Chapter 4 describes the methodology and data analysis employed in this study, and discusses the methodological issues which arose.

In answering the three research questions, the study involved a number of procedures incorporating multisite, multimethod, and multistakeholder data from a survey of 588 disability sector organisations, the total population in Victoria and Tasmania. Table 15 indicates how these elements formed the structure of the study and thereby addressed the three research questions.

In brief, the goal of this study was to examine whether disability-based organisations whose top management teams have greater levels of education and training perform better than disability-based organisations with top management teams with lesser levels. This enhanced performance was hypothesised to be mediated by the intensity of organisational strategic planning processes.

The relationships between these three constructs, (reproduced from Chapter 1) are shown below.

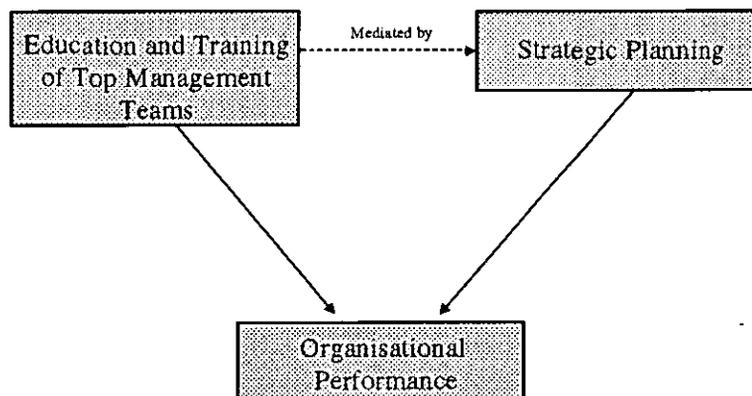*Figure 7*   *Specific constructs of the Thesis*

Table 15   Study Structure

Study focus	Procedure	Data source	Data gathering methods
Stage 1 Major focus: The parameters of management education and training, strategic planning, and organisational performance measures within the disability sector leading to development of a questionnaire	Procedure 1	• Training group n = 27 (Organisations)	• Discussions • Workshops • Cluster group meetings • Draft Questionnaire developed
	Procedure 2	• Training group n = 27 (Organisations)	• As a result of Procedure 1, draft Questionnaire (Sections A, B, C of Questionnaire 1) refined and tested
Stage 2 Major focus: Pretesting of questionnaire	Procedure 3	• Focus groups n = 15 (Organisations)	• As a result of Procedures 1 and 2, draft Questionnaire (Sections A, B, C of Questionnaire 1) further refined and tested
Stage 3 **Research Questions 1, 2, and 3** Major focus: The relationships between management education and training, strategic planning, and organisational performance measures within disability sector organisations	Procedure 4	• Questionnaire group (All disability agencies in Victoria and Tasmania) n = 588 (Organisations)	• Questionnaire 1 for Managers and Supervisors • Questionnaire 2 for all other employees
	Procedure 5	• Commonwealth Department of Health and Family Services	• Interview

In summary, the study involved both qualitative and quantitative approaches to the development of instruments based on measurement data relevant to the

disability sector, and to the collection of data from a number of stakeholders. This use of multiple sources of information has been advocated by a number of scholars who encourage researchers to 'triangulate' the development of their understandings of phenomena (e.g. Yin, 1989).
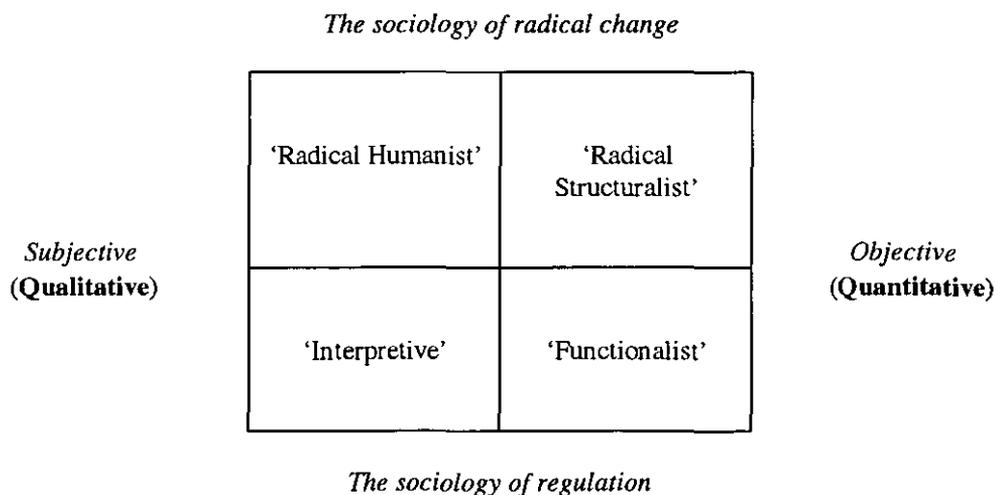
The underpinnings of the qualitative and quantitative approaches used in the study are now discussed.

1 PHILOSOPHICAL AND SOCIOLOGICAL FOUNDATIONS OF SOCIAL SCIENCE INQUIRY, AND THE SCIENTIFIC METHOD

In the organisational and social science literature, there are a number of different approaches evident relating to organisational inquiry. Each approach, or paradigm (Kuhn, 1970) comes with a set of assumptions and beliefs.

A model that has attracted much comment in the literature (e.g. Hoy & Miskel, 1987; Morgan, 1989; White, 1983) and is appropriate for this research as explained later in this section is that of Burrell & Morgan (1979). Burrell & Morgan outlined four paradigms for organisational analysis through a matrix framework of subjective-objective debates in the theory of social science, and consensus-conflict debates in the theory of society as shown below in Figure 12.

Figure 12   *Four paradigms of social theory*

The sociology of radical change

	'Radical Humanist'	'Radical Structuralist'
Subjective (**Qualitative**)	'Interpretive'	'Functionalist'

Objective (**Quantitative**)

The sociology of regulation

Burrell & Morgan's (1979) approach incorporated four paradigms — the functionalist, interpretive, radical humanist, and radical structuralist.

The functionalist paradigm (also see Stewart, 1999 on page 80) rests on the premise that society has a real, concrete existence and a systematic character and is directed towards the production of order and regulation. In this cell of the matrix, the social science enterprise is believed to be objective and value-free, and the scientific method of the research process distances inquirers from their subject matter. The outcome is practical, useful knowledge that helps inquirers understand the order and regularity of social behaviour.

Hoy & Miskel (1987) who agreed with the philosophical underpinnings of the four paradigm approach, felt that '. . . most contemporary organisational theory falls into the functionalistic cell.' (p.25).

This approach is also typical of that:

> . . . taught on mainstream organisational behaviour courses in business schools and university management departments. It is material that encompasses, for example, classical management theory, human relations, socio-technical systems, and contingency theory, and which is aimed at defining (law-like) relationships between organisation and design, work motivation, and industrial performance. (Hassard, 1991, p.31)

It should also be noted that this cell is at the 'quantitative' (my bold emphasis in Figure 12) end of the qualitative-quantitative spectrum.

In Burrell & Morgan's (1979) interpretive paradigm, the social world possesses a 'precarious ontological status' from which social reality is never realised in an external concrete form. Instead it is taken to be the product of intersubjective experience. In this paradigm the social inquirer attempts to understand the social world by deconstructing the phenomenological process through which individuals in the system construct their own social reality.

The third paradigm, radical humanist, has the 'qualitative' aspect in common with the interpretive, in that it assumes everyday reality is socially constructed and maintained. What is different is that it:

> . . . accepts a set of assumptions about social reality that is just the opposite of the functionalist view. . .. The humanists are not content simply to understand the nature of society; their kind of social theorising is a critique of the status quo, which emphasises the alienated state of humanity. (Hoy & Miskel, 1987, pp.25-26)

The final paradigm, the radical structuralist, also contains a radical social technique in that social reality is considered to be largely independent of the way it is socially constructed. Like the functionalist perspective, it stresses the real, concrete existence and a systematic character of social reality and is directed toward the production of order and regulation. The fundamental

difference is that proponents of this paradigm would use the concrete knowledge developed by social science to change society.

The methodology adopted in this study incorporated both Burrell & Morgan's (1979) functionalist (quantitative) and interpretive (qualitative) paradigms. Amongst other things, this methodology addresses both the 'science' and 'art' aspects of management (see p.31), aspects which are also common to education and nursing (Daft, 1997; LoBiondo-Wood & Haber, 1994).

Procedures 1, 2, 3 and 5 of Table 15 were basically interpretive, and Procedure 4 basically functionalist. This multiple (method) paradigm approach provided multiple 'images of organisations' (Morgan, 1997), and revealed not only statistical relationships between constructs, but also the phenomenological aspects of those relationships by describing and explaining the phenomena being studied (Gall et al., 1996).

It is the 'systematic' and 'objective' characteristics of the functionalist cell that give rise to 'scientific' study. There would be little point in undertaking *this* study unless it is assumed that there are observable, orderly relationships between the variables concerned, and that, by acquiring knowledge and testing hypotheses, progress towards achieving the goals of the study can be made. It is scientific research, incorporating recognition and definition of the problem; formulation of hypotheses; collection of data; analysis and interpretation of data; and statement of conclusions regarding confirmation or disconfirmation of the hypotheses that has been shown to be the most efficient and reliable of all sources of knowledge (Sekaran, 1992).

This is not to say that the scientific method is comprised of exact procedures (Zikmund, 1994), or that it is always possible to conduct studies that are 100 per cent scientific. For example, particularly in the social sciences, there are problems related to measurement and collection of data in the subjective areas of feelings, emotions, attitudes and perceptions (Sekaran, 1992). However, acknowledging that there are difficulties has prompted researchers to develop mechanisms to, as far as possible, eliminate or reduce the effects of these methodological problems. As far as they apply to this study, these will be discussed later (see section 6 – Instruments, in this Chapter).

This current study proceeded in accordance with the principles of the scientific method. The scientific research method involves the:

> . . . mental processes of logical reasoning concerning the existence and properties of a phenomena about which more information, new knowledge, is sought through a systematically planned investigation . . . (LoBiondo-Wood & Haber, 1994, p.39).

The quantitative purpose of the methodology in this research was to gain knowledge of the existence and strength of the relationships between

management education and training, strategic planning processes and systems, and organisational performance in disability sector organisations.

Initially, data was not gathered from subjects on how *they* saw the existence and strength of such relationships. Rather, the approach taken was to firstly explore the notion of organisational performance, and then explore the antecedents of organisational performance, prior to developing draft questionnaires. Data was then gathered relating to the three constituent variables, and then an attempt made to determine the existence and strength of any relationships. Nonaka & Takeuchi (1995) refer to this as explicit (objective) knowledge.

Such a multimethod approach is seen by some researchers as complementary in that it incorporates the respective roles of discovery and confirmation (Biddle & Anderson, 1986; Leininger, 1992). Morse (1991) suggested that qualitative (subjective) and quantitative (objective) approaches could be combined either simultaneously, or sequentially. Simultaneous triangulation is the combination of qualitative and quantitative methods in one study at the same time. In sequential triangulation, one approach precedes the other.

This study essentially used a sequential combination, qualitative followed by quantitative, followed by qualitative. The parameters of the constructs were firstly explored and developed into questionnaires, followed by hypothesis and research question testing and the strengths of the relationships established, followed by a qualitative enquiry to obtain external independent 'expert' opinion.

Other researchers (Gall et al., 1996) see the multiple paradigm method as incompatible in that different paradigms are based on different epistemological assumptions. Still others criticise all forms of social science, however it is not intended to defend this study against the general criticisms of social science inquiry.

It is the combination of quantitative and qualitative approaches, that is, using preconceived concepts and theories to determine what data will be collected (quantitative), and discovering concepts and theories after data have been collected (qualitative) (Gall et al., 1996), respectively, that necessarily involves induction and deduction processes.

The two principal types of logical reasoning are inductive and deductive (LoBiondo-Wood & Haber, 1994), and are two of the structured approaches to generating knowledge - see Table 16 below.

Inductive reasoning (Gummesson, 1991), involves the observation of a particular set of circumstances, or clusters (Burns, 1997), that belong to and can be identified as part of a larger set. This reasoning then, moves from the particular to the general and underlies the qualitative approach to inquiry (Procedures 1, 2, 3 and 5).

Table 16   *Approaches to generating knowledge*

Approaches to generating knowledge	
Unstructured	**Structured**
Intuition	Induction
Trial and error	Deduction
Tradition	Research
Authority	

On the other hand, deductive reasoning uses two or more variables or related statements that, when combined, form the basis for a concluding assertion of a relationship between the variables, called relational statements (Gummesson, 1991). This reasoning moves from the general to the particular and is typically applied through the quantitative inquiry approaches (Procedure 4).

Based on these inherent characteristics, differences are evident in the research process as reflected in the respective approaches (LoBiondo-Wood & Haber, 1994) - see Table 17 below.

It might appear from the discussion so far that the inductive and deductive methods of reasoning are mutually exclusive. This is not the case. In much the same way as Morse (1991) suggested that qualitative (subjective) and quantitative (objective) approaches could be combined sequentially (and in some research *because* of this), in research reasoning, the induction and deduction methods of reasoning are also used in a sequential manner. It is this combination of induction and deduction, observation, and hypothesis testing which illustrates the scientific method (Emory & Cooper, 1991).

Table 17   *Inductive and deductive reasoning*

Differences in the research process when using inductive and deductive reasoning	
Inductive	**Deductive**
State problem	State problem
Review literature	Review literature
Select method	Identify theoretical framework
Collect data	State hypothesis
Analyse data	Select method
Interpret results	Collect data
Develop concepts	Analyse data
Draw conclusions	Accept/ reject hypotheses
Examine universality	Interpret results
Create hypotheses	Examine generalisability
Communicate results	Communicate results

2   QUALITATIVE RESEARCH METHODS - PHENOMENOLOGY

The four-paradigm approach of Burrell & Morgan (1979) incorporated at least two fundamental ways of differentiating social science inquiry. These were the subjective-objective, and radical change-regulation continuums. This study will focus on the subjective-objective involving the interpretive and functionalistic cells.

The research literature uses many different terms and concepts to essentially describe what Burrell & Morgan (1979) identified as subjective or objective. Some of the more often-used terms are summarised below in Table 18 under the cell headings of interpretive or functionalist. Contrasting styles are shown on either side of the centre dividing line.

Some definitions of qualitative research even use the Burrell & Morgan (1979) terminology e.g.

> Qualitative research is multimethod in its focus, involving an interpretive (my emphasis), naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret, phenomena in terms of the meanings people bring to them. (Denzin & Lincoln, 1994, p.2)

Eisner (1979) described qualitative research as being considerably relevant, since there can be little meaning, impact or quality in an event isolated from the context in which it is found. This is in contrast to the quantitative method.

Table 18   *Interpretive and functionalist research*

Interpretive research		Functionalist research
Case study	Qualitative	Quantitative
Ethnomethodology	Deductive	Inductive
Experiential	Postpositivist	Positivist
Antipositivistic	Realist	Nominalist
Existential	Determinist	Voluntarist
Participative	Nomothetic	Ideographic
Anthropological	Modernism	Postmodernism
Dialectic	Thick	Thin
Grounded theory	High context	Low context
Phenomenology	Deep structure	Surface structure
Ethnographic	Emic	Etic
Historical	Logic-in-use	Reconstructed logic
Structuralism	Acquaintance with	Knowledge about
Semiotics	Ideographic	Nomothetic
Hermeneutics	Unscientific	Scientific
Pragmatic	Subjective	Objective
Intensive		Realist
Soft		Determinist
Symbolic interaction		

According to Leininger (1992), there are more than 20 identified qualitative research methods. Some of the more commonly used methods included in Table 18 above are phenomenological, grounded theory, ethnographic, and historical (LoBiondo-Wood & Haber, 1994). Of these, the phenomenological method is particularly appropriate for this study as ' . . . the goal of all scientific research in general, and educational research in particular, is to explain, predict, and/or control phenomena.' (Gay, 1992).

The phenomenological method is a process of learning and constructing the meaning of human experience through intensive dialogue with persons who are living the experience (LoBiondo-Wood & Haber, 1994). For Gall et al. (1996) it is the study of the world as it appears to individuals when they place themselves in a state of consciousness that reflects an effort to be free of everyday biases and beliefs, and according to Powers & Knapp (1990), phenomenology is a way of thinking about what life experiences are like for people. It is an investigation of the lived experience and a description of achievement (Psathas, 1973).

Because the focus of the phenomenological method is the lived experience, the social inquirer is likely to choose this method when studying some dimension or phenomenon of day-to-day existence for an individual or group of individuals as described above. As such, the phenomenological method is an appropriate approach for the qualitative aspects of this study.

The research paradigm chosen therefore should enable the researcher to access the interpretations and motives that the managers themselves give to their actions. This means that the approach must allow the researcher to put themselves 'in the shoes' of the subjects and thereby understand the subjects' view of reality (Wiseman, 1979).

This need to understand the other person's view of reality is central to the qualitative approach to research. Such research provides a means of accessing unquantifiable facts and sharing the understanding and perceptions of others (Berg, 1989), and may be implemented using historiography, ethnomethodology, phenomenology, and symbolic interaction (Wiseman, 1979).

In constructing a research framework based on the phenomenological approach, the researcher imports the concepts and ideas of the approach into his or her approaches to thinking about and studying people. In essence, the phenomenological researcher provides subjects with an opportunity to interpret the meanings and intentions of their actions, then accesses the 'rebuilt' reality' and describes (but not explains) it (Dallmayr & McCarthy, 1977).

According to this view, the social world originates from the subjective meanings of individual actors, and therefore researchers must understand these meanings in order to make sense of the actors' world-life experiences. The task of the researcher is therefore to firstly accept the experience as it exists in the consciousness of the individual, and then to accurately describe that experience of the phenomenon under study.

The words 'meaning' and 'understanding' (in the phenomenological sense) require further explanation. Firstly understanding. Manicas (1987) distinguished between two types of knowledge, *Naturwissenenschaften* and *Geisteswissenchaften*. The first he described as the knowledge of nature - indirect knowledge that can be gained from the sciences or fathomed by logic. The latter relates to the knowledge of the human sciences that are the data of consciousness, and may be known directly.

The direct knowledge of the *Geisteswissenchaften* is *verstehen*. Parsons (1967) described *verstehen* as the subjective interpretation of action that is achieved by the investigator putting themself in the actors' place. Odman (1988) analogised *verstehen* with the verb 'see' in that to 'see' something is not only to perceive it, but to also understand it. This is the understanding to which Manicas (1987) referred, and which the researcher must adopt if they

are to enter the managers' life-world and imaginatively 'see' and understand their experiences.

In relation to meaning, Schwartz et al. (1979) had three sociological definitions. Firstly, meaning (or semantic information - Nonaka & Takeuchi, 1995), emanates from the intrinsic makeup of the thing that has meaning. Second, meaning is the physical accretion brought to the thing by the person for whom the thing has meaning. And third, the meaning of a thing grows out of the ways in which other persons act towards the person with regard to the thing.

The common theme that arises out of Schwartz et al.'s definitions is that meaning is context dependent.   As Strike & Posner (1985) contended, meaning does not exist in a vacuum, rather it is '. . . a matter of seeing how an idea is interpreted or applied within a certain conceptual context' (p.224).

The conceptual context in which phenomenology is therefore grounded is the background against which people make their affairs accountable to themselves and others (Dallmayr & McCarthy, 1977).

In a similar vein, Nonaka & Takeuchi (1995) argued that both information and knowledge are context-specific and relational in that they depend on the situation and are created dynamically in social interaction among people. They are unlike however in that knowledge is about beliefs and commitment, and is about action, whereas information is not.

Meaning then, is the essence of people's perceived reality, and according to Schwartz et al. (1979) '. . . the only 'real' social reality is the reality from within' (p.17).   Qualitative research places stress on the validity of multiple meaning structures and holistic analysis, as opposed to the criteria of reliability and statistical compartmentalisation of quantitative research (Burns, 1997).

Therefore, for researchers to understand another person, they must enmesh their perceptions of meaning with those of that person.   Munhall & Oiler (1986, pp.49-50) put it in terms of a common consciousness, the human knowledge of 'being in the world':

> The world is assumed; experience in it and knowledge of it, are always through the subjectivity of being in the world. Knowing oneself in self-consciousness and knowing the world are contingent on one's presence in the world. There are not two views of reality - the view is always the subjective one of presence in the world. . . . This means that consciousness is expressed in a particular manner of approach to the world . . ..

It is through our involvement in the world that our perspective and consciousness of the world is formed and, according to Schutz (in Munhall &

Oiler, 1986, p.51) ' . . . it is the direction of consciousness in the world that determines what reality is operative at any given point in time'.

For the phenomenological inquirer to grasp the reality discussed by Schutz, they must understand and interpret the meaning of 'lived' experiences as they are perceived and defined by the subjects, then internalise that understanding before describing it. Therefore, phenomenology is an approach to research that focuses on the subjects' experience rather than on the subjects themselves or the objects they encounter. The researcher does not seek new knowledge, rather they work towards exposing, via 'vicarious' methods (Abel, 1977), that which is already known or understood by the actor. Odman (1988) described this as transferring the meaning of something from one reality to another.

This seems straightforward in theory, however in translating the concept into a process capable of gathering data and describing the actors' subjective reality, the perceptions of both the researcher and the subject must be 'treated' by a methodology that narrows their vision of what is real.

In phenomenology, this treatment is known as reduction or bracketing. Bracketing requires 'unknowing', the art of which is discussed as a decentering process from the individual's own organising principles of the world (Atwood & Stolorow, 1984). For the purposes of this study, the formula suggested by Munhall (1994) to achieve 'unknowing' was used, particularly for Procedures 1-3, and 5.

One of the main characteristics of qualitative (in general) and phenomenological (in particular) methods of research is the focus on the intensive study of specific instances, that is, cases of a phenomenon. Perhaps for this reason, qualitative and phenomenological research is often referred to in the literature as case study research, particularly as the procedures for conducting a phenomenological investigation parallel those of the case study method (Gall et al., 1996).

Oiler (1986) described reduction as deliberately abstaining from the presuppositions and common sense we have of the world. By standing back from one's ties to the world in roles, knowledge, belief, habit, common sense, and the like, reality will become apparent.

Reduction also requires the social inquirer to 'intuit the phenomenon' experienced by the subject (Spiegelberg, 1976). Here the researcher internalises the subjects' reality of management education and training, planning, and organisational performance, and any related issues. This is an empathetic process for which no one has yet specified a technique by which the researcher can objectively attribute certain feeling-states to persons faced by a particular situation or event (Abel, 1977). All the researcher can do is imagine the feelings, emotions and reactions that may have been aroused by the phenomena.

In relation to this study, reduction required that the subject managers needed to scrutinise their organisations and actions in a manner that was remote from simply accepting them as the 'conventional management approach' or 'the way things should be'. They had to ask 'what am I really doing?', 'why am I doing it?', 'what is the management experience like for me?' Having crystallised the 'lived' experience of managing in their minds, they could then analyse how their training and education impacted upon that perceived reality.

3 QUANTITATIVE RESEARCH METHODS

The essential distinctions between the functionalist and interpretive cells of the Burrell & Morgan (1979) model and the associated concepts have been discussed previously and will not be repeated here. For the purposes of this section, the epistemological basis of the quantitative research method '. . . hold[s] that there exist definable and quantifiable 'social facts' (Rist, 1975, p.88).

This perspective confronts that of the qualitative position that reality cannot be subsumed within numerical classification. The problem of adequate validity and reliability is a major criticism made by quantitative researchers on qualitative methods because of the subjective nature of qualitative data and its origins in single contexts.

Quantitative research is primarily of two forms - quasi/experimental research, and nonexperimental research as summarised in Table 19 below, although researchers are not in agreement on how to classify nonexperimental studies (LoBiondo-Wood & Haber, 1994).

In experimental research the independent variable is manipulated with particular interest in the discovery of cause and effect relationships which may be revealed through either the causal-comparative or correlational methods. In nonexperimental research the independent variable is not manipulated. The inquirer explores relationships (Gall et al., 1996), as in this study.

The simplest quantitative approach to exploring the cause and effect relationships between phenomena is the causal-comparative method (Sekaran, 1992). In this current study however, the establishment of a cause-effect relationship between the variables concerned is not possible. This is because the researcher cannot be absolutely certain that changes in the dependent variable are caused by changes in the other variables, *and only because of those variables*, and that there are no other factors that might contaminate the cause-effect relationship.

In the correlational method, the researcher is not testing whether one variable causes another variable to change, but whether as one variable changes, so does a related change occur in the other variable, and if so, what is the strength and direction of the change. However the correlational method can also be used to predict scores on one variable from scores on other variables.

Table 19   *Quantitative Research Designs*

Summary of quantitative research designs	
Quasi/experimental	**Nonexperimental**
Experimental - • True experiment • Solomon four-group design • After-only design Quasiexperimental - • Nonequivalent control group • After-only nonequivalent control group • Time series	Descriptive/exploratory Interrelationship - • Correlational • Causal-comparative • Ex post facto • Prediction • Development – • Cross-sectional & longitudinal • Retrospective & prospective

By way of contrast, the causal-comparative method does *not* permit analysis of the relationships between several variables, nor does it provide information concerning the degree of the relationship between the variables being studied. The major differences between the causal-comparative and correlational methods therefore relate to the methods of data analysis used (Emory & Cooper, 1991).

For these reasons, the correlational method is appropriate for the quantitative aspects of this study. The study is correlational research in that it is seeking to determine whether or not a quantitative relationship exists between the identified variables - education and training, strategic planning, and organisational performance, and if so, what is the degree of their relatedness. Techniques used in this research to measure the association between the dependent and independent variables were Spearman's rho correlation coefficient, and three major regression models - standard or simultaneous regression, hierarchical regression, and stepwise regression.

This is not to say that one or more of the independent variables - education and training or strategic planning, cause changes in the dependent variable – organisational performance, only that there is, or might be, a relationship between them which may be positive or inverse. That is, the correlation coefficient may be anywhere from +1 to -1.

4 DESIGN

In much the same way as any realistic model of organisational performance must be multidimensional (Brown & Laverick, 1994; Cameron & Whetten, 1983b; Ramanujam et al., 1986a; Ramanujam & Venkatraman, 1987a), a variety of qualitative and quantitative methods were used to gather data for the study. Subsequent to development and pretesting of the questionnaire instrument by the training and focus groups, questionnaires were forwarded to all 588 disability sector organisations in the total Tasmanian and Victorian population.

Consistent with the Hoy & Miskel (1987) model of organisational effectiveness, and the differing stakeholder levels, questionnaires were sent to all managers and all employees. The input sought from all non-managerial staff was a subset of the managerial questionnaire, and assisted the triangulation of data. Data regarding organisational performance was also obtained from government sources – another key stakeholder, and also assisted the triangulation of data.

Although a mixture of qualitative and quantitative methods was used for this study, identical procedures were utilised for the Victorian and Tasmanian participants (Churchill et al., 1995). This mixture of qualitative and quantitative methods was applied uniformly between states, and was seen to provide for both depth and breadth of research, incorporating multiple research methods and multiple stakeholder groups at multiple research sites, again assisting in triangulation of the data.

The basic Hoy & Miskel (1987) framework from Table 7 on page 53 was operationalised using measurement tools from the literature in the two main research areas (see Figure 13 below). This self assessed framework measured the organisational performance construct of this Thesis, while the strategic planning construct was also self assessed using a measurement tool developed by Ramanujam & Venkatraman (1987b). The education and training construct was measured using an expanded version (see below) of the relevant section of a sector survey conducted by The Resolutions Group (1996).

The questionnaire in this research was in three sections. Section A (Education and Training), and Part D of Section C (Organisational performance) of the questionnaire instrument for managers and supervisors were developed through a process involving a training group from 27 disability based organisations, and pilot tested with 3 focus groups representing 15 disability sector organisations.
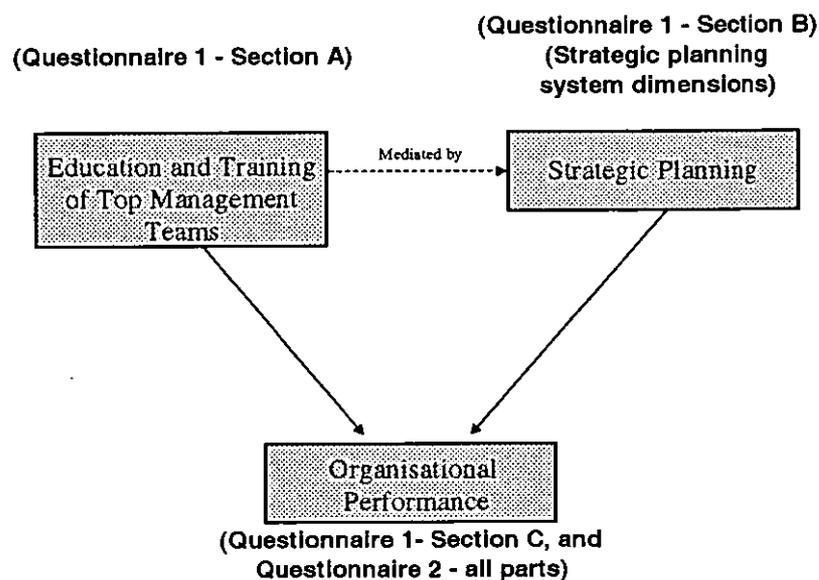
Section B (Strategic planning dimensions) used a five-point itemised ranking scale from *Great emphasis (5)* to *No emphasis* (1), and measured the strategic planning system dimensions using a modified version of Ramanujam & Venkatraman's (1987b) instrument which had Cronbach alpha values (Cronbach, 1951; Van de Ven & Ferry, 1980) ranging from 0.540 to 0.871.

Section B used the dimensions of Internal Orientation (Questions 1-4); External Orientation (Questions 5-11); Functional Integration (Questions 12-15); Use of Planning Techniques (Questions 16-18); and Involvement of Key Personnel (Questions 19-22).

Figure 13   *Dimensions, indicators, and measurement tools of organisational performance used for Thesis*

Dimensions of effectiveness	Indicators of effectiveness chosen for the thesis	Measurement tools for each indicator of effectiveness
Adaptation	Adaptability - flexibility	Mott (1972) Refer Questionnaire 1, Section C, Part A
Goal Attainment	Achievement Productivity Efficiency Quality	Ramanujam et al. (1986a) Refer Q 1, Sec. C,Part B Mott (1972) Refer Q 1, Sec. C, Part A Mott (1972) Refer Q 1, Sec. C, Part A Mott (1972) Refer Q 1, Sec. C, Part A
Integration	Satisfaction	Miskel & Gerhardt (1974); Miskel, Glasnapp & Hatley (1975); Miskel, DeFrain & Wilcox (1980) Refer Q 1, Sec. C, Part C (1-7)
Latency	Central life interests	Miskel, Glasnapp & Hatley (1975) Refer Q 1, Sec. C, Part C (8-14)

These features are shown below diagrammatically.

(Questionnaire 1 - Section A)

(Questionnaire 1 - Section B)
(Strategic planning system dimensions)

Education and Training of Top Management Teams

Mediated by

Strategic Planning

Organisational Performance

(Questionnaire 1- Section C, and Questionnaire 2 - all parts)

Parts A, B, and C of Section C (Organisational performance) also used a five-point scale, with part A using an itemised scale, and parts B & C a Likert scale. Part A of Section C was a modified (for disability sector organisations) version of Mott's (1972) model of organisational effectiveness. Not unlike the use of Parsons' (1960) four necessary functions of a social system as criteria, Mott integrated the components of quantity and quality of product (Questions 1 and 2), efficiency (Question 3), adaptability (Questions 4-7) and flexibility (Question 8) in his model. Mott's perspective is clearly consistent with the Hoy & Miskel (1987) integrated model of organisational effectiveness, and was used to measure the adaptation and goal attainment aspects of the model as they apply to disability sector organisations.

Originally developed for a variety of organisational settings including health care organisations and the National Aeronautics and Space Administration with a high degree of validity, Mott's (1972) index was then adapted for use in schools. The alpha coefficient of reliability for the school version has been variously reported at 0.89 (Miskel, Fevurly & Stewart, 1979), 0.87 (Hoy & Ferguson, 1985), and 0.94 (Uline, Miller & Tschannen-Moran, 1998).

In accordance with the original methodology used by Mott (1972), an overall effectiveness score was obtained for each respondent by totalling their responses for all eight items and then dividing the sum by eight to obtain a mean score between 1.00 and 5.00. An organisational effectiveness score was obtained by totalling individual effectiveness scores of all respondents from the organisation and dividing the sum by the total number of respondents from that organisation. Managers and all other staff were treated as separate categories. As a result of this approach, the overall measure of organisational effectiveness emphasised productivity and adaptability, rather than flexibility.

Part B of Section C is a modified (for disability sector organisations) version of Ramanujam et al.'s (1986a) goal attainment (or objective fulfilment) dimension of organisational effectiveness. This dimension listed items addressing (in order) improving short-term performance, improving long-term performance, the prediction of future trends, evaluating alternatives, and enhancing management development, a particularly relevant measure for this study. The alpha coefficient of reliability for the original study was 0.748.

Part C of Section C contained two categories of items, both measured using the same 5 point Likert scale from 'Strongly Disagree' to 'Strongly Agree'. These items were essentially internal states or attitudinal outcomes, and are typically assessed using self-report measures (Markoczy, 1997). The first seven questions represented a modified (for disability sector organisations) version of Miskel's (1982) job satisfaction seven-item measure dimension of organisational effectiveness. This measure reported an alpha coefficient of reliability of 0.81 and high face validity, and represents operationalisation of the integration aspect of the Hoy & Miskel (1987) integrated model of organisational effectiveness.

The second category of items in Part C of Section C measured the latency function of social systems, the final aspect of the Hoy & Miskel (1987) integrated model of organisational effectiveness. These seven questions (Questions 8-14) assessed central life interests, which, when focussed on the work setting positively affect organisational effectiveness (Hoy & Miskel, 1987). Originally developed by Miskel, Glasnapp & Hartley (1975), the measure demonstrated an alpha coefficient of reliability of 0.73.

Financial performance was measured by a questionnaire (profitability) item over the three most recent years. This approach was consistent with the Veliyath & Shortell (1993) study. The financial data was validated with a subset of disability sector agencies for which accounting data was available as contained in the annual reports.

The overall measures of organisational effectiveness were also compared to confidential 'ratings' provided by the Commonwealth Department of Health and Family Services.

Consistent with all previous quantitative research on the constructs of training and education, strategic planning, and organisational performance, the unit of analysis for this study was the organisation because the ultimate dependent variable was organisational effectiveness - a property of the organisation.

The final questionnaire was distributed by mail to all participants.

5   SAMPLE

The sample comprised the total population of Tasmanian and Victorian disability sector organisations. The population of 588 represented the complete industry in those two States, and although estimates vary, the number of managers and staff to whom the survey was intended to reach was estimated to be at least 1,500 managers and at least 15,000 staff (DISTSS, 1999). A complete list of all agencies concerned is not possible as, although the peak bodies were happy to endorse the research by way of cover letter, as well as posting out the documentation to all their members, they wished to guarantee confidentiality of their client base.

The decision to base the research in Victoria, while including Tasmanian data, was a function both of the sample size necessary to establish the existence or nonexistence of a relationship between the constructs, and the desirability of ensuring that the results were more truly representative of disability sector agencies generally rather than only of those associated with the local organisations. This decision also meant that comparisons between States were possible, and assisted triangulation.

The numbers of respondents are as shown in Tables 20 and 21 below.

Table 20   *Questionnaire response rates*

	Victoria	Tasmania	Totals
Managers	216	35	251
Staff	535	46	581
Organisations	117 (From 515 or 23%)	20 (From 73 or 27%)	137 or 25 %

As can be seen from Table 20 (above), questionnaires from a total of 148 organisations in Victoria and Tasmania were returned by the final date set for data entry. This represented a 25 per cent return rate based on the estimated number of 588 agencies in Tasmania and Victoria.

From these organisations, questionnaires from 279 managers and 643 staff were received. Of these, 28 of the manager's questionnaires (and the 11 organisations from which they originated, as they were the only responses) were excluded from analysis due to incomplete data, giving a final organisational return rate for managers of 23.3 per cent. Sixty-two of the staff questionnaires were excluded from analysis for the same reason, giving a final organisational return rate for staff of 23.8 per cent.

Table 21   *Overall response rate of managers by size organisation*
                  (Managers [n=251], organisations [n=137])

No. of respondents from each organisation	Small (1-10) n=54 (39%)	Medium (11-30) n=46 (34%)	Large (31-100) n=22 (16%)	Extra Large (>100) n=15 (11%)	Totals 137
1	39	18	10	7	74
2	11	15	3	2	31
3	4	9	4	4	21
4		3	3	2	8
5			2		2
6					Nil
7					Nil
8					Nil
9					Nil
10		1			1
	54 100%	45 100%	22 100%	15 100%	137 100.0%

As previously described in Chapter 2 (p.32), over two thirds of organisations in the disability sector are estimated to comprise no more than 30 employees and at most two levels of management but mostly one (DISTSS, 1999). 'Top management teams' in most agencies will therefore be small and will involve all managers, particularly in view of the collaborative, collegial, consultative nature of the human services industry in general and the disability sector in particular (DISTSS, 1999). It was therefore likely that there would be responses from whole management teams in a majority of cases, especially

those from small and medium sized agencies (73 per cent of respondent organisations – see Table 21). It may be the case therefore that the results of the research will be more likely to be valid for small and medium sized organisations.

6   INSTRUMENTS

The instruments used in the data gathering stage of this study were two questionnaires (see Appendices 1 and 2). Information was also gathered from government agencies regarding 'expert' opinions of agency performance. The instruments (and covering letter – see Appendix 3) were submitted to and approved by the University of Tasmania Ethics Committee (Human Experimentation).

Section 7 in this Chapter describes the procedures whereby these instruments were developed in more detail.

6.1   Questionnaires

A questionnaire is a preformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives (Sekaran, 1992). A questionnaire is designed to gather data (Emory & Cooper, 1991) from individuals about knowledge, attitudes, beliefs, and feelings (LoBiondo-Wood & Haber, 1994), and to ask the same questions of all individuals in the sample (Gall et al., 1996).

Questionnaires are often preferable to interviews, particularly in quantitative research, because of their standardised, highly structured design (Fowler, 1993). Further, the cost is lower and the time to collect the data typically less, given the wider geographic spread possible (Slavin, 1984).

The literature covers a wide range of activities required in construction and administration of a questionnaire, however Berdie et al. (1986) are typical in their eight step model which was used for the purposes of this study:

* define research objectives
* select sample
* design format
* pretest
* precontact the sample
* distribution
* follow-up
* analyse

In designing the format of both questionnaires, the twenty-one point guidelines developed by Berdie et al. (1986) were implemented where appropriate. Closed and some open form items were used, however in the

latter sections of both questionnaires, perceptions were assessed using Likert scales (Schuman & Presser, 1981).

The researcher conducted all the data collection, and the questionnaire responses were coded and analysed using the SPSS (vs. 8.0 for Windows) package.

6.2 Interviewing

Interviewing is a two-way conversation initiated by an interviewer to obtain information from a respondent (Emory & Cooper, 1991). Interviews access the perceptions and perspectives of the person being interviewed, and attempt to find out from them knowledge, attitudes, beliefs, and feelings they may have (Patton, 1990).

The steps involved in using interviews are similar to those described above in using questionnaires and will not be repeated here. Interviews are superior to questionnaires in that they can probe more deeply, are more adaptable, and are more conducive to building trust and rapport (Gall et al., 1996).

A group interview was conducted for developing and pretesting the questionnaire using a focus group (Kreuger, 1988) approach. A focus group is a carefully planned discussion designed to obtain perceptions on a defined area of interest, in this case the draft questionnaire for the study.

Interviews were also conducted (Procedure 5) with key informants (Stewart & Cash, 1994) on an individual basis in a participant construct interview mode (Goetz & LeCompte, 1984). Goetz & LeCompte described three types of interview mode - confirmation survey, participant construct, and projective techniques. The participant construct interview mode is used to learn how interviewees structure their physical and social world and was most appropriate to this study.

In designing the interview format and given the focus of the study, the general interview guide approach (Patton, 1990) was used. This was in addition to using the participant construct interview mode. Patton identified three approaches to collecting qualitative data through open-ended interviews - the informal conversational interview (spontaneous generation of questions); the general interview guide approach (outlines a set of topics to be explored in no particular order); and the standardised open-ended interview which involves a predetermined sequence and wording of the same set of questions to be asked of each respondent. The topics and issues in the general interview guide approach are specified in advance, however the interviewer is able to explore any particular topic in more detail if desired. The quantitative interview equivalent is the semistructured interview (Gall et al., 1996).

7   PROCEDURES

7.1   Procedures 1 and 2

The first Stage of the research (see Table 15) consisted of discussions, workshops, and cluster group meetings with 53 managers and supervisors of 27 disability-based organisations located in central and northern Victoria. The goals of this stage of the research were:

1.   to obtain an overview of the participants' and their organisations' strategic planning processes;

2.   to gain an appreciation of the general extent of education and training issues in the top management team;

3.   to gain some understanding of the organisational performance measures relevant to the participants' organisations and the industry; and

4.   to prepare a draft questionnaire incorporating the outcomes of items 1 to 3.

The information gained from this first stage, although not directly producing any data for inclusion in the overall study, was critical in developing and testing the research instruments - the second Stage of the research. The third and fourth stages were essentially data gathering.

7.2   Procedure 3

All managers in agencies on the DISTSS (1999) database (and those in Tasmanian agencies) were invited by letter to attend one of three focus groups. Focus groups (Krueger, 1988) were used to pretest the questionnaire which had been developed from Procedures 1 and 2. The focus groups were held in the following locations:

•   Launceston
•   Bendigo
•   Echuca

Each group was comprised of 7-10 individuals who were of equal status. Those who attended represented a cross section of managers in the sector. All size agencies were represented and managers had differing levels of responsibility within those agencies.

At each focus group:

•   an outline of the project was provided;
•   the link between the focus group and the project was described;
•   an explanation of the source of the draft questionnaire was described; and

• managers were invited to comment on current strategic planning, agency performance, and management training issues within the sector.

The participants then formed small working groups to consider the adequacy of the draft questionnaire, that is, its adequacy in terms of accuracy, interpretation, and clarity of language. Participants were encouraged to discuss and suggest changes where required.

Following the focus groups, the author incorporated the suggested amendments into the final draft. The amendments primarily related to what could have been construed as ambiguous terminology. For example, an explanation of the word 'profitability' was included in the final section of the questionnaire.

7.3   Procedure 4

Following the endorsement of the questionnaire format with some minor amendments, questionnaires and postage paid envelopes were mailed to all agencies in the population with two covering letters. The first was prepared by the researcher, and the second by the peak body concerned. Amongst other things, the researcher's letter described the group to whom the questionnaire should be distributed within the agency and how to access additional copies if needed, ethical clearance and ethical considerations, explained the purpose of the questionnaire, and outlined timelines for questionnaire completion.

If required, a copy of the questionnaire was provided by electronic means for agencies to translate into specifically required formats. Agencies were advised that a copy of the disk could be obtained from the researcher.

The peak body approximately calculated the number of questionnaires distributed to each agency, and in their covering letter commended the research and encouraged participation.

All agencies were contacted by telephone near the required return date. This contact was designed to prompt completion and return of the questionnaire, and to determine the number of managers and staff in agencies on the databases. Unfortunately, precise figures of managers and staff were not made available. Reminder memos were faxed to agencies that requested them for distribution to remind managers and staff in their agency to complete the questionnaire.

7.4   Procedure 5

Based on personal (confidential) interviews with various staff of the Commonwealth Department of Health and Family Services, it was possible to ascertain 'ratings' of the various Commonwealth funded agencies involved in

the study. The 'ratings' were not comparisons of performance between agencies, but rather comparisons of agency performance against the applicable Disability Service Standard levels.

As mentioned in Chapter 2 (p.21), in the main agencies self-assess against the standards but are audited by departmental officers every five years. Performance is therefore measured against the degree to which the requirements of the applicable standards are met. As part of the implementation of the Disability Service Standards, the Department requires both service providers and consumers to conduct regular combined assessments of services against the standards. Services are required to undertake combined service assessments every year, and may be selected for an audit every five years, or sooner if necessary (Commonwealth Department of Health and Family Services, 1997).

There are eight national standards (1-8) which apply to all service types and activities, and three additional standards (9, 10, and 11) which apply to employment services, depending on the type of services provided.

The Disability Service Standards are set at three levels – minimum (to be met by June 1992, by all services funded under the Act); enhanced (for services which have made significant progress towards meeting the Principles and Objectives of the Act); and eligibility (for services which fully meet the Principles and Objectives of the Act). Services approved under section 10 of the Act must meet eligibility standards, those under section 12A the enhanced standards, while those under section 13 must meet minimum standards. All services should be working towards meeting the eligibility standards over time (or maintaining the achievement of them).

On this basis, the independent, external 'expert' ratings enabled a comparison between the three levels of organisations.

8   DATA ANALYSIS

In a general sense, the purpose of analysis is to '. . . summarise the completed observations in such a manner that they yield answers to the research question' (Selltiz et al., 1976, p.456).

8.1   Questionnaires

Analysing the questionnaire had two main objectives:

i)   to elicit factual information concerning individual and organisational characteristics relating to managers' education and training, strategic planning, and organisational performance; and

ii)   to identify the themes which emerged from the aggregate responses of the sample group.

In order to identify the themes, the accumulated raw data were edited and coded. Editing data ensures that they are '. . . (1) accurate, (2) consistent with other information, (3) uniformly entered, (4) complete, and (5) arranged to facilitate coding and tabulation' (Emory & Cooper, 1991, p.450).

To accomplish this, the following activities were applied to the editing process:

- searching for instances where respondents had annotated a question 'no opinion' or 'do not know';
- scanning for missing answers;
- reviewing the legibility of narrative responses;
- checking for errors (e.g. where two answers were in direct conflict with each other); and
- looking for inconsistencies (e.g. where the answer to one question appeared to be inconsistent with another)

Very few difficulties were experienced with the questionnaires. Where a problem was evident, the blank or flawed response was coded '99', and deleted from further analysis (Sekaran, 1992).

Coding is the assigning of numerical or other symbols to survey responses so as to enable answers to be grouped into a limited number of classes for rapid and flexible storage, retrieval, and tabulation (Warwick & Lininger, 1975). The allocation of codes was undertaken at the same time as the coding process.

Because this study concerned the relationship between three variables at a time, multivariate correlational and regression statistical methods were used. Multivariate correlational methods enable researchers to study how a variety of factors, both singly and in combination, affect outcome variables such as organisational performance (Emory & Cooper, 1991).

Consistent with previous research using the Hoy & Miskel (1987) model, data were collated by organisation. The scoring method used to tabulate organisational scores in respect of the education and training construct is shown in the following table (Table 22).

This table reflects a summarised version of that used in the survey questionnaire (See Appendix 1 – Question 17). The scoring method catered for *average* scores that fall in-between integers, as well as grouping for TAFE qualifications (tertiary non-degrees), and masters and beyond (postgraduate). For example, a Graduate Certificate in Human Resource Management was represented by a score of eight, and a Masters Degree in Public Policy and Management had a score of nine. The groupings themselves are consistent

Table 22   ***Scoring table for calculating top management team means***

Average overall educational qualification of top management team	Score
Post graduate	Greater than 8 to10
Graduate certificate/diploma	Greater than 7 to 8
Undergraduate degree	Greater than 6 to 7
Tertiary non-degree	Greater than 3 to 6
Year 10-12	Greater than 1 to 3
Up to year 10	Up to 1

with previous research (The Resolutions Group, 1996) in the disability sector. It is recognised that the above scoring table does not represent a ratio (or interval) scale so that a '6' is not twice as good as a '3'.

In view of the education and training construct representing ordinal data, there are important implications for data analysis, particularly when combined with the interval data contained in the strategic planning and organisational performance constructs. Spearman's rank correlation was used primarily for analysis, although methods that assume continuous data were used later with some reservations. As regression techniques are not available for ordinal data, this assumption is a little stronger than the data type allows for, however this assumption is one way of obtaining overall regression measures and relationships for the organisational constructs.

9   CONCLUSION

The structure of the study revolved around addressing the three research questions:

What relationship exists between education and training levels of top management teams and organisational performance in disability-based organisations?

What relationship exists between education and training levels of top management teams, and strategic planning processes and systems in disability-based organisations?

What relationship exists between strategic planning and organisational performance in disability-based organisations?

Such research questions basically relate to the study of organisational change. Van de Ven & Huber (1995) classified such questions as of the form representing the vast of majority of organisational change research viz:

What are the antecedents or consequences of changes in organisational forms or administrative practices?

As described in Chapter 1 (p.14), answering these questions in this study required a study of the input (independent) factors that statistically impact of the outcome (dependent) factors. However, the final research question may also represent the second form of question relating to organisational change research (Van de Ven & Huber, 1995) viz:

How does an organisational change emerge, develop, grow, or terminate over time?

This represents the process aspect of Figure 4 shown on page 14, referred to by Monge (1995) as process theories about changes in variables over time.

The methodology used in the study comprised three stages. Stage 1 (comprising two procedures) focused on identifying the parameters of management education and training, strategic planning, and organisational performance measures sector leading to development of a questionnaire. Procedures 1 and 2 provided an in-depth understanding of the parameters from an industry perspective and preparation of a draft questionnaire.

Stage 2 involved pretesting the draft questionnaire in Procedure 3, while Stage 3 (comprising two procedures) focused on the relationships between management education and training, strategic planning, and organisational performance measures within disability sector organisations. Data was gathered in Procedure 4 so as to provide a multisite, multistakeholder perspective, while Procedure 5 added an external 'expert' assessment.

In the following three Chapters, the data are presented and analysed. The next Chapter, Chapter 5 will examine the data relating to the first research question.