

## CHAPTER 3

### RATIONALE FOR METHODOLOGY USED

*The important thing is not to stop questioning. Curiosity has its own reason for existing. One cannot help but be in awe when he contemplates the mysteries of eternity, of life, of the marvellous structure of reality. It is enough if one tries merely to comprehend a little of this mystery every day. Never lose a holy curiosity.*

**Albert Einstein (1879-1955)**

#### 3.1 INTRODUCTION

This chapter describes the rationale for the methodological approach followed in Chapter 4: (Research methodology and method).

#### 3.2 THEORETICAL FRAMEWORK

The value of research is diminished if all the relevant aspects have not been taken into consideration throughout the research conducted. Thus, to conduct thorough research a project management approach has to be adopted in this study too. The research process will follow the project lifecycle phases, to ensure that all the necessary detail in each phase is carefully thought through, and that a clear conceptualisation of the entire process has been accomplished. The research project phases include:

- the research design phase;
- the research planning phase;
- the research implementation phase; and finally
- the closure phase.

Each of these phases needs to be thoroughly planned to maximise focus and ensure the successful completion of the research project.

What is good research? Good scientific research generates dependable data, derived from practising professional conduct that can be used for decision-making (Coopers & Schindler, 2001:16). Kerlinger (1986) argues that the characteristics of good scientific research should include the following:

- a good integrating theory;
- public and open procedures;
- precise definitions;
- a systematic and cumulative approach;
- replicable findings;
- objective data collection and sampling;
- a clear statement of the research problem; and
- a clear understanding and explanation of the phenomenon/phenomena studied should.

Good research thus follows the standards of the scientific approach, which follows the phases of scientific method along the project lifecycle as indicated in Table 3.1.

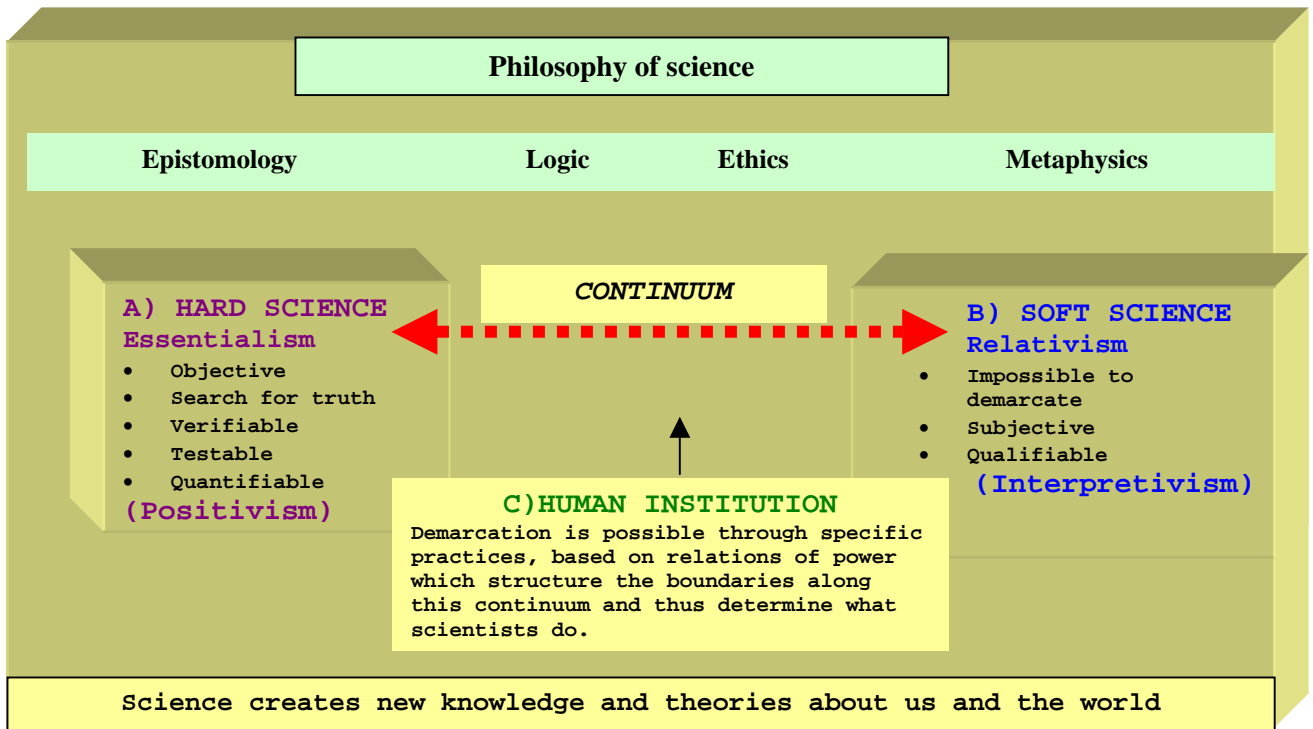
**Table 3.1: Characteristics of good scientific research applied along the project lifecycle**

| <b>Characteristics of good research</b> (Coopers & Schindler, 2001:16-18) | <b>Project lifecycle stages</b> |
|---------------------------------------------------------------------------|---------------------------------|
| Purpose clearly defined                                                   | Initiation Phase                |
| Research design thoroughly planned                                        | Planning Phase                  |
| Limitations revealed                                                      | Implementation Phase            |
| High ethical standards applied                                            | Implementation Phase            |
| Adequate analysis                                                         | Implementation Phase            |
| Findings presented unambiguously                                          | Implementation Phase            |
| Conclusions justified                                                     | Closure Phase                   |

This research attempts to follow the scientific approach described above and to comply with the criteria in the detailed description of qualitative and quantitative research outlined in Chapter 4, figure 4.1.

Science is derived from specific schools of thought, and grouped into human institutions, (in this instance project management and organisational behaviour) as scientific communities supportive of each others' thoughts and perceptions along a continuum between essentialism and relativism called Positivism and Interpretivism respectively in Organisational Behaviour research. This is set out in Figure 3.1. This research is a combination of positivism and interpretivism.

Figure 3.1 describes the philosophy of this research, a combined positivist (modernist) and interpretivist (post-modernist) approach and where it fits into the scientific framework of 'hard science' (epistemology) and 'soft science' (metaphysics).



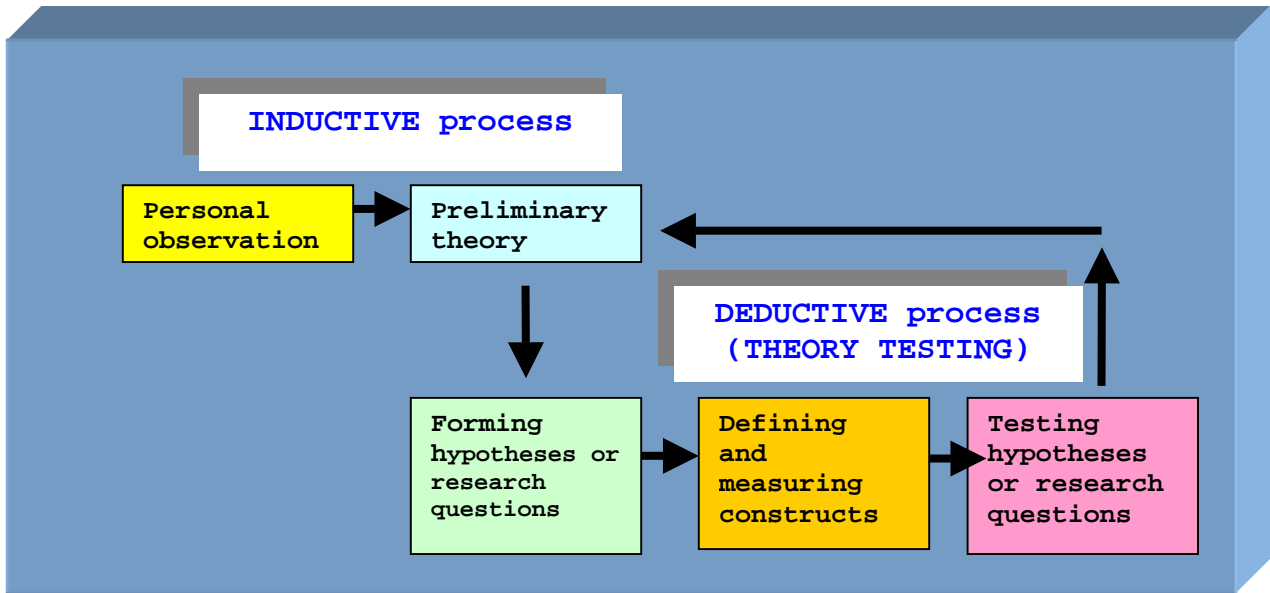
**Figure 3.1: The philosophy of science and fit of this research**

This research is dominated by the post-modernist construct, that describes the cosmos as unstable, relative, complex, open (holistic) with humans as a small but an inextricable part of the greater reality. Furthermore, post-modernism can be characterised by science within chaos, scarcity, with truth subjected to value systems and the importance of relationships.

In post-modernist thinking,

- human beings are seen as relational beings;
- the universe (or nature) is seen as a dynamic organism;
- science accepts chaos and is qualitative, and
- development and progress focus on scarcity and limitations (Blignaut, 2001).

If the two mainstream scientific approaches are quantitative and qualitative approaches and the two main paradigms are modernism and post-modernism, then most of the earlier research attempts in organisational behaviour as a discipline must be described as having been approached using a quantitative approach in a modernistic paradigm. This was and in certain instances still is mainly due to pressure on scientists to ensure that research is testable. However, since the early 1990's the post-modernist paradigm (where organisational behaviour fitted originally) has evolved and approaches to science have become more qualitative. However, the theory building process used within this discipline actually draws its methodology from both paradigms as set out in Figure 3.2.



**Figure 3.2: Theory building and testing process (McShane & von Glinow, 2003:604)**

The two general approaches to reasoning which may result in the acquisition of new knowledge are:

- *inductive reasoning*, which commences with the observation of specific instances, and seeks to establish generalisations (also known as the scientific approach or theory building); and
- *deductive reasoning*, which starts with generalisations, and seeks to see if these generalisations apply to specific instances (also referred to as theory testing) (Guy, *et al.*, 1997; McShane & von Glinow, 2003:604).

Both qualitative and quantitative approaches are applied in this research, as well as inductive reasoning and deductive reasoning.

The quantitative and qualitative research approaches and the research methods used in this study are outlined in Chapter 4. It has to be emphasised that it is not a case of following an either/or methodology, the two approaches can be combined. This is also referred to as a multiple approach or triangulation (use of several research frames of reference to

analyse the same set of data (Leedy, 1993:143). This theoretical framework provides the background to the research decisions applicable in the present study.

The easiest way to depict the specific research design and methods used for the different research questions is to construct a diagram (see Figure 3.3 overleaf) utilising the theoretical framework provided above.

| <b>Research question</b>                                                                                                                                                                                                                                                                                                                                     | <b>Approach and method</b>                                                                                                                                                                                                                                                                                  | <b>Reasoning</b>           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|
| <i>1. Is a project management culture, as an operational organisational culture, able to contribute towards business success in organisations that use project work?</i>                                                                                                                                                                                     | Literature study<br>Descriptive<br>Qualitative                                                                                                                                                                                                                                                              | Inductive                  |
| <i>2. Do businesses regard the measurement of organisational culture and project management culture as necessary or value-adding to business?</i>                                                                                                                                                                                                            | Literature study<br>Descriptive<br>Qualitative                                                                                                                                                                                                                                                              | Inductive                  |
| <i>3. What should a supportive organisational culture for optimal project success consist of? (What are the components/elements of a project management culture?)</i>                                                                                                                                                                                        | Literature study<br>Qualitative questionnaire<br><br>Quantification of dimensions and elements- verification by experts using Lawshe's (1975) content validity technique                                                                                                                                    | Deductive                  |
| <i>4. How should organisations (those currently engaged in and those that want to apply project work) assess their project management culture?<br/><br/>What process should be used to develop a holistic organisational culture assessment tool that can be used to assess the project management culture (as an operational culture) in organisations?</i> | Literature study on measurement and scale development.<br>Qualitative orientation<br>Quantitative verification and development of assessment tool.<br>DeVellis (1991) scale development process<br>Item analysis and exploratory factor analysis<br>Pilot study- testing project management assessment tool | Inductive<br><br>Deductive |

**Figure 3.3: Methodological approach used in this research study**

Thus, in conducting this research study, a combination of qualitative and quantitative approaches is used based on a sound literature review provided the theoretical base. Both inductive and deductive processes are used. To ensure that the study complies with the criteria for good scientific research, the guidelines mentioned are applied.

### **3.3 LIMITATIONS AND SHORTCOMINGS IN PREVIOUS RESEARCH**

There have been several obvious weaknesses in previous research and discussions on project management culture and organisational culture assessment tools. These discussions lack an explicit theoretical framework which takes into account the complexity of the interdisciplinary and systemic nature of a project management culture. Their procedures for listing some values and beliefs as dimensions of a project management culture are often subjective and they lack prior criteria for the inclusion or exclusion of some dimensions and a basis for naming and grouping them. Also, except for Wang (2001), they do not provide any systematic and empirical survey research, on project management culture. To address these weaknesses in the literature and to promote a project management culture as an important operational culture in organisations involved in project work, it is essential to study project management culture as a holistic, systemic phenomenon, using a sound theoretical framework and empirical data.

De Witte and van Muijen (1999) have expressed their concern about researchers and practitioners of organisational culture's failing to address a number of crucial aspects in conducting their research. They have indicated a range of the critical questions, which should be taken into account by every researcher in organisational culture. These critical questions are the following:



- Is organisational culture the right concept for the research?
- Which definition or approach to organisational culture will be used?
- What are the dimensions and domains of organisational culture?
- Which culture(s) does the researcher intend to study (national, organisational, departmental or professional)?
- What is the appropriate research method?
- At which level should the data gathered be analysed?
- What is the ideal culture for an organisation?

This research has taken these questions into account throughout the research process.

The limitations and shortcomings of previous research dealing with the development of measurement tools are briefly summarised below.

Wells (1993) criticises the research methodologies traditionally adopted in social science on several counts. A number of the criticisms stem from researchers' over-reliance on quantitative methods - a lack of richness in theorising, a lack of theory testing in natural settings, the continued dominance of one-shot investigations, and the use of sophisticated correlational methods to imply causality.

### **3.3.1 Lack of integrating theory**

Deshpande (1983) has criticised scholars for being insufficiently involved in theory generation; the methods social science has historically developed are those best suited to confirming theories rather than to discovering them.

### **3.3.2 Methodological problems**

Research in the social sciences has historically emphasised *deductive processes* - in many cases, applying these processes prematurely, before an adequate understanding of the underlying concepts operating has been developed (Deshpande, 1983).

In organisational behaviour, there are too many variables for research to be anything other than the exercise of contextual judgement in situations. However, the scholarly organisational behavioural community, including researchers, educators, publishers and consultancies, has encouraged a statistically-driven research approach more suitable to 'hard science' than a multivariate social science such as organisational behaviour. One can, of course, very easily measure whether statistically-driven research is statistically sound or not. However, 'statistically sound' does not equate 'good'. Researchers tend to value what they can measure, but in research, as in the rest of practice, researchers need to learn to measure what they value (Adler, 1983). Thus the main problem lies with the representational relation between what is represented and the object, for example, questionnaire responses vs. respondents' attitudes to what has been said vs. what was meant.

### **3.3.3 Development of measuring instruments**

It is advisably to start measuring organisational culture with a qualitative orientation and followed up by a quantitative verification (Hofstede & Neuijen, 1990).

Locatelli and West (1996:13) suggest that researchers are still somewhat blind to the nature of the concept of organisational culture and its sub-dimensions and that there is a clear need for consistency in the definition of

and operationalisation in this field. They describe organisational culture researchers as 'blind researchers amongst elephants'. Researchers should carefully consider the methods they use to access culture, since there are clear differences in the amounts and types of data generated by different methods. Some researchers advocate the use of only qualitative methods (Everard & Louis, 1981); while others believe that culture can be assessed objectively by means of questionnaires (for example, Tucker, McCoy, & Evans, 1990). The type of methodology deemed appropriate depends largely on the operational definition of culture used by the researchers and the purpose of the research (Ashkanasy *et al.*, 2000a). If organisational culture is defined as espoused beliefs and values, a myriad of straightforward research tools are available for use from the human relations school. These include questionnaires, inventories and structured individual and group interviews. If one accepts that there can sometimes be significant differences between espoused values and values in use (Argyris & Schon, 1978), then quantitative questionnaire approaches must be rejected. Instead, qualitative research methods are called for.

### **3.3.3 Rationale for specific techniques**

Zamanou and Glaser (1994) note that there is a lot of inconsistency in the conceptualisation of organisational culture. The uniqueness of organisational cultures has resulted in researchers' employing a variety of quantitative and qualitative measures to tap the idiosyncrasies of the culture they are studying. Rousseau (1990a) suggests that the 'method appropriate to assessing culture depends on those elements we choose to examine'.

Evert Gummesson (2000:1) writes: 'Qualitative methodology and case studies provide powerful tools for research in management subjects, including general management, leadership, marketing, organisation, corporate strategy, accounting, and more'. From Gummesson's comment it should be

clear that qualitative research is useful in an interdisciplinary field. As Denzin and Lincoln (2000:7) indicate, 'the field sprawls between and crosscuts all of the human disciplines, even including, in some cases, the physical sciences', as is the case in this study.

The statistical techniques and processes that are used in this study are directly related to scale development. They are the following:

- the scale development process of DeVellis (1991), confirmed by Clark and Watson (1995);
- the quantitative content validity technique of Lawshe (1975);
- item analysis using SAS (1997); and
- the exploratory factor analysis (EFA) technique using BMDP (1993)(Hair *et al.*, 1998; Garson, 2002).

### **3.4 CONCLUSION**

The complexity of the research methodology and method to be used in the interdisciplinary study fields of organisational behaviour and project management combined with organisational culture is evident from the discussions in the chapter. One has to be aware of the pitfalls and limitations when conducting research of this nature. The rationale and theoretical construct set out in this chapter is used as a basis for the research design and method set out in Chapter 5.