factor and cluster analyses based on sample characteristics can be expected to highlight likely mediating effects of these intervening factors.

The reporting and interpretation of the findings can also be expected to help users of the research account for the possible role of these exogenous factors on top of any statistical associations that the study may find.

Population and sampling

This study aims to better inform product and marketing managers who are responsible for anticipating and delivering products that successfully capture and retain a significant and profitable share of particular markets or market segments. Designing a strata sample of several hundred sources that reflects a wide variety of consumer types (differing by, for example, age, education, discretionary income levels, economic climate and peer sensitivity), brand and product offers, and buying choices can be expected to help ensure broad representation.

Measurement of relationships between variables and tests of significance

From the survey responses the values of the independent and dependent variables are subjected to descriptive analysis (such as statistical measures of association and measures of significance) and inferential analysis (such as generalisability from the sample to the study's population).

Interpreting findings

There are usually two ways in which findings about statistics are technically reported and interpreted, first, the factual aspects of the findings, and second, a plain-speaking statement that conveys the practical meaning and limitations of these facts. In this case it is expected that the findings will show the extent to which a statistically significant relationship between the dependent variable (sales success) and each of the independent variables (price, functionality, brand association) exists (if at all). The study would also be likely to report the extent to which any demonstrated associations are mediated by the intervening variables (age, education, discretionary income levels, economic climate and peer sensitivity).

Inferences from results

In this form of study, the implications and consequences of the findings are discussed with particular reference to possible conditions under which extrapolation is appropriate and wider use of the findings may be considered reasonable.

The aim of this study is to assist with product and marketing choices. It can
be expected that characteristics of future target populations and product characteristics will increasingly differ from those concepts and salient features on which the study was exemplified. For this reason, users of these types of studies need to be critically aware of the inherent limitations of such studies, and the declining relevance that increasingly occurs as study findings are applied to divergent settings.

**Critique of validity and reliability**

A conventional and important aspect of reporting positivist research covers consideration about the related concepts of validity and reliability. *Validity* is concerned with the extent to which operationalisation of theoretical concepts is appropriate and dependable. A proper discussion of validity must include the identification of intervening variables which may change the hypothesised relationship between the independent and dependent variables, and the extent to which the chosen sample truly represents the population from which it is drawn in order to test the relationship.

*Reliability* is concerned with the repeatability and replicability of the approach and findings by the same and/or other researchers operating in the same paradigm and in a similar context. This depends on a comprehensive and accurate description of the setting, steps and contingent choices that collectively constitute the intended and actual research approach.

**Investigative practice**

Investigative practice for this positivist study comprises the following elements.

**Proposal**

The motivation is to generate useful knowledge about factors that affect consumers' buying decisions about electronic consumer goods.

**Ethics**

The substantive theory to be tested can be used to manipulate consumers' buying decisions, so there is an ethical consideration involving the use of the knowledge generated in this study, if data gathering and/or the validation of research findings involves consumers disclosing their preferences and choices, then such participation must consider the level of understanding and disclosure that is informed and voluntary.

**Funding**

The immediate benefit of the knowledge generated in this study can be expected to at least inform, if not result in, improved marketing and sales outcomes. So
funding by the firm that is expected to benefit is the most likely source of money and in-kind support for such a study. A further possible prospect for support may be from an industry body, but only if that body sees that the study may help to inform its members about benefits that may arise from changes in marketing and sales practices for personal electronic consumer goods.

Schedules

Important scheduling considerations include

- access to sufficient data
- access to consumers
- patterns of sales before and after changed marketing initiatives.

Conduct

This typically covers implementation of the research design through to and including the generation and verification of the study's findings. Sourcing and collecting data about techno-gadget sales and a sample of consumers' disclosures about their buying considerations and buying choices are also key aspects of the study. Analysis of data and interpretation of associations and relationships between variables are the remaining challenging tasks of such a study.

Reporting

In the reporting process highlights can be expected to cover:

- extant knowledge about consumers' buying considerations and choices
- new knowledge about consumers' consideration of brand, price and features for a particular class of techno-gadgets
- a critique of a positivist-based market research methodology.

ACTIVITIES AND RESOURCES

This section at the end of each chapter suggests further reading, and offers discussion and practice development activities.

EXERCISES AND QUESTIONS

1. The ideal-typical reasoning in classic positivist studies is a linear chain of deductive and/or inductive reasoning in which steps already done do not get redone or altered as a result of later steps.
(a) Examine classic positivist studies for variations of this ideal-typical format, and critique the strength of the variations in light of their context, purpose and challenges.
(b) Do your findings cancel the typified assertion made in this book or merely offer a qualified tradeoff?

2. In positivist studies, findings that pertain to a population's sample often appear as statistics or formulae. Both formats typically propose some regularity: that is, within specified constraints and with specified likelihood, findings are applicable to the population as a whole. What other forms of positivist findings are there, and how is confidence in their generalisability (to the sample's population) expressed?

3. Identify as wide as possible a set of rules, styles and explicit limitations associated with interpreting the metadata (such as statistics and formulae) that positivist studies generate from empirical data and hypothesis testing. What implications does this have for concepts of rigour, truth and utility in positivist research?

4. (a) Review the literature on interpreting descriptive and inferential statistics.
(b) What principles can you identify for interpreting statistical metadata?

5. Prepare nuanced definitions and illustrations of the concepts of validity and reliability together with illustrations that clearly highlight the subtleties and differences within and between these two concepts.

6. Morals may be thought of as positions on what are considered to be good or bad states, with ethics being about the process of reaching and enacting a decision on what is moral.
(a) Discuss the relevance and practicalities of having to take a moral position, and design and conduct ethical research.
(b) What is the relevance of morality in a positivist science that is taken to be impartial and objective?

Review the literature on ethics associated with positivist business and management studies.
(c) Note important moral and ethical dilemmas that the ontological and epistemological assumptions of positivist science raise when human subjects and diverse cultural contexts are involved.
(d) Suggest processes and tests that can be used to ensure that research design and practice is ethical.

7. (a) Identify institutional sources of funding for research of the type in which you are interested.
(b) Identify patterns and paradoxes in the way public and private (industry and corporate) funding for positivist research appears to be allocated.
(c) What questions are raised by your initial scan of funding sources and allocations?

8. There are many types of schedules that are associated with well-administered and well-managed research programmes. Obvious ones include resource, activity, funding, reporting, and compliance schedules.
(a) Examine a variety of positivist studies of relevance to your field of interest.

(b) What sorts of schedule were involved other than timetables and funding/expenditure schedules?

(c) What types of schedule are most common, and what implications does this have for your planned research project?

(d) Discuss the sorts of practical requirements and constraints that may typically affect planning, implementation and progress reporting.

**IN-DEPTH TOPICS**

1. (a) What possibilities and corresponding difficulties arise when proposing a proxy (variable) for an aspect of a non-trivial business and management phenomenon?

   (b) What criteria do you propose for devising or selecting a (proxy) variable or a set of variables for a positivist study of some business or management phenomenon?

2. On what basis should common and distinct features of a population composition be described and understood for the purpose of:

   (a) defining a sample of the population?

   (b) asserting that a finding about a population's sample is of relevance to the population?

**FURTHER READING**


INTRODUCTION

Interpretivist studies span a wide, diverse and sometimes misunderstood range of methodologies and logics of inquiry, including ethnography, grounded theory, social phenomenology and structuration theory. Rigorous interpretivist studies share an explicit and recognised ontology and epistemology, which are idealist/relativist, constructionist and intersubjective. This excludes post-modernism, as a research orientation which dispenses with an objective ontology and favours researcher-based subjectivities independent of respondents' realities (extreme subjective relativism) and therefore cannot be included in this book. Interpretivism also obviously excludes positivism whose ontology and epistemology is characteristically realist/ objectivist and observer neutral.

Figure 7.1 (which is based on the discussion in Chapter 4) is indicative of the structure of interpretivist studies.

In this chapter, which discusses two sample interpretivist studies, the illustrations and explanations address elements shown in the Question or hypothesis row of Table 5.3. These elements are the scientific approach and outcomes and the research strategy including the chosen methods (such as techniques of data generation, data reduction and analysis). This chapter does not include detailed discussion of the philosophy of science, strategy, methodology, stance or methods already covered in earlier chapters and shown in the rows that highlight aspects of investigative theory in Table 5.3. We deliberately avoid specific and detailed discussion of technical aspects of interpretivist methods and techniques (as there is already an extensive literature on this).

Our purpose here is to emphasise the nature of, and illustrate the importance of, contingent choices that help to establish the overall integrity within and between an interpretivist study's investigative theory and investigative practice.

KEY ELEMENTS IN INTERPRETIVIST STUDIES

Interpretivist studies can be thought of as comprising two distinctive but mutually dependent parts: investigative theory, which accounts for and describes design choices and their justification based on principles appropriate to the
paradigm, and investigative practice, which accounts for practically available possibilities as well as constraints.

Investigative theory underpins the study's approach and methodology, while investigative practice develops methods and working arrangements through which methodology is implemented.

**Investigative theory**

The logic of inquiry in interpretivist studies involves two parallel streams of activity: one, the formation and refinement of the research question, and two, the formation and refinement of descriptive and/or explanatory knowledge through data reduction and analysis. The definition and evolution of the question can proceed deductively, inductively and/or abductively. Also, the creation and modification of concepts may proceed inductively and/or abductively. It is this duality that also differentiates interpretivist epistemologies from those in positivist studies. The nature of these key elements is made manifest in the following way.
Nature of linear-recursive reasoning in interpretivist studies

Data is generated and interpreted, and the research question is adjusted, through the use of sensitising concepts from the literature and the researcher's theoretical imagination. In this way good questions co-evolve as data is continuously generated, reduced and analysed via themes into typifications. The result is the emerging production of insightful, subtle, diverse and sometimes surprising concepts and convincing new knowledge.

Interpretivist studies assume subjective and intersubjective realities (ontology) and knowledge production (epistemology) by researchers in consultation with the research participants.

Interpretivist studies typically identify and interact face to face at an individual and small group participant level, and may involve participants' disclosures about other people, for instance. Consequently, ethical care must be taken to obtain informed consent and maintain agreements about confidentiality, publication and future use of these studies' findings.

As indicated in Figures 4.9 and 4.14, the key activities in interpretivist studies generally do not proceed in a linear fashion, but rather occur in a reflexive and co-evolutionary manner. Notwithstanding this distinctive-difference from the positivist approach, important elements of interpretivist studies typically focus on:

- sensitising concepts and familiarisation
- the choice and nature of nominal and ordinal variable's
- question formation and evolution
- consideration of confounding factors
- population sampling and data generation
- data distillation, concept confirmation and analysis
- reporting of the study's findings in a way that incorporates language from the field as well as theoretical language
- a critique of the research design and conduct.

Sensitising concepts and familiarisation

This spans familiarisation with literatures in related academic disciplines and substantive or related substantive fields. It also involves entering the field in order to form a tentative question as well as establish a starting awareness of relevant or possibly relevant concepts, as ideas which both enable and limit the researcher's orientation and sensitivity about the topic, and their initial approach to inquiry.

Nominal and ordinal variables

Within this paradigm the use of the term variable is used, not in the sense associated with positivist studies, but rather to identify an aspect of a concept or a relationship between concepts. It is best to set up categories as mutually
exclusively and exhaustively as possible. The word *nominal* simply indicates that a variable can only be known through its description (for instance, as a set of attributes) but not by further classifying (as a member of a category) that would enable it to be ranked. *Ordinal* variables are those that are able to be ranked.

To move from a sensitising or other starting concept it is usual to select concepts as variables (often nominal), as tentative representations of these starting concepts. This helps to delineate a clearer starting point, from either the literature and/or exploratory research. This process of delineation and resulting focus creates an attendant risk that some later useful avenue of inquiry or intrinsic aspect of interest may be ignored, so the task for the researcher is to repeat the sensitising process from time to time.

*Question formation and evolution*

Throughout the study, a prime task of the researcher is to ask and refine the best question to elicit the most valuable knowledge.

*Considering confounding factors*

In interpretivist studies confounding factors may change depending on the stage of the study. Recognition of apparent confounding factors may of itself represent valuable knowledge rather than something to be controlled for or even excluded. So the crucial tasks for the researcher are to incorporate this awareness into the latest question as well as astutely interpret the data.

*Population, sampling and data generation*

A technically and purposively appropriate representative sample needs to be chosen to reflect the relevant population of the research and the intended use of the findings. Data generation is a task that grows from four key steps:

- sensitising concepts drawn from the literature and the researcher's ideas of research concepts that are appropriate to the context
- successive refinement of questions
- discursive verbal and/or text and/or nominal or even ordinal categorical data (which may be defined as part of the development of sensitising concepts or which may emerge in data analysis)
- generating typical forms of data from, for instance, interviews, content analysis of documentary material, focus groups and observations.

In an interpretivist study, concepts are rarely drawn directly from the literature without some sensitising modification in the first instance. Sensitising concepts are usually developed from theoretical and/or empirical ideas in the substantive (that is, the topical) literature as well as the researcher's ideas and other sources.
While the study is guided by a core question, sub-questions and even sample participants may be redefined as inquiry proceeds. This process occurs as deeper and wider understanding of the phenomenon of interest emerges from tentative theorising about the accumulating data. Such theorising may produce progressively richer concepts or occasionally an impasse that demands a new approach.

The various forms of data are typically textual, and generated from people's verbal accounts, written observations and documentary sources. Verbal accounts normally arise from interviews which take three main forms: the structured interview which resembles a questionnaire, the focused interview covering a range of topics rather than specific questions, and the unstructured interview which resembles a conversation. Focus groups take place with multiple respondents at the same time. In focus groups, participants are usually selected for their ability to express and hear a range of views, and therefore either identify with and elaborate on those views, or similarly, articulate nuanced or contrary views.

Content analysis is an iterative process in which themes and resultant typifications are distilled from systematic and imaginative macro reviews of all the data, and micro-level reviews of subsets of the data that express or refer to some distinctively common quality or phenomenon.

When eliciting and interpreting participants' data and subsequently reducing and analysing it, it is imperative for the researcher and the participant to know and be able to describe the context from which the data is drawn, because the meaning of data is influenced by its context.

Data distillation, concept confirmation and analysis

This step of interpretivist research distils all the data into compact theoretical notions, which together interpret the phenomenon that the data represents in a comprehensive and insightful way. The step involves a dialectic process of condensation and integration. In condensation, many specific themes (such as age) and forms within themes (such as child, adolescent, adult) are constructed from the data while preserving the overall variety and completeness of the data.

In integration, typifications are constructed, each of which represents a new idea about some quality or characteristic unique to a subset of themes and/or their individual forms. From these typifications, a compact set of theoretical concepts is formed which subsumes these typifications, and best accounts for them by offering comprehensive and insightful meaning about the phenomenon that has been studied. Some principles that help interpretivist researchers conduct this stage of their research relate to reduction, condensation and integration.

Reduction is about an initial categorisation of data according to themes. For instance, age may be represented in all instances of data (such as five-year-old, young person, child, baby boomer, senior citizen, teenager, adolescent) that
explicitly refer to instances or different forms of the same characteristic. For efficient reduction we generally convert all instances into a uniform mode of coding (such as particular decades or young, middle aged, elderly).

Condensation is about identifying and describing typifications. A typification sometimes resembles a stereotype but is entirely original, being grounded in the data, and richer in subtle meaning. It refers to the combination of qualities or characteristics of a set of themes, each of which shares a common thread within the theme while still preserving nuanced variety. A simple example which also reflects various worldviews (and coincidentally resembles stereotypical views) is radical youth and conservative middle age.

Integration is an activity that systematically and imaginatively develops concepts and theory from abstractions of typifications and their interrelationships. The results are a small set of concepts that account for most, if not all, of the identified typifications, plus a new and helpful interpretive framework with meanings to help apprehend how the concepts operate and are interrelated. When used together the concepts and theory enable a comprehensive and insightful understanding of the phenomenon studied.

Reporting the study's findings

This should be an interesting account in the everyday language and style that participants used to recount their worlds and the meanings they attribute to their experiences and their sense of them.

Critique of research

It is important to reflect on the study's conduct with particular reference to both the researcher's and participants' roles in data generation, data interpretation and validation of eventual concepts and associated interpretive theory. In particular, in interpretivist studies, researchers are not objective dispassionate observers but rather collaborators - especially in the interpretation of data. Furthermore, as interpretivist studies usually seek to explore and describe particular phenomena rather than uncover generalisations, interpretivist critiques must expose the idiosyncratic nature of the study, notwithstanding its aim to inspire and generate concepts and theory.

Investigative practice

Investigative practice comprises the following elements.

Proposal

The research proposal typically identifies the substantive context of the proposed study, the researcher's motivation, the importance of and purpose for
the study, highlights of the anticipated methodology, and expected impacts on and benefits for stakeholders.

**Ethics**

Ethics relates to institutional positions on substantive theory, philosophical theory, research practice and reporting, and differential impacts and possible harm to researchers and others during the conduct of, or as a result of, the research and its findings.

**Funding**

This concerns the monetary and other resources and facilities that are needed for the research study. The scope and success of funding requests can be expected to depend not just on reasoned evidence about the purpose, approach to and expected benefits of the study, but also on rhetoric and persuasion to evoke the prospect of value.

**Schedules**

Schedules typically span important theoretical and practical blocks of work, including:

- establishing the study and its operational resources
- literature reviews
- theoretical and practice design
- assembling and analysing data
- assessing the merits and limitations of the findings and their use
- formally reporting and more broadly promulgating the study and its findings.

**Conduct**

Conduct usually refers to implementation of the research design, through to and including the generation and verification of the study's findings.

**Reporting**

This usually spans the study's purpose, scope and constraints, highlights of the study's conduct (through data generation, analysis and validation), presentation of the study's findings, discussion of likely practical uses of the findings, and a critique of the study, with recommendations regarding substantive and research theory.

The rest of the chapter illustrates a typical approach to interpretivist study using Examples 2 and 5. The illustration starts with two tables. Table 7.1 notes typical features of investigative theory for these examples: that is, an interpretivist study about the management of knowledge workers, and an interpretivist
EXAMPLE 2: MANAGING KNOWLEDGE WORKERS

Investigative theory

Major elements of investigative theory that apply in this case are illustrated below.

Question

What are distinctive characteristics of expert practice for managing knowledge workers?

Motivation for the study

To generate a typology of managerial principles and practices that are characteristic of persistently effective knowledge worker management, and so help inform more effective managerial development.

Nature of linear-recursive reasoning in interpretivist studies

This question is addressed in two phases. The first is linear and the major and subsequent phase is recursive. Sensitising concepts about expert practice in the management of knowledge work are first developed from the literature. These are subsequently possibly modified according to the researcher's experience (rather than as result of operationalised variables) and as a consequence of the abductive logic used, in which data is recursively generated, used and analysed.

Sensitising concepts and familiarisation

As well as elaborating and refining initially established sensitising concepts from the substantive literature, other sources of inspiration and clarification may arise from participants' own stock of knowledge and interpreted experience. In this way the researcher's interpretive framework is adjusted and expanded throughout the research process in order to better encapsulate participants' meanings while also facilitating use of the researcher's understandings. This leads to the necessary rich and shared intersubjective meanings on which the paradigm depends.

In this example there are three initial sensitising concepts: that of expert practice, manager and knowledge worker.

Nominal and ordinal variables

In the study there are three initial nominal variables: expert practice, managing and knowledge workers. As the purpose of the study is to create a
<table>
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<td><strong>Purpose</strong></td>
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<td></td>
<td><strong>Tactic</strong></td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Purpose</strong></td>
<td><strong>Idiographic:</strong> describe the nuances of specific instances and their distinctively idiosyncratic meanings and, from this, form an integrating set of descriptive and/or explanatory concepts and principles.</td>
</tr>
<tr>
<td><strong>Tactic</strong></td>
<td><strong>Iteratively</strong> generate intersubjective data with participants and, in parallel with data generation, construct descriptive/explanatory theory.</td>
</tr>
<tr>
<td><strong>Researcher's stance</strong></td>
<td><strong>Emic:</strong> the researcher explicitly operates as a (quasi) insider with the research sample.</td>
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<td><strong>Main methods</strong></td>
<td>Qualitative (e.g. hermeneutic analysis of language within dialogic method).</td>
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<td><strong>Approach and outcomes</strong></td>
<td>Focus groups and depth interviews ... <em>that result in</em> ... typifications of effective practices explained by managers and knowledge workers.</td>
</tr>
<tr>
<td>Investigative practice</td>
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<td>------------------------</td>
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<td><strong>Interpretivist research</strong></td>
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<td><strong>Proposal focus to highlight ...</strong></td>
<td>(a) The importance of knowing distinctive features of expert management practice as well as improved ways to know this. (b) The value of a tentative theory of expert practice to help manage knowledge workers.</td>
</tr>
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<td><strong>Indicative ethical issues</strong></td>
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Tentative (descriptive) model of expert practice to help manage knowledge workers, it is important to explore the nature and meanings of expert practice, managing, knowledge workers as experienced and as understood in the field, and then to integrate these insights into a model of concepts and their theoretical integration.

As the study proceeds, the tentative model may indicate that some of its components are ordinal as well as nominal. For instance the types and levels of practice, managerial competence, and the workers' knowledge may all be considered as ordinal variables.

Two likely considerations (which may operate like intervening variables) are industry type and practice specially. In this example it is commonly the case
that different industries and different specialist fields of practice peculiar to an industry strongly influence characteristics that uniquely identify demonstrable and typical notions of expertise, managing, knowledge work and knowledge worker. For instance, notions of expertise, managing and knowledge worker can be expected to vary significantly across different industries such as legal practice, health care, data communications, shipping and education. And within each of these industries, notions of expertise, managing and knowledge worker can further be expected to vary with practice specialties such as legal administration, diagnostics, data security, container handling and internet-based interactive courseware.

Awareness of these possible intervening factors and other likely considerations may be accounted for as changes to the duration of the study. They may also result in the amplification and qualification of questions, and may be reflected in the way data is reduced and analysed. Also, it may be necessary to refine the population and/or sample.

Question formation and evolution

The major research question is: are there distinctive characteristics of expert practice for managing knowledge workers? Therefore the key sensitising concepts are about expert practice, managing and knowledge workers.

Generation of data for the three concepts

Two key starting choices in forming an approach to generate data concern, in order of the choice to be made, are first, the relative importance of the concepts within the research question, and second, the manner of data generation (such as observation, interview or focus group).

Regarding the first of these, in starting and sequencing the research process the three concepts in the question as noted above (expert practice, managing and knowledge workers) should be prioritised. This logically reflects the purpose of the study and the order in which participants may most readily start to recognise and offer good data. This logical and pragmatic choice reflects not only the researcher's interest and substantive knowledge but the industry represented by the chosen sample. In this example we choose to start with an inquiry focused on knowledge workers because they are most readily identified in the chosen industry. And, much less will be known about expert practice, which is the purpose of the study.

The next step of choosing the research technique will need to generate data about the key concept of expert practice by focusing on knowledge workers in the sample industry or industries. We choose to start inquiry by interview rather than observation as language is the mode that knowledge workers commonly use to construct, express and coordinate their work. If an interview is chosen, the next choice concerns the mode of interview (that is, structured, focused or in-depth exploratory). In this example, given a starting choice of
inquiring about knowledge workers using focus group interviews, the researcher could extend the scene using themes identified from the literature to stimulate more examples about the nature and characteristics of knowledge work in their industry and the way in which they are managed or influenced by management practice and climate.

From the beginnings in these early explorations, subsequent interviews (possibly complemented by an observational study and revised sample) would seek to identify and describe the widest possible range of elements of expert practice and relevant management that serve the study's objectives.

Two common dilemmas arise in interpretivist studies. The first concerns how to deal with an impasse that arises when new data confounds the emerging themes and resulting typifications that have been constructed by the researcher. The second is when to cease data generation and theorising: in other words, judge that theoretical saturation has occurred. The first dilemma may require a complete change of research question or approach, and occasionally a study may have no alternative but to be stopped. The second is a normal and inevitable decision that reflects a mix of pragmatic considerations (for instance, the findings are sufficient for the purpose) and theoretical factors (for example, the findings are widely valid and represent insightful new knowledge).

**Considering confounding factors**

Types of confounding factors that may occur typically include context factors, modal factors and diversity factors.

Examples of possible confounding context factors are politically inhibiting elements within some sectors of the sample, limitations on disclosure as a result of commercial in confidence or related arrangements, participants' inclination to exaggerate or colour accounts, and inequality-mediated (such as culturally or demographically grounded) differences which affect participants' disclosures and/or interpretations.

Examples of possible modal factors in this case are misunderstandings in the use of language between the researcher and participants, and participants' reluctance and/or inability to express their tacit knowledge.

Examples of possible diversity factors in this case are the exclusion of informative descriptive instances of relevant concepts (such as contemporary expert practice in the industry being studied), and outlying but potentially perceptive views.

**Population, sampling and data generation**

The purpose of this study is to identify distinctive characteristics of expert practice in the management of knowledge workers, and so help to improve both expert practice and the management of knowledge workers.

Initially a purposeful sample which targets a wide range of participant experiences can be expected to help broaden the initial sensitising concepts
developed by the researcher. The initial purposeful sample may lead to the further identification of focus group participants to reflect suitably broad demographics as well as richer substantive experience. From these adjusted samples the researcher expects to generate deeper and more comprehensive theoretical knowledge grounded in participants' data. This emerging yet deliberate sampling method is typical of an interpretivist study.

Data distillation, concept confirmation and analysis

As noted earlier, this step of interpretivist research distils all the data into compact theoretical notions which, together, interpret the phenomena that the data represents in a comprehensive and insightful way. This distillation process involves three important activities: reduction, condensation and integration.

Reduction involves categorising data according to common or similar aspects of a common attribute called themes. Some of the themes will emerge as principal themes, as they are more enlightening with regard to illuminating the research question.

Condensation of principal and other themes generates a few broad typifications (which sometimes resemble stereotypes but are entirely original - being grounded in the data, and being richer in subtle meaning). Broad typifications reveal interrelationships between themes and also highlight patterned differences between respondents' meanings. In the case of condensation it is important to recognise that interrelationship and patterned differences arise not just as the result of a purely mechanical procedure, but also as a result of a creative, imaginative and reflexive activity that the researcher constructs from the data. (Typifications can be thought of as referring to combinations of qualities or characteristics of a set of themes each of which shares a common thread within the theme while still preserving nuanced variety. A simple example which also reflects various world views (and coincidentally resembles stereotypical views) is radical youth and conservative middle age.)

Integration of all typifications is done to form a tentative theory, which is a compact way of accounting for most, if not all, of the data and answering the research question in terms of a set of concepts and their interrelationships. The resulting interpretive framework and meanings help to apprehend how the concepts operate and are interrelated. When used together, the concepts and theory enable a comprehensive and insightful understanding of the phenomena studied.

The first step of reduction often starts with some form of coding to help locate a theme that is implied by many instances of participants' data which appear to refer to the same notion. In this example about knowledge workers, a theme of searching* can be expected to be identified from participants' transcripts, with sub-themes such as classifying' (to make up a search string) and sourcing' (to select a database). For instance several participants may each provide many examples of an activity of 'Googling' on the internet to find
website references that are related their questions or interests. What all such instances share is the task of turning an inquiry into a procedure that uses a common tool and conventions to provide further leads, and sometimes even answer the original questions. Three further examples of themes that plausibly emerge as principal themes can be expected from managers' and knowledge workers' accounts relating to problem-solving, and discriminating and social-perceptiveness by managers who are reputedly expert.

The theme of problem-solving has sub-themes such as efficiency (good use of time and resources), success (the proportion of problems successfully resolved), difficulty (reflecting the complexity, ambiguity and equivocality in situations), and experience (reflecting a variety of challenges and effective learnings).

The theme of discriminating has sub-themes such as selecting (choosing what to deliberately include), rejecting (consciously choosing what to set aside), and evaluating (making informed judgments about relative merits of the selected items).

The theme of social-perceptiveness has sub-themes such as self-awareness, empathy, and insight.

The next step is condensation, in which some sub-themes are combined from across the various identified themes to construct a comparatively small number of typifications of aspects of expert managerial practice. Drawing on the illustrative themes above, one plausible typification is that of INFORMED-GUIDE, which combines sub-themes (from the problem-solving theme) about successful problem solving in difficult situations, with the sub-theme of evaluating (drawn from the discriminating theme) and high insight (which is a sub-theme of social perceptiveness).

A second possible typification is that of COMPLIANT-PROBLEM-SOLVER, which comprises sub-themes of difficulty and experience, which are components of the problem-solving theme, together with the sub-themes of enlightened rejecting (from the discriminating theme), and empathy and insight (from the social perceptiveness theme).

A third likely typification is that of POLITICALLY-ASTUTE-ADMINISTRATOR, which combines sub-themes of efficiency (from the problem-solving theme), evaluating (from the discriminating theme) and self-awareness, and insight (from the social perceptiveness theme).

For the purpose of illustration the fourth typification that we refer to is that of LEADER, which combines the sub-themes of success, experience, selecting, rejecting, self-awareness, and empathy. These examples of condensation reinforce the point that typifying is a process in which the researcher creatively uses participants' meanings to look beyond surface themes in order to discern more fundamental patterns and differences across all the data.

The step of integration systematically and imaginatively develops concepts and their mutual dependence from distillations of typifications and their interdepen-
dependencies. The researcher's task in integration is to imaginatively and systematically develop an increasingly more compact yet comprehensive theoretical understanding of reported and observed phenomena. Drawing on the four typifications exemplified in the condensation activity above, here is a plausible theoretical construction that is consistent with the themes and typifications:

Expert management reflects a balanced orientation to LEADING and INFORMED-GUIDE, and these two practices are usually given greater precedence over POLITICALLY-ASTUTE-ADMINISTRATION and COMPLIANT-PROBLEM-SOLVING.

Where the latter two compete for attention, then the choice is context-dependent; for instance, in highly competitive aggressive organisations COMPLIANT-PROBLEM-SOLVING is a more acceptable orientation than POLITICALLY-ASTUTE-ADMINISTRATION, whereas in traditional bureaucratic organisations POLITICALLY-ASTUTE-ADMINISTRATION is usually more effective than COMPLIANT-PROBLEM-SOLVING.

The logic of inquiry

The logic of inquiry in this section predominantly reflects abduction in action. Within this overriding logic are task-specific logics such as deduction (in which implications and associations are drawn from related facts) and induction (in which general assertions are generated from many instances of a class of data or relationships).

It is also important to recognise that in this section we have highlighted what an interpretivist research approach must aim for. It remains for the researcher to select and use appropriate methods within this overall logic.

Reporting the study

In interpretivist studies the meanings, implications and consequences of tentative theoretical assertions are illustrated in the language of the field, and then discussed with particular reference to application as well as to provide sensitising concepts for further research. In doing this, it is important to clearly identify the time frames, locations and social context of the study to ensure that all use of the findings is well considered.

In addition, substantive and formal theoretical implications and limitations are discussed with a view to informing further topical research as well as further development in the theory and practice of management and/or business, and in the development of the philosophy and methodology of interpretivist study.

Critique of research

Critical review includes the technical aspects and practical tradeoffs in relation to research approach (such as sampling and design), ethical questions,
Sampling frequently raises the need to balance representation, adequate variety and accessibility. Design inevitably requires choices between ideal and practicable strategies and logics of inquiry that fit with the sample and the paradigmatic assumptions. Ethical challenges readily arise in relation to freedom to disclose and retain anonymity, the interpretation of data, and the implicit or explicit support or harm that may arise from the use or withholding of research findings. The data generation methods may be questioned on the grounds that other methods may elicit more valid and/or valuable data. Representativeness of data is usually rated as less important in an interpretivist study. However it is extremely important to include a sufficiently diverse range of informants in order to explore the research topic and construct useful or illuminating substantive theory.

Data conversion, which involves reduction, condensation and integration, inevitably involves the first-order and second-order constructs. First-order constructs involve accurate apprehension of the participants' meanings, which demands the researcher's sensitivity and understanding of their language and contexts. On the other hand, the development of second-order constructs (in the process described above) requires some disciplined creativity and insight on the part of the researcher, which reflects an ability to alternately be immersed in and removed from the researcher's and the participants' worlds. Crucially, it is necessary to describe how this process proceeds in order that the rigour, scope and limitations of the study can be judged.

In interpretivist studies, validity refers to a sub-sample of participants' recognition of the themes in the findings and possibly (even preferably) the typifications. The sub-sample is defined by the researcher and participants together as the study unfolds, and participants' recognition affirms that essential meanings have been identified.

Investigative practice

Investigative practice for this interpretivist study comprises the following elements. They are not exhaustive but can reasonably be considered as appropriate to this example.

Proposal

If, for instance, the researcher's motivation is to identify principles unique to expert management practice as well as to develop research theory appropriate to the investigation of expert human practice, then the proposal needs to present intended scope, practice supervision, required permissions and necessary support requirements that are in line with these motives.
In addition to succinctly incorporating motivational implications, there are obvious requirements to be presented including the importance of the study, anticipated methodological highlights, and resource and facility requirements.

**Ethics**

Knowledge workers, managers of knowledge workers, the study's researchers, and organisations providing funds and facilities as well as participant access are examples of stakeholders who may have competing interests. It is necessary to identify ethical risks within and between each stakeholder group, and get agreement to ethical principles that the design and its implementation must account for.

For instance, ethical risks that may arise in this type of study may be associated with identification or exclusion of some managers as expert; providing resources, facilities and participant access subject to linking the study's scope with specific types of management or worker practices; or using the findings to (de)select and/or (re)evaluate the performance of managers and knowledge workers.

**Funding**

This type of study can be expected to generate findings that benefit industry-level management research and management education, and also inform the orderly review and improvement of practices within firms. For this reason, it can be expected that government, industry and firm-specific funding and provision of in-kind resources and facilities be sought for this type of study.

**Schedules**

It is often difficult to conduct quality interpretivist studies according to a fixed-duration (or even fixed-budget) project schedule. This is because key steps such as data generation and interpretation evolve, with ongoing work directed as a result of emerging issues, leads and dead ends.

Incorporating contingency elements into schedules and budgets is one practical approach. It may also be appropriate to structure the research so that interim findings and parallel or even largely independent streams of work can be undertaken, so that the effect of changes to time and money schedules, as much as to the scope of the study, can be accommodated with less wide-ranging impact.

Other nontrivial scheduling considerations that are often linked with interpretivist studies include negotiating and sustaining access to appropriate firms and their managers and knowledge workers; generating data using depth interviews and focus groups; iteratively interpreting emerging data in order to develop validated meanings and descriptive concepts about expert managerial practice; and verifying the substantive theory that the study constructs from the data.
Conduct

This covers implementation of the research design through to and including the generation and verification of the study's findings. Constructing a sample that includes readily accessible participants who voluntarily offer candid and rich accounts as managers and knowledge workers is as much a matter of the way the study is presented and marketed, as it is a matter of the way researchers connect with, and develop, an engaging, stimulating and professional relationship with participants through data generation, interpretation and validation.

The logistical and organisational challenges of handling large volumes of spoken and written language-based data, and the substantial workload needed to concurrently and iteratively (re)interpret the growing body of data, are also a major practical consideration for interpretivist studies. In this example this would involve reviews with cohorts of participant managers and participant knowledge workers in the first instance, and eventually a possible wider sample of managers and knowledge workers chosen from beyond the participating firms in order to strengthen the validation of the findings.

Reporting

Highlights can be expected to cover the aim of the study (to help develop principles for competent management of knowledge workers); findings that can be used to help improve the development of relevant managerial practice; and contributions to methodology and substantive theory that may usefully inform further research.

EXAMPLE 5: DECIDING ON COMPETITIVE PRODUCT PORTFOLIOS

Investigative theory

Major elements of investigative theory that apply in this interpretivist study are illustrated below.

Question

What characteristics of effective decision making help to make (more) competitive product portfolios?

Motivation for the study

The aim is to generate a typology of decision principles and decision practices associated with persistently effective product portfolio management, and so help inform the promulgation of better managerial decision practices.
Linear-recursive reasoning, sensitising concepts and familiarisation in interpretivist studies

This question is addressed in two phases. The first is linear, and the major and subsequent phase is recursive and is guided according to an abductive style of reasoning. In the linear phase the researcher progressively selects sensitising concepts about the management of product portfolios. These are developed from the literature and, in particular, include concepts about the anticipation and assessment of changing product needs and the various stages of products' life cycles. In the second phase the initial sensitising concepts may be modified, not as a result of operationalised variables, but rather as a consequence of: abductively generating and analysing data related to the anticipation and assessment of choices about product portfolios' component mixes and their subsequent outcomes; and at the same time incorporating the researcher's relevant experience.

As well as the researcher's own stock of relevant experience, other sources of inspiration and clarification may arise from participants' stock of knowledge and interpreted experience. In this way the researcher's interpretive framework is adjusted and expanded throughout the research process in order to better encapsulate participants' meanings while also facilitating use of the researcher's understandings. This leads to the necessary rich and shared inter-subjective meanings on which the paradigm depends.

In this example there are three initial sensitising concepts, which concern strategic competitive choices about the future of each product in a portfolio, anticipation of each product's strategic factors as precedents to strategic decisions about each product's future, and assessment of the consequences of the strategic choices for the products in the portfolio.

Nominal and ordinal variables

In the study there are three initial nominal variables: strategic choice, anticipation and assessment. The purpose of the study is to create a tentative (descriptive) model for making and validating strategic decisions about a product portfolio. With this purpose, it is important to explore the nature and meanings of product portfolio, strategic decisions, decision making, and assessment of decisions according to the way experienced executives and managers understand and work with these concepts in the field. The resulting theoretical concepts may then be integrated into a practice model that describes expert strategic decision making for product portfolios in fast-changing markets for personal electronic goods and services.

As the study proceeds, the tentative model may indicate that some of its components are ordinal as well as nominal. For instance, the types of products and their levels of market acceptance, the purposes and forms of decision making and associated levels of decision competence, and the modes and degrees of relevant and competent anticipation and assessment may all be considered as ordinal variables.
Three likely considerations (which may operate like intervening variables) are industry type, which may refer to the class of personal electronic goods and services that are typically provided; market type, which may reflect the sophistication of typical buyers; and a firm's market position, which can be taken to reflect its share relative to competitors. In this example it is commonly the case that different industries, different market types and different levels of market position may strongly influence characteristics of demonstrably effective anticipation, strategic decision making and outcomes of decisions affecting the product portfolio.

Notions of effective anticipation, decision making and subsequent assessment of decisions about products within a firm's product portfolio can all be expected to vary significantly between industries (such as gaming based entertainment versus personal investments) and the forms of products or services (such as personal electronic goods and services) that each industry sells to its markets. This is partly at least as a result of differences between product-linked factors like development lead-time, development cost, run-out time, sunk cost, switching price, market demand, customer contract terms, inertial demand, enabling technologies and evolving tastes. For instance, in personal investments, strategic portfolio decisions are likely to depend heavily on good demand and capacity research, and on knowledge about possible enabling technologies, whereas for gaming-based entertainment, effective portfolio decisions can be expected to depend much more on innovation research, product and market scanning, and exploration of improved branding, production and distribution solutions.

Awareness of possible intervening factors and other likely considerations may be accounted for as changes to the scope and duration of the study. They may also result in refinement of the defined population and/or sample, amplification and qualification of questions, and adjustments to the way data are reduced and analysed.

**Question formation and evolution**

The major research question is, what are the characteristics of effective decision making for (the composition of) a firm's competitive product portfolio? As already noted, the key sensitising concepts are about strategic competitive choices about the future of each product in a portfolio, anticipation of each product's strategic factors as precedents to strategic decisions about each product's future, and assessment of the consequences of the strategic choices for the products in the portfolio.

**Generation of data for the three concepts**

In order to develop an approach to generating data, choices must be made about, first, the relative importance of the concepts within the research question, and second, the manner of data generation (for instance observation, interview or focus group).
To decide on the relative importance of the concepts within the research question, the researcher must account for the motivation and purpose of the research. These considerations must then be reflected in the order and extent to which the various concepts are consequently explored with participants. For instance, in this example, if the primary concept were considered to be about decision making followed by anticipation, then questions and invitations to participants to offer data (instances, experiences and reflections) on the nature and meaning of decision making might be delayed. Instead the exploration could start by focusing on decision outcomes and their assessment, and then anticipation, as precursors that set the scene in participants' terms. Only when context has been established in the language, experience and instances of relevance to participants is the central concept of decision making explored. The order and impact of these choices satisfies the exploratory and dialogic nature of interpretivist inquiry, as well as the practical need for a clear and grounded focus within which participants offer and elaborate on relevant data.

Decisions about the mode(s) of data generation to be used depend, at least, on the type of data sought and on the degree to which rich data, revealing nuances and insightful sources about experiences and their interpretations are needed to fulfill the study's aims and scope. Practical considerations (such as time, money and logistical aspects of field work) also influence choices of modes of data generation.

In this example, early-stage exploration that seeks to establish, in participants' language, starting concepts about strategic choices, anticipatory factors and decision assessments may involve document reviews and interviews with key players nominated by participants. Later on, the researcher will expand, refine and eventually verify theoretical concepts whose meanings are illustrated with rich and nuanced instances and relationships, using data that are generated using practice observations, focus groups and extensive in-depth interviews.

With this type of approach there always remains the possibility that no settling concepts emerge to comprehensively account for the data generated. In this case the options are to either reframe the study's questions and approach, based on the data and emergent findings, or to judge that the study's aims and scope cannot be met, and the study should be stopped. The first option is common. The second option is indicated if practical resources (for instance, time or money) are insufficient for further useful research and/or if refraining has failed to, or is unlikely to, produce useful substantive or theoretical outcomes.

**Considering confounding factors**

Types of confounding factors typically include context factors, modal factors and diversity factors. In this case possible confounding context factors are commercial in-confidence constraints that limit disclosure or interpretation of
data, participants' psychologically grounded inclination to colour their accounts, and politically, culturally or demographically mediated influences on sample selection, as well as on the disclosure or interpretation of data.

Examples of possible modal factors in this case are misunderstandings in the use of language between the researcher and participants, and participants' reluctance and/or inability to express their tacit knowledge.

Examples of possible diversity factors are the exclusion of informative descriptive instances of relevant concepts (for instance of anticipation, decision making and assessment of decision outcomes), and outlying but potentially perceptive views.

Population, sampling and data generation

The aim of this study is to identify characteristics of effective decisions associated with the mix of a firm's product portfolio. A consequence of such knowledge is improved decision making for product portfolios in general.

Initial sensitising concepts developed by the researcher from the literature are modified by using data about decision-making practices and experiences, which are drawn from a purposeful sample of respected decision makers and respected observers of portfolio decisions and their outcomes. This evolutionary process is likely to help identify other participants and related data, which eventually reflect a broad demographic with rich substantive experience of effective and ineffective decision making. The substantive knowledge that is produced in this way can be expected to help systematically generate more comprehensive substantive theoretical knowledge of decision-making practice and outcomes. This deliberately evolutionary method of sampling, data generation and theory formation is typical in many interpretivist studies.

Data distillation, concept confirmation and analysis

As noted at the start of this chapter, this step of interpretivist research distils all the data into compact theoretical notions, which together interpret the phenomena that the data represents in a comprehensive and insightful way. This process includes three important activities: reduction, condensation and integration.

Reduction sorts the data into themes according to common or similar aspects of a common attribute. Some of these constructions will emerge as principal themes, as they are more enlightening with regard to illuminating the research question. They frequently start with some form of coding to help discern a theme that is implied by many instances of participants' data which appear to refer to the same, but implicit, notion.

Condensation of principal and other themes forms a few broad typifications which are collectively comprehensive, and each of which is entirely original, grounded in data, rich in subtle meaning and revealing of interrelationships and patterned differences between constituent themes. A typification highlights
common aspects of constituent themes whilst preserving and highlighting nuanced variety between constituent themes.

Integration of all typifications directly generates a tentative theory, which is a compact way of accounting for all the data and answering the research question in terms of a set of concepts and their interrelationships. The resulting interpretive framework and associated meanings help to show how generated substantive concepts operate and are interrelated. When used together the concepts and theory enable a comprehensive and insightful understanding of the phenomena studied.

The first step is reduction. In this example about decision making for product portfolios, a theme of clarity can be expected to be identified from participants' transcripts, with sub-themes such as relevance (to decision purpose), reliability (involving the confidence in the truth value of different sources of data) and confidence (concerning the tangibility and equivocality of data). Other themes and their sub-themes that can be expected to be identified are:

- urgency (with sub-themes of importance for the overall portfolio and the opportunity cost of delaying a decision)
- risk (with sub-themes of scope, which relates to economic political and technical factors, impact on a firm's reputation as well as its market and financial position, and likelihood of an impact being realised)
- complexity (with sub-themes of novelty of decision criteria, product synergy, meaning impacts on related products on the portfolio, and uncertainty associated with decision participants, decision process, timing and decision data)
- wisdom (with sub-themes of insight, about reframing traditional perspectives, worldviews, being the tacit and alternative institutionalised assumptions about the purpose, participants, processes and criteria for decision making; and permission, about the psychological and sociopolitical mediation of the content and practice of communicating as part of decision making).

The next step is condensation. In this step some sub-themes may be combined from across various identified themes to construct a relatively small number of typifications of features of decision-making practice and effectiveness. Drawing on the illustrative themes above, one plausible typification is CENTRALITY, which combines the sub-themes of importance (from the urgency theme), impact and likelihood (from the risk theme) and product synergy (from the complexity theme). A second possible typification is PRUDENCE, which comprises the sub-themes of: opportunity cost (from the urgency theme), scope and impact (the from the risk theme), novelty and uncertainty (from the complexity theme), and insight and worldviews (from the wisdom theme). A third likely typification is POLITICAL-NOUS, which combines the sub-themes of importance (from the urgency theme), scope (from the risk theme),
theme), and worldviews\(^2\) and permission\(^0\) (from the wisdom theme).

These examples of condensation reinforce the point that typifying is a process in which the researcher creatively uses participants' meanings to look beyond surface themes in order to discern more fundamental patterns and differences across all the data.

The last step is integration. Integration systematically and imaginatively develops concepts and their mutual dependence from distillations of typifications and their interdependencies. The researcher's task in integration is to imaginatively and systematically develop increasingly more compact yet comprehensive theoretical understanding of reported and observed phenomena. Drawing on the four typifications exemplified in the condensation activity above, here is a plausible theoretical construction that is consistent with the themes and typifications:

Making effective decisions about a product portfolio's mix reflects a clear focus and separation of CENTRAL considerations from more marginal ones together with PRUDENT attention to strategic contingencies. However, the process is not entirely objective because astute considerations that reflect POLITICAL-NOUS also mediate decision making.

It is the politically astute balance of concern for a relatively small number of core factors and strategic risks as opposed to more wide ranging considerations and predominantly economic assessment that can set the most effective decisions apart from others.

**Major logic of inquiry**

The major logic of inquiry in this example reflects abduction in action, whereby case studies of strategic choices are explored using semi-structured or unstructured interviews with executives in order to generate tentative abstracted typifications grounded in emerging participant data. The process stops when the concepts generated offer comprehensive and stable descriptive and explanatory insight despite continuing data generation.

Within this overriding logic are task-specific logics such as deduction (in which implications and associations are drawn from related facts) and induction (in which general assertions are generated from many instances of a class of data or relationships). It is also important to recognise that in this section we have highlighted what an interpretivist research approach must aim for. It remains for the researcher to select and use appropriate methods within this overall logic.

**Reporting the study**

In interpretivist studies the language of the field is used to communicate meanings, implications and consequences of tentative theoretical assertions. This enables the theoretical constructions developed through interpretivism
to be explained and illustrated in terms that are meaningful to, and verifiable by, participants, as well as enabling outsiders such as other researchers and colleagues in related fields of substantive practice to draw on the research.

The tentative theoretical concepts also provide sensitising concepts for further research. In doing this, it is important to clearly identify the time frames, locations and social context of the study to ensure that there is only well-considered use of the findings. In addition, substantive and formal theoretical implications and limitations are discussed with a view to informing further topical research as well as further development in the theory and practice of management and/or business, and in the development of the philosophy and methodology of interpretivist study.

**Critique of research**

Critical review includes the technical aspects and practical tradeoffs in relation to research approach (sampling, design and so on), ethical questions, data generation methods and the representativeness of data, data conversion and veracity. The merits of the research approach depend on the nature of the sample as well as technical design and the like. Sampling considerations involve the need to balance representation, adequate variety and accessibility. Design inevitably requires choices between ideal and practicable strategies and logics of inquiry that fit with the sample and the paradigmatic assumptions.

Ethical challenges readily arise in relation to freedom to disclose and retain anonymity, the interpretation of data, and the implicit or explicit support or harm that may arise from the use or withholding of research findings.

The data generation methods may be questioned on the grounds that other methods might have elicited more valid and/or valuable data. Representativeness of data is usually rated as less important in an interpretivist study. However it is extremely important to include a sufficiently diverse range of informants to make it possible to explore the research topic and construct useful or illuminating substantive theory.

Data conversion, which involves reduction, condensation and integration, inevitably involves the development of first-order and second-order constructs (Schiitz 1963 a, b). First-order constructs involve accurate apprehension of the participants' meanings, which demands the researcher's sensitivity and understanding of their language and contexts. On the other hand, the development of second-order constructs (in the process described above) requires some disciplined creativity and insight on the part of the researcher, which reflects an ability to alternately be immersed in, and removed from, the researcher's and the participants' worlds. Crucially, it is necessary to describe how this process proceeds in order that the rigour, scope and limitations of the study may be properly judged.
In interpretivist studies, validity refers to a sub-sample of participants' recognition of the themes in the findings and possibly (even preferably) the typifications. The sub-sample is defined by the researcher and participants together as the study unfolds, and participants' recognition affirms that essential meanings have been identified.

**Investigative practice**

Investigative practice for this interpretivist study comprises the following elements. They are not exhaustive but can reasonably be considered as appropriate to this example.

*Proposal*

If, for instance, the researcher's motivation is to identify principles unique to effective portfolio decisions and to develop research theory appropriate to the investigation of effective decision making, the proposal needs to present intended scope, practice supervision, required permissions and necessary support requirements that are in line with these motives.

In addition to succinctly incorporating motivational implications, there are obvious requirements to be presented including the importance of the study, anticipated methodological highlights, and resource and facility requirements.

*Ethics*

Executives, product and portfolio-related specialists, the study's researchers, and organisations providing funds and facilities as well as participant access are examples of stakeholders who may have competing interests. It is necessary to identify ethical risks within and between each stakeholder group, and get agreement to ethical principles that the design and its implementation must account for. For instance, ethical risks that may arise in this type of study may be associated with identification or exclusion of some executives, managers and specialists as expert; providing resources, facilities and participant access subject to linking the study's scope with specific types of product portfolios and decision practices; and using the findings to (de)select and/or (re)evaluate the performance of decision makers and decision outcomes.

*Funding*

This type of study can be expected to generate findings that benefit industry-level management research and management education, as well as informing the orderly review and improvement of practices within firms. For this reason, it can be expected that industry and firm-specific funding and provision of in-kind resources and facilities be sought for this type of study.
Schedules

It is often difficult to conduct quality interpretivist studies according to a fixed-duration (or even fixed-budget) project schedule. This is because key steps such as data generation and interpretation evolve, often unpredictably, with ongoing work directed as a result of emerging issues, leads and dead ends. Incorporating contingency elements into schedules and budgets is one practical approach. It may also be appropriate to structure the research so that interim findings and parallel or even largely independent streams of work can be undertaken, so that the effect of changes to time and money schedules as much as to the scope of the study can be accommodated with less wide-ranging impact.

Other nontrivial scheduling considerations that are often linked with interpretivist studies include negotiating and sustaining access to appropriate firms and key decision makers as well as portfolio managers and customers, generating data using in-depth interviews and focus groups, iteratively interpreting emerging data in order to develop validated meanings and descriptive concepts about effective decision making, and verifying the substantive theory that the study constructs from the data.

Conduct

This covers implementation of the research design through to and including the generation and verification of the study's findings. Constructing a sample that includes readily accessible participants who voluntarily offer candid and rich accounts as decision advisers, decision makers and portfolio managers is as much a matter of the way the study is presented and marketed as it is a matter of the way researchers connect with, and develop, an engaging, stimulating and professional relationship with participants through data generation, interpretation and validation.

The logistical and organisational challenges of handling potentially large amounts of spoken and written language-based data, and the substantial workload needed to concurrently and iteratively (re)interpret the growing body of data, are also major practical considerations for interpretivist studies. In this example this would involve reviews with cohorts of decision makers in the first instance, and eventually a possibly wider sample of related managers, specialist advisers and portfolio customers chosen from beyond the participating firms in order to strengthen the validation of the findings.

Reporting

Highlights can be expected to cover the aim of the study-to help develop principles for competent portfolio decision making, findings that can be used to help improve the development of relevant managerial decision practices, and contributions to methodology and substantive theory that may usefully inform further research.
ACTIVITIES AND RESOURCES

This section at the end of each chapter suggests further reading, and offers discussion and practice development activities.

EXERCISES AND QUESTIONS

1. Using bibliometric studies, locate exemplary texts and journal articles on interpretivist methods and techniques for generating and analysing data and reporting interpretivist studies.

2. In interpretivist studies we refer to the generation of data, whereas in positivist studies we refer to the collection of data. Discuss the different meanings and their implications for research design, conduct and reporting.

3. (a) Review a diverse range of interpretivist studies and prepare a list of the variety of ethical challenges and corresponding arrangements involved.
   (b) Discuss the list and its implications for focusing, designing, conducting, reporting and using interpretivist research.

4. (a) Use bibliometric studies to select a small number of exemplary interpretivist studies on a topic that you are interested in, and review others' critiques of these studies.
   (b) What sorts of strengths and weaknesses arise, and what are the implications of this for designing, conducting and reporting a model interpretivist study on this topic?

5. Questions bring with them implicit assumptions about what exists, as well as what form of inquiry and what product of inquiry will form a basis for answering the question.
   (a) Review a variety of seminal interpretivist studies, and if possible talk to the researchers who conducted the studies. Note their primary and subsidiary research questions, and the process through which these questions arose.
   (b) What assumptions, what forms of inquiry and what products of inquiry were associated with each of these questions?
   (c) Discuss the implications for interpretivist research that arise from your brief review and discussion.

6. From a review of interpretivist research literature, identify forms of data and corresponding technical problems and solutions associated with generating and making sense of them.
IN-DEPTH TOPICS

1. The term 'linear-recursive' sounds like a contradiction in terms. Discuss its meaning and its research implications at both a theoretical and practical level.

2. Key words such as theme, typification, subtext, abstraction, distillation, ideal-typical have various meanings throughout interpretivist research. Scan interpretivist literature and develop a compact set of definitions and illustrations that clearly express the concepts associated with these key words.

FURTHER READING


CRITICALIST EXAMPLES OF
INVESTIGATIVE THEORY AND
PRACTICE

CONTEXT

Of the three research paradigms featured in this book, the criticalist perspective is the most recent, and as a research methodology is relatively undeveloped. While considerable work has been done on the theoretical need for this perspective (e.g. Alvesson and Wilmott, 1988, 1992; Alvesson and Deetz, 1996), clear methodological guidelines are yet to be developed.

If this need for a criticalist perspective is acknowledged, then an implementation path is suggested by Johnson and Duberley (2000: 177-92), who provided a basis to articulate theoretical principles of a pragmatic critical realism. This orientation helps to bridge the gap between a perceived need for a criticalist perspective on research about issues of inequalities (which manifest as power differences) within business and management, and the need for guidance in how to conduct such research.

In a four-cell matrix which features various ontologies and epistemologies in research paradigms, Johnson and Duberley (2000:180) located four quadrants, one of which (the southwest quadrant) is an objectivist ontology with subjectivist epistemology. With this, the objective ontology combined with constructionist epistemology comprises what they call pragmatic-critical realist research. This is the inspiration for the research approach illustrated by the two examples featured in this chapter. (From now on, and for brevity, we refer to pragmatic critical realist research as criticalist research.

INTRODUCTION

Following from the above, rigorous criticalist studies will share an explicit realist ontology and a constructionist and subjective, and sometimes intersubjective, epistemology. Figure 8.1 highlights the major steps and the way they combine to guide the research process.

To explain and illustrate the nature of research in this paradigm it is useful to refer to theoretically coherent practice guides. This chapter presents a possible set of such guides which are exemplified using two cases; one in MIS and one in strategic marketing. The guides offered here are founded on explicit and internally consistent ontological, epistemological and methodological assumptions. In this introduction we highlight key ontological assumptions,
Figure 8.1

Indicative structure of a criticalist research perspective

typical epistemological positions, and important elements of methodological strategy. This is done in order to set the scene for a possible set of practice guides that criticalist researchers may refer to in order to establish and assert the integrity of their research, as much as to develop useful actionable knowledge. Foundational assumptions of a critical researcher's view of reality (ontology) are referred to in Johnson and Duberley (2000: 131-2). Also following on from Morrow and Brown (1994) and Kinchlooe and McLaren (1998), Johnson and Oubcrley (2000) reminded us of the following:

- All thought is mediated by socially and historically grounded power relations.
- Human subjectivity is mediated by conscious and unconscious language.
- Concepts and facts about institutional phenomena are dynamic and mediated by the social context in which they arise and are experienced. Societies are characterised by both privilege and oppression, which are exacerbated by acceptance of such differences as natural.
Mainstream research practices often unwittingly contribute to the continuation of the reproduction of class, race, gender and other inequalities.

In order to access and/or generate knowledge within this paradigm, assumptions (and resulting questions) that reflect a criticalist epistemology include:

- There is no theory-neutral observational language or process by which reality may be accessed.
- Ideally the truth value of collected subjectivities increases when more consistencies and fewer inconsistencies are discovered with objective data.
- The truth value of subjective consciousness being constructionist/relativist may also include a false consciousness. Such consciousness manifests as patterns within and between language, actions and consequences that are inconsistent and incoherent with others’ patterns of language, actions and consequences (such as institutional differences).
- Unwitting interpretations often mediate interrelationships between ideologies and subjective realities.
- Fundamentally, from the above, it follows that a crucial role for researchers is to be reflexively aware of their own presuppositions and values.
- Also, advisedly, the purpose of criticalist research is for the researcher to help the researched to develop reflexivity that supports the empowerment needed to mitigate inequality and initiate, for instance, organisational change with practical and/or political consequences.

In dealing with all of the above, a key epistemological dilemma concerns what Bhaskar (1989) referred to as transitive and intransitive realities. Transitive realities refer to people's varying interpretations, and intransitive realities refer to researchers' systematic constructions in the form of causal mechanisms. The dilemma is that given the assumption of no theory-neutral observational and interpretive language, a choice must be made about the true merit of the researcher's postulated causal mechanism compared with people's varying interpretations. At the same time, these players' power differences are part of the phenomena they are jointly trying to understand.

From these positions, a criticalist research approach employs a strategy of inquiry which uses a retroductive logic (Bhaskar 1989: 16). Using this logic we can identify regularities in data about individual meanings (transitive realities) and regularities in objective data about observed phenomena, and then postulate and test explanatory (cause-effect) mechanism(s) which can stand-as a metaphor, analogy or model of some underlying, but inaccessible reality. These mechanisms represent presently hidden and assumed underlying realities (or intransitive concepts). In this strategy, increasing tangible evidence and consistent explanations reinforce the assertion that the postulated underlying
cause-effect reality plausibly exists. In this process it can be argued that, despite the unavoidable flaw of self-referential verification and ethical study, truth is increasingly asserted as the weight of subjective and objective evidence increases independently of diverse interests. Consequently participants and researchers are led to a new synthesis of reality, and the possibility of ethical egalitarian change informed by the knowledge generated.

Some difficulties which should be addressed when designing and conducting criticalist research include:

- Is there a best order in which to mix exploratory research and literature search in order to postulate tentative deep structures or even causal models?
- Is there a best order in which to generate sufficient data so as to postulate tentative deep structures or even causal models?
- How do we gather empirical evidence, and what constitute sufficient regularities in data?
- How is a comprehensive and plausible model constructed?
- How is a choice to be made between simple but less well-supported postulates and more complex and better-supported postulates?
- How is a model tested, and what constitutes sufficient evidence for verification?
- When have we sufficient weight of evidence to outgun the self-referential flaw mentioned above?

Introduction cycles through developing a description of phenomena, generating and collecting data about the phenomena, identifying regularities across the data, postulating an underlying deep structure and a causal mechanism for the observed phenomena (or as a condition for the observed phenomena), and testing the postulated causal mechanism or causal condition. The cycle of retroductive inquiry stops when the weight of comprehensively consistent evidence for a plausible causal mechanism and associated deep reality is accepted by diverse interests as being more stable, more informative and more enabling than any other known and well-tested alternative.

**KEY ELEMENTS IN CRITICALIST STUDIES**

Recently, the number and urgency of calls for business and management studies that help to expose the nature of power, politics and inequality in professional and organisational life have accelerated rapidly. Unfortunately, criticalist research is not well articulated in terms of process, partly because the field is relatively young and because some of the issues to be confronted are technically quite complex. On the other hand, the paradigm offers a first-time opportunity to generate knowledge and action in a poorly understood but very important arena. Understanding the criticalist paradigm is assisted by a comprehensive understanding of the elements of the positivist and interpretivist paradigms.
To help the researcher who is intent on a study of power and inequality in organisational life, there follows a guide for the successful completion of an informative and actionable criticalist study, but this should not be taken as an axiomatic prescription for all such studies, in order that a criticalist study is also rigorous, it is essential that the key assumptions and their contingent choices in methodology are explicit and clearly justified.

As indicated in Figure 8.1, key activities in criticalist studies generally do not proceed in a linear fashion, but rather occur in a reflexive and evolutionary way, and involve objective as well as subjective data. Notwithstanding this distinctive difference from the positivist and interpretivist approaches, the elements of criticalist studies typically include the following.

**Investigative theory**

*Theoretical and empirically grounded concepts plus biographical sensitivity*

Familiarisation with academic and other literature is used to broaden and stimulate theoretical imagination, broaden organisational awareness and reframe biographical experience. This helps us to stimulate and sharpen our topical interests, and question and reinterpret the ontological and epistemological lenses through which we view and interpret meanings.

**Nominal and ordinal variables**

Within this paradigm the use of the term variable may be used, not in the sense associated with positivist studies, but rather to identify an aspect of a concept or a relationship between concepts. The word *nominal* simply indicates that a variable can only be known through its description (that is, as a set of attributes) but not by further classifying (as a member of a category) or otherwise by some form of rank or even a numerical measure. Variables may be either discrete (such as units or categories) or continuous (such as height or income). In the case of continuous variables, we must distinguish clearly between the nature of the variable and the instrument and unit of measure.

To move from starting empirical and theoretical concepts the researcher selects variables (often nominal) as tentative representations of phenomena. This helps to delineate a clearer starting point, from the literature and/or exploratory research. Through this process of delineation and resulting focus, some starting concepts may lead to different representations of the phenomena being defined, for which data are generated and/or collected, while other starting concepts may lead to the construction of a tentative model.

To compare this paradigm with the positivist one, the cluster of concepts comprising the tentative model in the criticalist approach may be considered analogous to the independent variables in a positivist approach, and a criticalist description of the phenomena being studied may be considered
analogous to the behaviour of the dependent variables in a positivist study. Of course, in a positivist study it is likely that both sets of variables will be numeric, whereas in a criticalist study variables will typically be descriptive and possibly complemented by some numerical data.

**Question formation and evolution**

Throughout the study, a prime task of the researcher is to ask and refine the best question to elicit the most valuable actionable knowledge which helps to reveal power and forms of inequality.

**Considering confounding factors**

In criticalist studies confounding factors will include the sort of issues listed in the introduction to this chapter. Two major types of confounding factors arise as a result of, first, the intrinsic complexity of the substantive paradigm and question, and second, the reactionary mediation of the substantive material by not least some participants, disadvantaged people or groups and/or power players in the background with interests they perceive may be challenged or enabled. Such confounding factors, whether 'present or not in the beginning, may be made manifest or change as the research proceeds.

Recognition of apparent confounding factors of itself may represent valuable knowledge rather than something to be controlled for or even excluded. So the crucial tasks for the researcher are to incorporate this awareness into the latest question and interpret the data astutely.

**Population, sampling and data generation**

A technically and purposively appropriate representative sample needs to be chosen to reflect the relevant population of the research and the intended use of the findings. In a criticalist study, a researcher's biographical and organisational experience is usually combined with their knowledge of the substantive field of inquiry. This helps the researcher to systematically and imaginatively develop theoretical and/or empirical perspectives on the topic. In this way concepts are rarely drawn directly from the literature alone, but rather reflect the researcher's creative interpretations as well.

Because the purpose of criticalist research is normally to interpret, explain and enable action on issues of power and inequalities, accessibility to informative participants and data can often be difficult. And depending on the nature and purpose of the research, a more than usual measure of ethical scepticism may be needed to ensure that candid and relevant data as well as safe participation are assured. So, it is likely that in criticalist studies, rigorous ethical as well as technical design issues will need particular attention.

As far as sample size is concerned, as the main aim of a criticalist research sample is to acquire rich and diverse data associated with power and inequalities,
it is sample mix rather than sample size that is important. In addition, generalis-ability is sought, and in that case, as is normally the case in positivist studies, a suitably larger sample may be indicated.

Criticalist studies are usually guided by a core question and an emerging explanatory model. As a deeper and wider understanding of the phenomenon of interest emerges from tentative theorising about the accumulating data, such theorising may produce a progressively richer conceptual model, or occasionally an impasse that demands a new constructive approach.

Data generation spans various sources and various types, including theoretical concepts drawn from theoretical and/or empirical literature; successive refinement of questions that, in part, arise from tentative modelling; and discursive verbal and/or text and/or nominal or even ordinal categorical data (which may arise through data analysis as well as the successive refinement and testing of an increasingly plausible model). Typical forms of data generation span objective and subjective styles across at least primary and secondary sources. These typically include interviews, questionnaires, observations, focus groups, documents, organisation and industry statistics and reports.

Data distillation and analysis plus model development and confirmation

This step of criticalist research aims to distil all the data into a compact theoretical model which also provides comprehensive causal explanations of the phenomena of interest in the research question. In this process it is also necessary to confirm the pragmatic and legitimate value of the explanatory knowledge represented by the model. Ideally this includes internal verification with reference to the research question by a subsample of respondents, who are asked to comment on the model and its utility in their own domain, and external formal verification with reference to theoretical, empirical and methodological literature.

A central and controversial task in criticalist analysis concerns the creative combination and synthesis of objective structural data and subjective participant data to form a verified answer to the research question. This might even contain a range of differing typifications which affirm agreement to principles albeit with dissent about details.

Criticalist studies are exposed in so far as there is not a universally agreed technique for creative synthesis. Despite this there are important criteria that can be used to assess the product of creative effort and so establish the merits of the product of this part of the study. These include:

- Objective structural data should help to illuminate the subjective participant data (and vice versa). This is not the case with the other two paradigms, whose validity is only internally consistent because they each have only one form of data - either objective or (inter)subjective.
- Combinations are facilitated by recognition and/or explanation of the nature of power and/or inequality revealed to representative participants.
So objective and subjective data are not combined if they do not enable revelatory insight.

- Synthesis is the refinement of the emerging model to the extent that there is wider (dis)confirmation.
- Effective creative effort must reveal both doubts and assurances which comprise a critique of the research process by the researchers.

Reviewing aspects of data analysis in Chapter 6 and Chapter 7 may help the reader apprehend the comprehensive nature of data generation and data analysis that operates in criticalist research.

**Investigative practice**

*Reporting the study's findings*

This should be an interesting account which potentially enables and possibly even facilitates change. The report combines the researcher's language which subsumes findings from analysis of objective and subjective data, participants' accounts of issues of relevance in their worlds and the related explanatory value of the research model, and comparative highlights of the extant knowledge about the substantive phenomena, which demonstrates the advances in knowledge and its utility.

**Critique of research**

It is important to reflect on the study's conduct with particular reference to both the researcher's and participants' roles in data generation, data interpretation and validation of the eventual model and its utility for change. In particular, in criticalist studies, researchers combine objective dispassionate observation with collaboration, investigation and detection. Furthermore, as criticalist studies usually seek to explore, uncover and describe particular phenomena and refine an explanatory model, criticalist reflection must expose the dualistic nature of the study and the basis for verification.

While the philosophical foundations are long established, methodological guidelines are sparse. So it is important to highlight statements which arise from the conduct of a study and which help to clarify methodological challenges and their treatments.

The remainder of this chapter illustrates the approach and outcomes for Example 3 and Example 6, with a focus on the aspects shown in Tables 8.1 and n Table 8.1 notes typical features of investigative theory for a criticalist study about management of investments in business information systems and for a criticalist study of the politics of decision making for a firm's product portfolio. Table 8.2 notes typical features of investigative practice for these two criticalist examples. Aspects of investigative theory and practice for these two examples are then discussed.
Table 8.1 Highlights of investigative theory for two criticalist examples

<table>
<thead>
<tr>
<th>Investigative theory</th>
<th>Example 3</th>
<th>Example 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Criticalist research</strong></td>
<td>Business information systems investments</td>
<td>Politics of portfolio choices</td>
</tr>
<tr>
<td><strong>Question or hypothesis</strong></td>
<td>Do (and how do) political and technical considerations influence executives' go/no-go decisions about investments in strategic IT business information systems?</td>
<td>How are executives' preferences and choices for the firm's product portfolio mix informed and influenced by their organisation-political contexts?</td>
</tr>
<tr>
<td><strong>Philosophy of science</strong></td>
<td><strong>Ontology</strong></td>
<td><strong>Epistemology</strong></td>
</tr>
<tr>
<td>How reality is viewed</td>
<td><strong>Realist and relativist</strong></td>
<td><strong>Pragmatic constructionist</strong> - a composite of objective and intersubjective data from which knowledge of reality is negotiated. An iterative process of pragmatic critical theorising generates a descriptive and explanatory model which is further used in a prescriptive or predictive way for the purpose of emancipation.</td>
</tr>
<tr>
<td>How knowledge is generated</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Argument structure</strong></td>
<td><strong>Iterative</strong> and evolutionary development of plausibility that increases with more diverse evidence and the absence of contradiction.</td>
<td><strong>Retroductive</strong> reasoning iteratively refines an analogic model that is grounded in diverse objective and subjective data.</td>
</tr>
<tr>
<td>Inquiry's main logic</td>
<td><strong>Nomothetic</strong> - explain particular phenomena.</td>
<td></td>
</tr>
<tr>
<td><strong>Methodology</strong></td>
<td><strong>Purpose</strong></td>
<td><strong>Tactic</strong></td>
</tr>
<tr>
<td></td>
<td>Using empirical data, construct explanatory transformative theory.</td>
<td></td>
</tr>
<tr>
<td>Researcher's stance</td>
<td><strong>Etic/emic.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Main methods</strong></td>
<td><strong>Quantitative and qualitative</strong> (e.g. statistical and language-based dialogic methods).</td>
<td></td>
</tr>
<tr>
<td><strong>Approach and outcomes</strong></td>
<td>A typology of practice principles ... <em>that results in</em> ... a model of causal links and actions between funding decisions and funding outcomes for investment cases.</td>
<td>Classify and test elements of case-specific decision making ... <em>to produce</em> ... a model of causal links between characteristics of social context and new product choices.</td>
</tr>
</tbody>
</table>
### Table 8.2 Highlights of investigative practice for two criticalist examples

<table>
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<th>Investigative practice</th>
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<td><strong>Criticatist research</strong></td>
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<td><strong>Proposal focus to highlight ...</strong></td>
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<td><strong>Indicative ethical issues</strong></td>
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<td><strong>Key conduct factors</strong></td>
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<td><strong>Reporting</strong></td>
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**EXAMPLE 3: INVESTMENTS IN BUSINESS INFORMATION SYSTEMS**

**Investigative theory**

This comprises theoretical and empirically grounded concepts plus biographical sensitivity across the following elements.
**Question**

Do, and how do, political and technical considerations influence executives' go/no-go decisions about investments in strategic IT-based business information systems?

**Philosophy**

This type of study involves a dualist philosophy of science in which objective and subjective data are combined. In this type of research study one choice of *ontology* is realist. From this orientation underlying phenomena exist independently of the researcher and participants. Such objective phenomena may include, for instance, internal executive coalitions and the reported lifetime value to the firm of past and present strategic management information systems (MIS). From this perspective objective concepts about executives' decisions about the scope and progress of strategic MIS may be idiosyncratic and multilayered. One way to know these realities is through a pragmatic criticalist epistemology in which objective data are obtained using an observational language that emulates, as far as practicable, a theory-neutral stance.

In addition, a second type of ontology is relativist. From this orientation participants may offer concepts and meanings about, for instance, executives' likes and dislikes. In this orientation a constructionist epistemology is used to, first, generate executives' subjective concepts and meanings for technical and political considerations that they perceive as influencing go/no-go decisions; and second, negotiate intersubjective (shared) meanings between the researcher and executives, as well as between executives, about perceptions and meanings that play a part in the technical and political aspects of go/no-go decisions.

This dualistic methodology offers a way to augment and/or compare volunteered subjective and negotiated intersubjective meanings with independently acquired objective data. By doing this the researcher aims to acquire more broadly insightful understanding of otherwise more incomplete or inconsistent data.

**Logic of inquiry**

An overarching retroductive logic provides the reasoning basis for iteratively exploring, describing, analysing and testing an explanatory model for the phenomenon being studied. A retroductive logic serves the need to build insights about techno-political considerations and influences on executives’ go/no-go decisions for strategic MIS.

**Methodology**

Objectively measured data will be needed recording the lifetime value of strategic MIS in a firm. In addition, and as a complement to this objective data, it will be necessary to explore and generate executives' accounts of political and technical issues and consequent considerations. Together with the objective data,
these can be used by the researcher to tentatively explain the influence of political and technical considerations on executives' decisions about strategic IT-based business information systems. A mixed *nomothetic* and *idiographic* style of investigation through statistical data and case-study-based interview is indicated. In a dialectical process, the researcher compares and contrasts objective and subjective data in order to progressively develop and refine an explanatory model of techno-political considerations and influences on executives' go/no-go decisions for strategic MIS. The research process stops when sufficiently widely affirmed theoretical understanding is reached about the nature of executives' sensitivities for techno-political contexts and their choices about approving, modifying or cancelling particular investments in the firm's portfolio of strategic IT-based business information systems.

**Stance**

The combined stance we choose is *etic*, in which the researcher uses externally acquired objective (for instance, statistical) data, and *emic*, in which the researcher as a collaborator with participants (the executives) works to access, co-generate and interpret executives' subjective and intersubjective accounts of decision-making processes and outcomes.

**Methods**

Both mathematical and language-based methods (typically appropriate to the study of verbal and written texts) are used to process the various forms of data. The resulting model which reflects assumed underlying mechanisms is likely to be described discursively, with the possible support of schematics and mathematical models to highlight relationships and rules about techno-political considerations and influences on executives' go/no-go decisions about investments in strategic MIS.

**Investigative practice**

Investigative practice for aspects of this criticalist study comprises the following elements.

**Proposal**

In this case specific proposal highlights can be expected to deal with motivation, importance and purpose. Characterising the study's *motivation* illuminates the nature of, and enables an informed and ethical dynamic between, executives' rational commercial and techno-political approaches involving their own and colleagues' interests in strategic IT-based business information systems.

The *importance* of such a study is reflected in the past 50 years' consistently poor track record of high-cost strategic MIS investments. This underpins
strong political and economic pressures on executives to make decisions about the scope and future of investments in strategic MIS that are personally and organisationally beneficial. This setting creates opportunities for politically inspired competition between executives, and also sustains a disincentive to make bold and innovative decisions, and sustained executive action to implement the right investments in strategic MIS. Better understanding of intrinsic power arrangements and consequent imbalances help to better protect the firm's reputation for guiding long-run successful investments in strategic IT-based business information systems.

The study's purpose is about generating more useful and better theoretically grounded understanding of executives' political as well as commercial preferences for scoping and progressing MIS investments affecting their own business operations as well as the firm overall. It is also to show how the theoretical understanding of the substantive topic and research approach may be developed systematically and also enable change.

**Ethics**

Ethical risks include executives not being allowed, or prepared, to divulge technopolitical perceptions and preferences that they rely on or ignore in their own practice; research findings being used to increase politicisation at the expense of optimal investment mix; organisation stakeholders being more or less preferred or ignored through poor research design and sampling; some executives' views being privileged or others excluded or downplayed; and the researcher being subject, by some participants or the organisation being studied, to (in)direct pressure (for instance through funding, facilities, reputation or such like) to modify the study's scope and/or its approach, or its findings.

**Funding**

This study has a prospect of providing valuable knowledge for industry, for boards of directors, for executives and for firm performance. It can be expected to provide useful material to be included in executive and business practice-education about MIS governance. For this reason, in looking for funding sources the researcher should consider industry and government assistance as well as funding from specific firms interested in better executive practice.

**Schedules**

As this example is an exploratory and theoretical design, there are likely to be stage tasks whose scope are difficult to reliably estimate in advance. Major tasks in this study include:

- From the literature, tentative construction of a model for techno-political executive decision making when investing in strategic MIS.
• Choose one IT-intensive firm or a purposeful sample of suitable firms, each with appropriate cases to study, plus a sample of associated executives and others with a long-run stake in strategic IT-based business information systems.
• Construct interviewing schedules and select sources of primary and secondary data (such as case reports and reports of industry statistics).
• Carry out data reduction, coding and analysis.
• Refine and verify the tentative model of executives' techno-political decisions about strategic MIS.
• Report the theoretical and practice findings and their use.

As referred to in the investigative theory section, the data reduction, coding and analysis, and refinement and verification, steps are particularly complex and difficult to schedule or budget. Additionally, explanation of the process and research critique is especially important.

Because of the unpredictable nature of the dualistic character of criticalist research, process and timeframe are difficult to estimate. The research process stops when no new important insights emerge despite continuing efforts to discredit the explanatory model produced.

Conduct (execution of research)

In addition to the special role of literature in this study to develop the starting model, methods for eliciting and making sense of executives' subjective meanings at a micro level (such as through interviews) about techno-political considerations, consequent MIS investment decisions and their consequences must be combined with methods for obtaining, analysing and comparing objective macro data about outcomes of strategic MIS investments that are progressed as well as those that are suspended or terminated.

Because of the evolving link between data and the refined model, the different forms of data collection, condensation and analysis can be expected to proceed incrementally - in an interlocking manner - much like the teeth of a zip.

Reporting

Typical aspects include the formal account of the research study's aims, scope, conduct and limitations; a formal account of the study's findings and implications for practice and change as well as further research; the new model and a description of its meaning for executives' decisions and their techno-political considerations about strategic MIS; implications of the study's findings for techno-political considerations in executive's MIS-directed decisions and their subsequent use and value in executive and business education; and methodological insights for the paradigm which come from the conduct of a criticalist (pragmatic realist) study.
EXAMPLE 6: THE POLITICS OF PORTFOLIO CHOICES

Context

Senior executives in major firms with dominant investment products and/or services are often faced with the problem of choosing whether, to favour new product or service releases or withdrawals at the expense of further supporting established and successful products or services in a particular portfolio. This raises interesting questions, including those related to the possible impact of executives' political aspirations and affiliations on their preferences and choices for product life cycle strategies, as well as their knowledge of, and preference for, particular markets and types of products.

In this setting an important issue relates to the organisational-political climate and market perceptions that mediate executives' strategic decisions about their own and their firm's product portfolios.

Investigative theory

This comprises theoretical and empirically grounded concepts plus biographical sensitivity across the following elements.

Question

The question relates to the extent to which executive choice may be informed by executives' organisational-political contexts. The precise question is, do (and how do) executive preferences and choices for the firm's product portfolio mix become informed and influenced by their organisational-political contexts?

Philosophy

This type of study involves a dualist philosophy of science in which objective and subjective data are combined. In this type of research study one choice of ontology is realist. From this orientation underlying phenomena exists independently of the researcher and participants. They include executives' likes, dislikes, internal executive coalitions, portfolios, products-, investment levels and returns, and legal, technical and economic infrastructures.

In this perspective objective concepts and meanings about investment products and performances, executive remuneration, market share and strategy may be idiosyncratic and multilayered. One way to know these realities is through a pragmatic criticalist epistemology in which objective data are obtained using an observational language that emulates, as far as practicable, a theory-neutral stance.

In addition, the second type of ontology is relativist. From this orientation an obstructionist epistemology is used to generate executives' subjective concepts and meanings. Doing this is likely to involve researcher and participants in negotiating intersubjective (shared) meanings.
This dualistic methodology offers a way to augment and/or compare volunteered subjective meanings with independently acquired objective data. By doing this the researcher seeks to acquire more broadly insightful understanding of incomplete or inconsistent data.

Logic of inquiry

An overarching retroductive logic is used to guide the way an explanatory model for this phenomenon is iteratively explored, described, analysed and tested. A retroductive logic serves the need to build insights about politically influenced executive action.

Methodology

The purpose here is to explore and generate a model that tentatively explains executives' politically influenced action. Objectively measured data recording a firm's investment performance, perceived prospects and forecast economic climate will also be required. A mixed nomothetic and idiographic style of investigation through statistical data and case study interview is indicated.

In a dialectical process, the researcher compares and contrasts objective and subjective data in order to progressively develop and refine an explanatory model of politically influenced executive action. This process stops when sufficiently widely affirmed theoretical understanding is reached about the nature of executives' sensitivities for organisational-political contexts and their resulting strategic choices in the firm's investment portfolio.

Stance

The combined stance that is chosen is *emic*, which positions the researcher as a collaborator with participants (the executives), as well as an *etic* stance, where the researcher uses externally acquired objective (for instance, statistical) data.

Methods

Both mathematical and language (typically spoken and written text) methods are used to process the varied forms of data. The resulting model which reflects assumed underlying mechanisms is likely to be described discursively, with the possible support of schematics to highlight rules, relationships and dynamics about politically influenced executive action.

Investigative practice

Investigative practice for aspects of this criticalist study comprises the following elements.
Proposal

In this case specific proposal highlights can be expected to include reference to motivation for the study, the study's importance and the study's specific purpose. Aspects of motivation to be noted are those aspects that illuminate the nature of, and enable an informed and ethical dynamic between, executives' rational and organisational-political approaches involving their own and colleagues' investment portfolio mixes.

Highlights about the importance of the study can be expected to refer to the significant economic weight and fast-moving nature of investment markets, and the related opportunities for politically inspired competition between executives. A better understanding of intrinsic power arrangements and consequent imbalances would help to better protect the firm's reputation and obligations to its shareholders.

The study's purpose can be expected to comment on the need to generate theoretical understanding of executives' (sometimes politicised) rational preferences for managing their own, and the firm's portfolio of, investment products. It may also aim to show how the theoretical understanding of the substantive topic and research approach may be systematically developed, and also enable change.

Ethics

Ethical risks include executives not being allowed, or prepared to, divulge organisational-political perceptions and preferences that they (sometimes unconsciously) account for in their practice; research findings being used to increase politicisation at the expense of optimal investment mix; shareholders and investors being disadvantaged through poor research design and sampling; some executives' views being privileged, or others excluded or downplayed; and the researcher being subject, by some participants or their organisations, to (in)direct pressure (through funding, facilities, reputation, or such like) to modify the scope or approach to the study or its findings.

Funding

This study has a prospect of providing valuable knowledge for an industry and for executives. It can be expected to provide useful material to be included in executive and business practice education. For this reason, researchers looking for funding sources should consider industry and government assistance as well as funding from specific firms interested in better executive practice.

Schedules

As this example is an exploratory and theoretical design, there are likely to be stage tasks whose scope it is difficult to estimate reliably in advance. Major tasks in this study include:
• Use the literature to construct a tentative model for politically influenced executive action.
• Choose one or a few case study firm(s) and a sample of their executives.
• Construct interviewing schedules and select sources of primary and secondary data (such as reports of industry statistics).
• Carry out data reduction, coding and analysis.
• Refine and verify the tentative model of politically influenced executive action.
• Report on the theoretical and practice findings and their use.

As referred to in the investigative theory section, the data reduction, coding and analysis, and refinement and verification, steps are particularly complex, and both scheduling and budgeting are often likely to involve complex and frequently changing tradeoffs. Explanation of the process and research critique are also especially important as buy-in by participants with often competing interests and needs must usually be established and sustained in order that well-scoped, revealing and illuminating investigations can continue.

Because of the unpredictable and dualistic character of criticalist research, the investigative process and the nature of progress markers may remain challenging for most of the study's time frame. Ideally the research process ceases when no new important insights emerge despite continuing efforts to discredit the best emergent explanatory model.

**Conduct (execution of research)**

In addition to the special role of literature in this study to develop the starting model, methods for eliciting and making sense at a micro level (for instance, through interviews) of executives subjective meanings about investments, portfolios, their firm's practice and organisational-political arrangements must be combined with methods for obtaining, analysing and comparing objective macro data about their industry, the economic climate and their investment performances and competitiveness. In particular/because of the evolving link between data and the emerging model, different forms of data collection, condensation and analysis can be expected to proceed in interlocking steps, much like the teeth of a zip.

**Reporting**

Typical aspects to be included in the research report are a formal account of the research study's aims, scope, conduct and limitations; a formal account of the study's findings and implications for practice and change as well as further research; the new model and a description of its meaning for executive practice and political influence in investment management; implications of the study's findings for politically influenced executive action in executive and business education; and methodological insights for the paradigm which come from the conduct of a criticalist (pragmatic realist) study.
ACTIVITIES AND RESOURCES

This section at the end of each chapter suggests further reading, and offers discussion and practice development activities.

EXERCISES AND QUESTIONS

1. Identify several key debates about the possibility of theory-neutral inquiry.
2. From the literature identify practical approaches that can help to develop self-conscious reflexivity in research participants and researchers.
3. From the literature identify central debates about the desirability and efficacy of self-conscious reflexivity in critical research.
   (a) Discuss the relevance of self-conscious reflexivity to situations where power and inequality mediate business and management practice.
4. Survey the literature in exemplary studies of critical business, organisation and management research.
   (a) Trace the prevalence and focus of studies of power, politics and inequality over recent decades.
   (b) What seems to be driving this?
5. The dual purposes of (i) interpretation that enables explanation, and (ii) understanding that enables action, may be criticised for embodying a self-serving interest.
   (a) Discuss the theoretical and practical challenges that this dual purpose raises.
   (b) Suggest ways to avoid compromising the integrity of either or both objectives in critical research.
6. Search for critical business and management research reports that describe challenges and approaches to interpreting (objective) structural data and subjective participant data.
   (a) How developed do these accounts appear to be, and why is this so?
   (b) What major theoretical and practical challenges do you see still needing to be accounted for?
7. Locate exemplary critical business or management studies that have generated independently validated revelatory insights from objective and subjective data.
   (a) What designs and methods resulted in this outcome?
   (b) Critique these designs and suggest improvements.
IN-DEPTH TOPICS

1  (a) Biography and biographical sensitivity are concepts that relate to self-awareness. Review the literature and develop an understanding of the importance and character of these concepts and their theoretical and practical relevance to criticalist research.

(b) Similarly, culture, cultural heritage and related sensitivities have gathered an array of recent meanings. What are some of the main meanings and research implications of these concepts?

FURTHER READING


