Self-reported business leadership competencies of middle-level managers

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SELF-REPORTED BUSINESS LEADERSHIP
COMPETENCIES OF MIDDLE-LEVEL MANAGERS

by

Philip Teo Choo Lip
Dip in Education, B.Sc. (Hons), MEd, MBA

A Thesis submitted in partial fulfillment
of the requirements for the award of
Doctor of Philosophy
in the Faculty of Community Services, Education and Social Sciences

Edith Cowan University

Date of Submission 1st JUNE, 2004
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Abstract

This study aims to investigate self-reported managerial leadership competencies of middle-level managers in business organisations in Australia, and stems from the Karpin Report (1995) on perceived weaknesses in Leadership and Management skills in Australia. The report leads to a need to investigate the perceptions of the current middle-level business managers in regard to leadership competency and to develop a scale to measure leadership competency.

A model of leadership competency, based on a literature review, was developed for this study and involves four aspects: Leading, Managing, Communicating and Best Practice. Data were collected in two parts—a questionnaire and interviews. The initial questionnaire involved 27 stem-items covering four aspects and answered in three self-reported perspectives (ideal, capability and actual behaviour). A sample of 300 mid-level managers from manufacturing, mining, retail and service industries answered the questionnaire. Twenty-nine of the managers were interviewed to investigate the perceptions of middle-level managers towards the four leadership competencies (leading, managing, communicating and best practice), and the reasons that they gave for these perceptions.

Data were analysed in three parts. A Rasch measurement analysis (part 1) was used to create a linear scale of 18 stem-items (54 items) in which competency measures were calibrated on the same scale as the item difficulties. Open-ended questions (part 2) and interview data (part 3) were analysed qualitatively.

A Rasch measurement model data analysis created a linear scale in which middle-level managers' ideal, capability and real self-views of leadership competencies were
aligned from low to high and the difficulties of the items relating to the four aspects of leadership competency were calibrated on the same scale as the leadership competency measures from easy to hard. The results indicate that a good unidimensional scale of self-reported middle-level manager competencies has been constructed. The findings indicated that managers with low leadership competencies scores would most likely be able to respond positively to the easy items, but managers would need progressively higher leadership competency scores in order to respond positively to the hardest items. The findings also indicated that the easy leadership competency aspects are leading and managing. The hard leadership competency aspects are communicating and best practice.

Results of the data analysis on the open-ended questions indicate that managers believed that good communication with clients and staff are important and they do need to focus on clients' needs, and be able to analyse the company's situation and meet the company's mission and objectives. Finally, middle-level managers should be able to lead staff and implement changes in the organisation.

The findings on the interview data indicate that middle-level managers believe leadership competencies are important. The majority of the middle-level managers indicated that the reasons for providing these answers to the leadership competency questions were: the company needs mission direction and that a leader provides clear direction to staff; how staff could contribute to achieve the company's objective; how to make good decisions for staff morale and loyalty to the company.

The findings indicate that most middle-level managers perceived their roles with staff as leading by example, communicating with explanation, holding brainstorming and discussion sessions and meeting on how things are to be done.
DECLARATION

I certify that this thesis does not to the best of my knowledge and belief:

(i) incorporate without acknowledge any material previously submitted for a degree or diploma in any institution of higher education;

(ii) contain any material previously written by another person except where due reference is made in the text; or

(iii) contain any defamatory material.

Signature

Date 24/11/04
Acknowledgements

This study would not have come to a successful conclusion without the help, support, guidance and cooperation of many people.

I wish to express my sincere thanks and gratitude to my supervisor Dr. Russell Waugh for the assistance and encouragement in the preparation of this thesis. His valuable suggestions and advice led me to the completion of this study.

Thanks are due to the various people in the business organisations, and managers of the companies who have gave their time and support to carry out the research and interviews.

Special thanks are due to my wife Esther Ling for her patience during the course of this study and for her wonderful support during our life. She has made it possible for me to achieve my potential. I shall always be grateful to her for this and much more.

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CHAPTER ONE

INTRODUCTION

The major focus of this study is to investigate the perception of leadership competencies in middle-level management in their interactions with business staff. Middle level managers need leadership competencies to assist their companies or firms to survive, or to capture a bigger market share. There is a strong belief that these managers can acquire leadership competencies by training, either at the workplace, or off the workplace. It is the competencies of leadership that need to be addressed. People skills, team building, prompt decision-making and adapting to changes are some of the competencies needed according to the Karpin Report (1995), a major Australian study into leadership in business.

The demand for good leader managers is vital in many organisations, and especially those connected to international markets. It is up to each nation to be cognitive of the global economic situation. Australia awakened to this fact in the early 1990s and appointed a taskforce in 1992 to report on it. The Karpin Report (1995) on Leadership and Management Skills of Australian Managers identified an urgent need to upgrade the leadership skills of Australian business managers. The Report indicates that there are changes taking place in organisations that are impacting on business managers and their needs. There is now a strong push for management education, which emphasises vision, strategic thinking and the development of skills that would help managers become leaders in their field of business. The Karpin Report (1995) suggested that business managers with good leadership competencies would be able to help their companies compete better on the world markets.

Another reason for management development is that the Australian organisations are getting 'leaner', and 'flatter', and people are making more lateral moves. As a result, the number of middle managers and senior managers could soon be depleted with a
result that there could be a shortage of leaders with the required competencies in the short-term future. To fill this shortage, a new brand of leadership is expected to evolve, not only to deal with the 'flat' organisation, but also to participate actively in the complexity of the present business environment (Karpin, 1995).

The Karpin Report (1995) stated that there were eight perceived weaknesses of Australian management: (1) taking a short term view, (2) lacking strategic perspective, (3) being inflexible, (4) being complacent, (5) being poor at teamwork and empowerment, (6) being unable to cope with differences in people, (7) having poor people skills and (8) showing a lack of self confidence. It was indicated that these weaknesses should be addressed, if Australian management needs to meet the challenges of the 21st century. If this is accepted, there is a need to investigate the perceptions of current middle-level business managers in regard to leadership competencies and to develop a scale to measure leadership competencies, now, eight years after the Karpin Report.

The problems and weaknesses of business leadership addressed by the Karpin Report (1995) have occurred in other western countries, such as the USA, Canada, and the United Kingdom. For example, Caudron (1999) stated that a then recent study in the USA, by Development Dimensions International, revealed that one-fifth of the large established companies will be losing 40 percent, or more, of their top level talent in the next five years, as senior executives reach retirement age. But the new replacements have to be very different, as they need to possess different competencies of leadership to meet the global challenges. These competencies are inspiring a shared vision, flexibility, able to motivate followers and able to lead changes, according to Caudron (1999).

Similar weaknesses in business leadership to that suggested by Caudron (1999) in the USA are emerging in Australia (Bill & Matt, 1996). In their studies and interviews with senior executives in Australia and around the world, they have concluded that middle managers are now taking on more significant roles in their business organisations than they had previously done. Examples of such roles are as a change agent, the ability
to lead and to motivate others. They also indicated that during the recent spate of restructuring, many organisations in Australia have lost some of the best and brightest middle managers. This, they said, could lead to instability in business. This is because middle managers are the link between the employees and senior management and insufficient empowerment is often given to the middle managers, such as decision-making and use of current best practice.

Topping (2002) also indicated that many organizations are trying to get rid of ‘managers’ and replace them with ‘leaders’. He lamented the lack of leadership within many organisations. This lack of leadership is due to people who are unable to inspire, to motivate and to develop others, inside their organisations. He found that most organisations have managers who are competent in their managerial work but lacking in many leadership competencies. This leadership vacuum inside the organisation is a serious detriment to overall business performance, according to Topping (2002).

Impact of globalisation on Australian Businesses

As Australia enters a new era of ‘Economic Globalisation’, one challenge is to make sure that Australia is able to compete in the world market. The world outside the home country is no longer viewed as a series of disconnected customers and prospects for its products, but as an extension of a single global market (Suter, 2000, p.19).

Transnational corporations (companies that engage in foreign direct investment and own businesses in more than one country) are now the main global economic force and they have eroded the notion of a national economy (Suter, 2000). Transnational corporations sprawl across national political boundaries and act in different ways to maximise profits. For example, if the Australian government tries to protect its own industry by keeping out imports, transnational corporations will try to buy local companies in order to produce goods in Australia. Examples of this are: Arnott Biscuit Pty Ltd., Aeroplane Jelly Pty Ltd. and the Vegemite company.
The impact of globalisation has changed the way of doing business in Australia. Importantly, the Australian government no longer has as much control over the economy as it used to. An example of this is the inability of the Australian government to guarantee full employment. The transnational corporations are able to move their business to places where labour is cheap and where there are no tariff walls. With the advent of so called ‘free trade’ and pressure to ‘protectionism’, mass job cuts are also common to many industries. This has also happened to Australia. Relocation of manufacturing industries outside the national borders is now common. An example of this is in the cloth manufacturing of Australia. It is now done in China. Another impact is the difficulty of telling the nationality of a product. For instance, what is the nationality of Computer Hardware, which has an Australian name but which now produces its products in China?

Changes in Business Leadership in the twenty-first century

At the start of the twenty-first century, tremendous and imminent change, driven by globalisation and all-pervasive technologies (such as information, communication and biotechnologies) are taking place all over the world. While some of these changes are realised, many more are to come. The effect on business leadership will be profound, including Australian businesses (Goldsworthy, 2002; Suter, 2000).

The changes will have a significant effect on management leadership because managers as leaders will need to be more diverse in their planning than they are today (Goldsworthy, 2002). The convergence of technologies in a constant global marketplace will create new demands on managers, particularly in the area of information or knowledge management. While the traditional management functions of planning, controlling, organising, and so on, will be much the same, the context in which they are applied will be very different. The impact on leadership will revolve around information and knowledge (Goldsworthy, 2002). According to Kotter (1990), management and leadership are in some ways similar. They both involve deciding what needs to be done, creating networks of people and relationships that can accomplish an agenda, and then
trying to ensure that those people actually get the job done. However, despite some of the similarities, Kotter (1990) pointed out that differences exist which make management and leadership very distinct. He stated that the planning and budgeting processes of management tend to focus on time frames ranging from a few months to a few years, on details, on eliminating risks, and on instrumental rationality. By contrast, leadership processes establish a direction that often focuses on longer time frames, the big picture, strategies that take calculated risks, and people’s values. Leadership and management also differ in terms of their primary function. Leadership can produce useful change whereas management can create orderly results, which keep something working efficiently.

With the increasing globalisation of business, the advent of e-commerce, mega-mergers, increased shareholder activity and the continual redefining of business goals, strong business leadership will be critical. In particular, Australia, which has few companies straddling the globe, faces the danger of becoming a business backwater without the drive of dynamic leadership (Goldsworthy, 2002). New leaders in business will be dealing with a workforce of vastly different skills and with more cultural diversity now, than in the 1980s. One of the biggest impacts will be the effect of the demographic changes that the twenty-first century will bring. Women will be increasingly seen in leadership roles. Leaders will be more sensitive to human, psychological, cultural and family issues.

The knowledge economy will undoubtedly generate not only new businesses, but also new business models. As one aspect of leadership can be seen as creating change, the new economy will require more sensitivity to the change process. Negotiation and conflict resolution will also take on new dimensions in a networked world.

There are three challenges facing Australian business management today. These are: (1) to ensure that the Australian leaders of tomorrow are equipped for success in the networked world. A networked world is one in which we are connected instantly to any
part of the world mostly by electronic means. One example is the use of the Internet. To achieve this, Goldsworthy (2002) stated that Australians must first raise the profile and understanding of leadership as the key ingredient for success: (2) Leadership must be seen to be more important than management, and (3) the difference between the two must be clearly understood.

In order to achieve this, there is an urgency to teach leadership competencies to managers in business organisations to meet the challenges of the 21st century, spurred by the changes that are taking place in the international market (Karpin, 1995). According to Zenger and Folkman (2002), leadership competencies are the combination of knowledge, skills, traits and attributes that collectively enable someone to perform a given job. The leadership competencies are to be ‘incorporated’ into the managers. Development in leadership is connected to enable the individual to grow in skills, knowledge, and abilities to perform at his or her highest possible level, not only for the present but the future (Topping, 2002). The National Training Board of Australia, for example, has identified six key leadership competencies (Pickett, 1995). They are: (1) competencies related to realistic work practices; (2) expressed as an outcome; (3) capable of demonstration, observation and assessment; (4) complementary to its performance criteria; (5) sensible to trainees, supervisors and potential employers; and (6) concerned with the ability to transfer skills and knowledge with personal effectiveness.

It is the development of these competencies that would make managers become leaders in their own fields. According to Mulcahy and James (1999), competency based training used in management leadership development has improved output and productivity. Certain skills pertaining to leadership competencies have to be taught to managers. The selection of these skills will depend on research findings. Some researchers have made suggestions. Researchers such as Bennis (1994) and Zenger and Folkman (2002) suggest some types of skills that can be taught, such as people skills, communication skills and team building skills to develop leadership in managers.
Problems of leadership

There are two major problems of leadership in organisations. One is the elusive definition of leadership and the other is the role of leadership. A number of studies has been done on leadership and what it constitutes, but none has come up with a definition acceptable to most business and academic people. Stogdill (1974) says that there are as many definitions of leadership as there are people who attempt to define it. Bass, a well-known researcher in this field, tried for forty years to unravel the meaning of leadership but there is still no clear idea of the concept of leadership. However, Bass (1990, pp. 11-20) suggested that some definitions view leadership as the focus of group processes. From this perspective, the leader is at the center of group change and activity and embodies the will of the group (Northouse, 2001). Leadership is a process whereby an individual influences a group to achieve a common goal (Northouse, 2001).

The old studies on leadership definitions, according to Northouse (2001), conceptualise leadership from a personality perspective, which suggests that leadership is a combination of special traits, or characteristics, that individuals possess and that enable them to induce others to accomplish tasks. Other approaches to leadership have defined it as an act or behaviour—the things leaders do to bring about change in a group. The view from the researcher in this study is that, personality traits and acts or behaviour are not enough. Today, leadership is much more about creating environments where people can succeed than it is about making decisions or getting things done individually (Topping, 2002). Business leaders often are not capable of making all decisions themselves or of simply dictating actions to their subordinates and these differences will impede organisations to function effectively. The solution, according to Topping (2002), lies in leadership competencies, which means possessing the right knowledge, skills and abilities. The competencies should have an orientation toward the skills that managers need to make their company successful (Topping, 2002).
The second major problem is about the role of a leader in an organisation and there are a number of role studies of managers and supervisors, and their role in imposition leadership (see, for example, Bass, 1990; Sarros, 1992; Rost & Bakor, 2000). The role of leadership imposition on followers or employees, is a complex process, as it is difficult to measure the degree of success. Bass (1990) found it difficult to differentiate between management and leadership functions. Other researchers found it difficult to make sense of the differences in management and leadership (Sarros, 1992). Broadly speaking, management is concerned with planning, controlling and organising, while leadership is about influence and relationships among leaders and followers (Rost & Bakor, 2000). But the dual role in a person of authority tends to clash when the market forces are at work. In such a situation, good relationships between leaders and employees take second place. The manager has to give priority to the demands of the organisation.

Leadership qualities of a manager or supervisor become more challenging when changes impinge on the organisation due to globalisation. As Sarros (p. 21, 1992) says, “it is impossible to escape the massive changes in society and their impact on leadership. It is inevitable that managers and supervisors have to be change-agents, if their organisations are to survive”. Leader-managers are often told to be multi-skilled in their job, with the downturn in the market. The competent skills of a leader are difficult to practise when retrenchment is taking place and corporate raiders are swooping around. Even those employees who survive this time may not survive the next time. The manager, if he wants to be a leader, can have a very difficult time getting the best out of the surviving employees.

There are four main types of leadership theories. These are: (1) trait theories, (2) behavioural theories, (3) situational theories and (4) transactional and transformational theories. The trait theories believe that leaders can be good leaders, if they possess certain traits from established leaders in the past. But the trait approach has several weaknesses. According to Northouse (2001), first, is the failure of the trait approach to delimit a definitive list of leadership traits. The list of traits that emerged from previous studies and findings appear to be endless. Second, the trait approach has failed to take various situations into account. Third, research on traits failed to look at traits in
relationship to leadership outcomes. It has emphasised the identification of traits, but it has not addressed how leadership traits affect group members and their work. Fourth, a trait approach is not a useful approach for training and development for leadership. “Even if definitive traits could be identified, teaching new traits is not an easy process because traits are not easily changed. For example, it is not reasonable to send managers to a training program to raise their IQ or to train them to become introvert or extrovert people” (Northouse, p. 24, 2001).

Behavioural theories (style) concentrate on the interaction of employees’ feelings, needs, goals and recognition that spur them to work harder. There are at least three weaknesses in the behavioural approach. According to Northouse (2001), researchers have not been able to establish a consistent link between task and relationship behaviours, and outcomes such as morale, job satisfaction, and productivity. Other weaknesses include failure to find a universal style of leadership that could be effective in almost every situation and the inconsistencies in the research findings that implies the most effective leadership behaviour is the high-high style (Yukl, 1994).

Situational theories concern the outcome of the leadership reaction to the situations brought about by change and, at the same time, maintaining the production of the company. There are a few criticisms of situational theories. First, the lack of a strong body of research on situational leadership raises questions concerning the theoretical basis of the approach (Fernandez & Vecchio, 1997; Graeff, 1997). Second, the authors of the situational leadership model do not make clear how “commitment” is combined with “competence” to form four distinct levels of development (Graeff, 1997; Yukl, 1989). Third, the research findings of Fernandez and Vecchio (1997) failed to support the basic prescriptions suggested in the situational leadership model.

Transactional leaders guide, or motivate, their followers in the direction of established goals by clarifying role and task requirements. Transformational leaders provide individualised considerations, and intellectual stimulation and they possess charisma. There are a few weaknesses in transformational leadership. It lacks conceptual clarity. As Northouse (2001) has pointed out, it covers such a wide range, including
creating a vision, motivation, and being a change agent that it is difficult to define clearly the parameters of transformational leadership.

Second, transformational leadership treats leadership as a personality trait or personal predisposition, rather than a behaviour in which people can be instructed (Bryman, 1992, pp. 100-102). Third, transformational leadership is elitist and antidemocratic (Avolio, 1999; Bass & Avolio, 1992). Lastly, transformational leadership is based primarily on qualitative data collected from leaders who are very visible serving in positions that were at the top of their organisations (Bryman, 1992).

Since there are many weaknesses in the leadership theories, the researcher in this study believe that a new approach using Rasch measurement will help to improve leadership theories by providing a better measurement on leadership competencies.

**Statement of Purpose**

The aims of this study are to:

1. Create a questionnaire to measure self-reported Leadership Competencies in Middle Level Business Management based on a model of Leadership involving Leading (Leading & Directing, Changing & Leading), Managing (Meeting Targets, Creativity, Adaptability), Communicating (Decision-making, communicating) and Best Practice (Mentoring, Customer Focus), involving three perspectives (an ideal outcome, a capability outcome and an actual outcome);

2. Create a new scale of Leadership Competencies in Middle Level Management using the Rasch Unidimensional Measurement Model computer program (Andrich, Sheridan, Lyne & Luo, 2000), in which the item difficulties are calibrated on the same scale as the measures of Leadership Competencies;

3. Investigate the psychometric properties of the new scale;

4. Interpret the meaning of the new scale of Leadership Competencies; and

5. Explain why the middle level managers answered the Leadership Competency aspects of the model in the way that they did in the questionnaire.
Research questions

There are three research questions.

1. Research Question 1: What do middle-level business managers perceive to be the most important aspects of leadership competencies? And what reasons do they give for this? Can a single scale of middle-level business leadership competencies involving four aspects (Leading, Managing, Communicating, and Best Practice) of managerial leadership be derived and aligned on a scale from low to high, using a Rasch Measurement Model?

2. Research Question 2: How do Middle-level managers conceptualize their role with regard to leadership competencies? What are middle-level managers 'ideal' views, 'capability' views and 'behaviour' view of leadership competencies?

3. Research Question three: Can a model be devised to explain middle-level managers' self-views of leadership competencies, based on their ideal capability and behaviour perspectives?

Significance of the study

This study is going beyond the current transformational theories and models on leadership, as they do not take into account other elements of leadership competencies, which are essential for future leaders. Some of these missing elements include creativity, adaptability, coaching, creating best practice and mentoring. The study uses a model of four aspects (defined by a number of sub-aspects) that would change managers as leaders.

These four aspects are: (1) Leading Change, (2) Building Communication, (3) Leading People and (4) Creating Best Practice. These aspects are proposed as developing leadership competencies, in mid-level managers. The components in each variable, if internalised in managers, are proposed to make them very good leaders in business
organisations. In reality, there are only degrees of such skills. The researcher is going to test his model to find out to what extent the four aspects would make managers to be leaders, as perceived by current leaders.

The present study uses a new approach that has not been tried before to analyse leadership competencies, that is, analysis with a Rasch Measurement Model. This involves creating an interval-level scale of leadership competencies. It places all the difficulties of the items of middle level leadership competencies on the same scale as the person measures, provided that the items fit a Rasch (1960/1980) measurement model. The items fitting the model will be ordered from easy to difficult (see Waugh, 2002, 1999; Waugh & Collins, 1997) on the same scale as the competency measures from low to high. The approach caters for assessment of higher order and more complex competencies. This will add new knowledge to the model of leadership.

The study will also help us to understand why managers think as they do, in terms of the aspects of the model investigated. This thesis will be of interest to those who are involved in leadership training, as well as to organisations that would like to see changes and improvements in the way that leadership competencies are taught and used in their businesses.

**Limitations**

There are four main limitations in this study. The first is that the data relates only to three industries (retail, mining/manufacturing and service). The results of the study will, therefore, only apply strictly to these three industries.

The second limitation is that the data were taken from the selected type of industries and the geographical locations do not reflect other industries, especially in the rural areas, other states of Australia and the whole of Australia.

The third limitation is that the answers to the two open questions in the questionnaires may not be genuine. It may lead to some form of exaggeration on the part of the managers. It is difficult to check the veracity of their statements but the researcher
has to take it on the face value. Of course, this limitation applies to all questionnaire data. It is assumed that the managers gave truthful answers, but no check was made on this. Of course, the managers in this study were asked to give truthful answers and the researcher has no reason to think that they didn’t do so, but there is always the possibility that some would give socially desirable answers, or exaggerate their work and importance.

The fourth limitation is that only 29 mid-level managers out of 300 managers were interviewed. This may not reflect the ideas of all 300 managers. The reason for an interview is to find out why managers answered the questionnaire as they did. This verification is difficult, as there is a tendency for leaders to exaggerate their importance.

**Definition of terms**

This section provides the definitions for four main terms used in this study. The definitions given below of the terms “leadership competencies”, “leadership traits”, “leadership skills”, and “leadership styles”, are those which applied throughout the study.

**Leadership Competencies**

Leadership Competencies are the combination of knowledge, skills, traits and attributes that collectively enable someone to perform a given job. In the present study leadership competencies are: Leading, Managing, Communicating and Best Practice. Leading is defined by second order characteristics as leading and directing, and managing and leading (see questionnaire in Chapter 4). Managing is defined by second order characteristics as meeting targets, creativity and adaptability. Communicating is defined by second order characteristics as decision making and communicating. Best Practice is defined by second order characteristics as mentoring and customer focus.

**Leadership Traits**

Traits are special qualities that leaders have to motivate people. These traits stand out and are sustained by effectiveness, self-confidence, achievement orientation, decisiveness and trustworthiness. Leaders have a vision and have the capability for direction setting (Sarros & Butechatsky, 1996). Some examples of traits identified by Stogdill (1974) that
were related to leadership are: intelligence, dominance, self-confidence, high energy level and task-relevant knowledge.

Leadership Skills
Leadership skills are the abilities to lead people in certain situations. Leadership skills are driven by a vision of a leader or the organisation. The skills that are needed are direction-setting, team-building, trustworthiness, competence in analytical and functional ability, with the capacity to formulate suitable strategies, solve problems and make correct decisions. These leadership skills include mentoring employees in a friendly and considerate manner, listening and providing helpful career advice. Leadership skills also extend to clear communication and unambiguous instructions. Leaders set up job responsibilities, task, objectives, deadlines and performance objectives for employees. Leadership skills also include arousing followers to think in a new way by appealing to their untapped human needs, values and emotions (Sarros & Butchatsky, 1996).

Leadership Styles
Leadership style refers to the behaviour pattern of the managers and supervisors who attempt to influence others (Northouse, 2001). It includes both directive (task) behaviours and supportive (relationship) behaviours. According to Northouse (2001), directive behaviours assist group members in goal accomplishment through giving directions, establishing goals and methods of evaluation, setting times lines, defining roles, and showing how the goals are to be achieved. Directive behaviours clarify, often with one-way communication, what is to be done, how it is to be done, and who is responsible for doing it. Supportive behaviours help group members feel comfortable about themselves, their co-workers and the situation. Supportive behaviours involve two-way communication and responses that show social and emotional support to others. Examples of supportive behaviours would be asking for input, problem solving, praising, sharing information about self, and listening. Supportive behaviours are mostly job related.
Middle-level managers

Middle-level managers refer to people holding positions in the organisation, such as sales manager, branch manager, or department head. Middle managers are responsible for implementing top management's strategies and policies by developing short-term operating plans. They generally report to a general manager and supervise the work of other employees under them (Lussier, 2003).

Structure of the Thesis.

This thesis is set out in eight chapters. A summary of each of these chapters is now given.

In Chapter two, a selective literature review is provided with respect to the Australian response to leadership in the business world, definitions of leadership, and various theories of leadership. Following this, the meaning of competency, the measuring of leadership, the main aspects of leadership and an evaluation of the four aspects of leadership competencies are explained.

In chapter three, the theoretical model and conceptual framework is given. The Theory of Reasoned Action and theory of Planned Behaviour is explained. This is followed by the structure of leadership competency, and the rationale for interviews.

Chapter four deals with the measurement of leadership competencies and the questionnaire to collect the data and the interview questions. The Rasch Measurement Model plays an important part in converting the raw scores into meaningful linear measures and is described in this chapter.

Chapter five deals with the methodology and the interview questions. Samples, data collection and explaining how the data were analysed form the main part of this chapter. Samples from mid-level managers in three main industries are explained and three hundred managers were used in the main study. Qualitative data from the questionnaire are used in the preliminary raw data analysis.
Chapter six deals with data analysis using Rasch analysis. The psychometric properties of the data are investigated. Non-fit of the items to the measurement model and category probability curves are explained. The meaning of the scale with the 54 items that make up the variables of Managerial Leadership Competency are explained.

Chapter seven describes the results of the interview data from a sample of twenty-nine mid-level managers. Their comments, opinions and their attempts on leading, meeting targets, adaptability, communicating and best practice in their workplaces help to add to knowledge to business leadership competencies. Apart from the interview, the two open answers from the questionnaire also help to investigate important leadership aspects and how these have affected the business.

Chapter eight summarises the findings, brings together all the conclusions and presents the implications for further research and for practice.
CHAPTER TWO

LITERATURE REVIEW

Introduction

This literature review traces the development of leadership into theories from 1980 to 2002. The research in leadership has given rise to styles of leadership, theories and models. Since there are many theories and models, the researcher has selected four to emphasise how important these are to improve the competencies of the mid-level managers. The four main theories of leadership are traits, behaviour, situational and transactional vs transformational. The trait theories seek personality, social, physical or intellectual characteristics in individuals that differentiate leaders from followers (Robbins, 1993). The behavioural theories focus on specific behaviours that separate leaders from followers. The situational theories give rise to control and influence to the leaders. The transactional vs. the transformational leadership theories differentiate the leaders in their performance (Robbins, 1993). These theories are explained later.

Since World War II, the Australian business leadership was influenced by American models of management and leadership (Sarros, Densten & Santora, 1999). Leadership theories were no exception. The reviews of management and leadership indicate leadership topics attract many researchers as well as practicing managers. However, most of the opinions and perspectives remain American in origin. Currently, the most common approach to leadership development has been the competency movement (Zenger & Folkman, 2002).

An important component of leadership is competency. “Competencies are the combinations of knowledge, skills, traits, and attributes that collectively enable someone to perform a given job”, according to Zenger and Folkman (2000, p.83). In the case of a leader in the business world, he or she has to possess those competencies. But a leader in the modern setting has to inculcate those competencies in the followers as well, so that they can adjust to changes that are taking place in the work place due to globalisation. The development of competencies in managers is to meet the challenges of the business world. Some of these challenges are to maintain or capture new market shares. These
would mean that middle managers, like senior managers must be well-equipped with skills to deal with the production of goods and services and the marketing of them.

This gives rise to a new type of leadership in the business world equipped with certain managerial leadership traits. There are six leadership traits: (1) ambition and energy, (2) the desire to lead, (3) honesty and integrity, (4) self-confidence, (5) intelligence, and (6) job-relevant knowledge (Kirkpatrick & Locke, 1991). Some leadership writers (Topping, 2002; Kotter, 1999; Kouzes & Posner, 1997) feel that just picking up the traits are not enough. Too often organisations ignore leadership potential, offer no relevant training or role models, and punish those who make small errors while trying to lead. Most corporations in the USA today are overmanaged and underled (Kotter, 1999). The same applies to Australia (Sauros, 1992). The emphasis is now on the competencies of managers, which can be utilised to the full to make them leaders.

Identifying these managerial leadership competencies has become more important to business survival than ever before (Topping, 2002). In the past, managers were concerned only in planning, controlling and organising. Today, the situation is different. Organisation is more complex and managers must be able to lead people more effectively (Topping, 2002). As it stands, there is a shortage of such leaders to combat the pressures and the changes that are happening in the economic environment. One way of overcoming this is to fast-track potential future leaders using competency-based training. According to Gauld, D., and Miller, P. (2004), the training will be more effective if the trainer has formal teaching qualifications and has been in training positions for more than ten years.

Controversies about leadership have occurred over many years and generally centre around competing schools of thought regarding whether or not leadership is an inherent set of traits, whether or not it can be taught, or learned and to what extent it is truly situational (Gardiner, 1990). There has been a traditional belief that leaders are born. In other words, these leadership qualities are inherent in a selected number of individuals. They are like the artists and gifted musicians. But some academicians believe that these leadership attributes are not sufficient, but require reaction to situations to bring
out the leadership (Topping, 2002). The present belief is that it is possible to develop some of these leadership skills through a learning process (Kotter, 1992). It is this belief that persons in many industries feel that managers can also be leaders, through a process of learning. The seeking for manager-leaders is urgent in the present economic climate (Topping, 2002). Some industries believe that without leadership among the managers, the companies and firms are not able to compete effectively.

Researchers have focused on leadership effectiveness in managers and, according to Rowseil and Barry (1993, p.18), there are three main approaches to the problems of leadership effectiveness, namely trait, behaviour and contingency. The first two, which concentrate on the attributes of individual leaders, have limitations, for research has shown that leaders do not possess a set of common personality traits or behavioural styles (Robbins, 1993). These theories gave rise to a belief that leaders were born, not bred, and that selection was more important than training and development. These two theories were partly challenged by others who brought out another theory called the contingency theory where the reaction to various situations brings about leadership qualities among the managers (Robbins, 1993).

The first comprehensive contingency model of leadership was developed by Fiedler (1967). Fiedler's model states that effective group performance depends on the proper matching of the leader with the subordinates, the quality of their contribution with the leader, and the degree to which the situation gives control and influence to the leader (Robbins, 1993). Fiedler (1967) went on to stress the role of contextual variables as determinants of leader effectiveness in his contingency model. Stogdill (1957) and Adair (1983) concluded that leadership skills are transferable from one situation to another, but that individual leaders rarely are. The contingency model of leadership will be further discussed under the situational theories, where Fiedler's model comes under criticism.

The Australian Response to Leadership in the Business World

In Australia, a shift towards competencies in the work place, with particular emphasis on training, began in the late 1980s. This was the result of Commonwealth Government initiatives to reorganise vocational education and training to meet Australia's competitive market place (National Training Board, 1992). One of the initiatives was to
set up an Industrial Task Force to study leadership and management skills. This resulted in a report that can be found in the Enterprising Nation—Renewing Australia’s Managers to Meet the Challenges of the Asia Pacific Century, also known as the Karpin Report (April 1995). The Task Force identified an urgent need to upgrade the leadership skills of Australian managers. The Report also indicated that there is a paradigm change taking place in organisations that is impacting on managers and their needs. While the report spelt out a change in the management role, it offered no real guidance about leadership competencies. In today’s management, the senior manager is expected to be more of a communicator with the emphasis on vision, leadership and motivation. The Karpin Report suggested that senior management be moved into the role of leader/coach and the first line manager be the facilitator, with roles such as ‘enabling,’ ‘consulting’ and ‘empowering’.

The Karpin Report (1995) also found that the qualifications of Australian management fell short of its counterparts in other countries. Research by Baraclough, Wawn and Green (1995), on behalf of the Task Force, found that some Australian managers lack vision and have a short term view, lack strategic perspective and are poor at teamwork, are inflexible and rigid, do not have people skills, are complacent and do not manage themselves well. One of the recommendations was to set up a programme to influence management development and also for business and the general community. It also suggested that leadership competencies be identified to ensure an appropriate level of rigour and effectiveness; and that core state-based programs be arranged with participants assembling in Canberra for a combined annual national element of the Leadership Program. This led the Federal Government, through the Minister for Employment, Education and Training to establish a competency based training program for industrial leadership operating under the auspices of the Board of the Australian National Training Authority (ANTA) to oversee the development of a management strategy for frontline managers (Smith & Keating, 1997, p.43). An industry led reference group was established which recommended that the responsibility for the development of frontline management should rest with enterprises. The Frontline Management Initiative (FMI) is Australia’s answer to the Karpin Report on Management in Australia. The Frontline Management Initiative is based on 11 key management behaviours suitable for ‘forward thinking managers’. They fall into four groups: (1) Leading by Example, Unit
1. Manage personal work priorities and professional development; Unit 2, Provide leadership in the workplace; (2) Leading, Coaching, Facilitating and Empowering Others, Unit 3, Establish and manage effective workplace relationships; Unit 4, Participate in, lead and facilitate work teams. (3) Creating Best Practice, Unit 5, Manage operations to achieve planned outcomes; Unit 6, Manage workplace information; Unit 7, Manage quality customer service; Unit 8, Develop and maintain a safe workplace and environment; Unit 9, Implement and monitor continuous improvement systems and processes. (4) Creating an Innovative Culture, Unit 10, Facilitate and capitalise on change and innovation; Unit 11, Contribute to the development of a workplace learning environment.

Definitions of Leadership

There are at least five definitions of leadership. One, Kotter (1990) defines leadership as “a process that helps direct and mobilize people and their ideas.” Two, Bennis (1994) states that leadership is concerned with vision, inspiring people and having trust. Three, Adizes (1983) defines leadership as essentially motivating people to act by non-coercive means. Four, Robbins (1993) defines leadership as an ability to influence a group in the achievement of goals. Five, Rost (1993, p.102) defines leadership as an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes.

Kotter’s (1990) definition of leadership has three major functions:

(1) Creating a vision—‘where’ and ‘what’ the organisation should be in the near future;
(2) Aligning people to the vision; and (3) Inspiring and motivating the employees to accomplish the vision. From the statement above, Kotter emphasises vision in the process of directing and mobilising people, whereas there are many other issues in leadership that are essential, such as best practice and attitude to changes to the organisation.

Bennis (1994) supports Kotter in the creation of organisation or leadership vision. In his attention to vision, Bennis (1994) states that vision ‘grabs’ the leader and enables others to follow the vision. Bennis (1994) goes further to say that once the leader has a vision, he passes his confidence to his followers to perform their very best in the
organisation. But Bennis does not stop there. He says that leaders must inspire and trust their employees. Trust according to Bennis is the 'glue' that maintains organisation integrity (Bennis, 1994).

On the question of inspiring or motivating employees, Adizes (1988), who defined leadership as essentially motivating people to act by non-coercive means, believes that it is done by means of messages conveyed by people’s personality and behaviour, rather than their formal or professional authority. By Adizes definition, followers should not be forced to obey, but to perform to the aspiration of the company and the individuals.

Robbins’ (1993) definition of leadership as the ability of a person influencing a group to achieve goals is a broad definition of leadership and covers the current approaches to the study of leadership. Robbins does not include the dynamics of change within the organisation but Rost does. Rost (1993, p.102) defined leadership as an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes. In this context, leaders do not threaten. Instead, they influence their followers to accept changes that would benefit all. This is done by building up a good relationship.

There are other definitions of leadership by researchers but the writer feels that the five chosen would broadly cover the conception of leadership. Kotter’s (1990) view of leadership as a process gives encouragement to business managers. Kotter (1990) hinges on organisational vision as a driving force to work out the process of marshalling the employees to better performance. Later, this theory was not sufficient. Bennis (1994) says that leaders must also inspire and trust their employees. Adizes (1988) concurs with this view but adds that there should not be any coercion on the part of the leaders. Robbins (1993) concentrates on the ability of a leader to galvanise a group to achieve organisational goals. Rost (1993) on the other hand, believes that an efficient leader has the ability to deal with changes.
All these definitions help to clarify a better understanding of leadership in business management in Australia. As Australian business is being challenged by a global economy, one of which is the keen edge of competition, Australian business leaders have to adapt to changes that are taking place. It is the problem of change that needs to be addressed. A leader has to have a strategy to deal with this phenomenon. A change has to be defined, then the leader has to undertake to make the change happen. This process involves planning the change, then implementing the change and finally evaluating the results (Zenger & Folkman, 2002). In other words, a manager is to lead organisational changes, which means making tactical changes and working others to accept those changes that are going to occur in the workplace.

**Leadership Theories**

There are four main approaches to theories of Leadership. These are trait theories, behavioural theories, situational theories and transactional vs. transformational theories.

**Trait Theories**

Trait theories concentrate on the search for characteristics of leaders as opposed to those of non-leaders. The characteristics or traits that make a person a leader are intelligence, charisma, decisiveness, enthusiasm, strength, bravery, integrity and self-confidence (Robbins, 1993). A research effort to isolate these traits in connection with leadership qualities was not particularly successful. For example, eighty leadership traits were identified in twenty studies but only five of these traits were common (Stogdill, 1974). Stogdill (1974), in his *Handbook of Leadership* and trait theory research, concluded that there are four characteristics that distinguish leaders from non-leaders: (1) Leaders are slightly more intelligent; (2) they demonstrate more sense of responsibility and dependability; (3) they are more active and have a better capacity to promote the involvement of people; and (4) they possess a greater sense of humour and fun. However, there is no guarantee that these traits will lead to successful leaders, as Stogdill says, “A person does not become a leader by virtue of the possession of some combination of traits, but the pattern of personal characteristic must bear some relevant relationship to the characteristic, activities and goals of the followers” (Stogdill, 1974, p.83).
Behavioural Theories

Hemphill (1949) was one of the earliest researchers in modern times to describe business leadership behaviours. In his Ohio studies, along with other later leadership researchers, (Fleishman 1951, 1953; Halpin & Winer, 1957; Hemphill & Coons, 1957), Hemphill found that leaders and managers have two important characteristics: (1) they consider the follower; and (2) they initiate structure. Initiating structure refers to leaders who define what they expect of their people and what their people can expect from them. Leaders, who have consideration for their subordinates, take into account subordinates' feelings, show mutual respect for each other and recognise that people have needs, goals and recognition for their own achievements.

These two characteristics interact directly to influence the performance and satisfaction of the workgroups. The basis of behavioural theories covers the behaviours of leaders and employees in the execution of work. Behavioural patterns began to emerge in the interaction of leaders and followers. Unfortunately, the niceties of emphasizing the considerations of the feelings of the employees may not produce the outcome of the organisation objectives. In Australia, managers have to meet deadlines for production of goods and services. This means that production outcome takes precedence over consideration of the feelings of the workers. This pattern of behaviour will make the managers production-oriented leaders who would emphasise the technical or task aspects of the job. Their main concern was in accomplishing their group's tasks (Robbins, 1993).

The Michigan studies provided similar findings to the Ohio studies but called leader behaviours productive orientation and employee orientation (Northouse, 2001). Employee-oriented leaders emphasise interpersonal relations while the productive-oriented leaders emphasise, the technical or task aspects of the work. Both of these approaches give a better understanding of the leadership process. It can be conceptualised in two major types of behaviour: task and relationship. It is difficult for a leader manager to switch quickly from one behaviour to another in a change of business situation. The researchers are not even able to establish a consistent link between task and relationship behaviours and outcomes such as morale, job satisfaction and productivity (Yukl, 1994). But, if a manager is efficient as a leader, he or she has to balance these two types of
behaviour as best as the leader can. The balance of these two styles require an efficient Australian business leader to be proficient in these two areas: task and relationship. Researchers have tried to find a universal set of leadership behaviours that are effective in every situation, but none has been able to do so yet. Meanwhile, a leader has to play either role efficiently, or better, a mixture of the roles. There are times when the leaders have to ignore the niceties of good relationships in order to meet a deadline or ignore the feelings of workers in downsizing a company.

Situational Theories

The situational theories of leadership suggest leadership effectiveness depends on the fit between personality, task, power, attitudes, and perceptions (Fleishman, 1973). Fiedler (1967) concluded that there were three important aspects of situations that would influence leadership effectiveness. One, leader-member relations refer to the degree of confidence, trust and respect the followers have with their leaders. Two, task structure refers to the extent to which the tasks are structured for the followers. That is, is it clearly specified and known what followers are supposed to do, how they are to do it, when and in what sequence it is to be done, and what decision options they have (high structure) or are these factors unclear, ambiguous, unspecifiable (low structure)? Three, position power refers to the authority carried by the leader by virtue of his or her position to impose rewards and sanctions.

There are three criticisms of Fiedler's Contingency Model. One is that the research support for this model is weak (Graen, Orris, & Alvaras, 1971, pp.196-201). Two, the measurement of the Least Preferred Co-worker Scale is called into question (Schriesheim & Banister, 1979). These two writers claim that the reliability and validity of the Least Preferred Co-worker Scale questionnaire measure are low. Three, the meaning of the variables presented by Fiedler is not clear. For example, at what point does a "structured" task become an "unstructured" task? Two other criticisms are, the theory is not easily used in ongoing organisations, and it fails to explain adequately what organisations should do when there is a mismatch between the leader and the situation in the workplace (Northouse, 2001).
Another situational model of leadership is the path-goal theory. House (1977) described the path-goal theory by developing the theme that leader behaviour should be motivating to subordinates, by smoothing their path towards personal satisfaction and payoffs, and by removing the obstacle, pitfalls and roadblocks that stand in the way. House (1977) indicated four categories of leader behaviour that would influence motivation: These are directive, supportive, participative and achievement-oriented. The directive leader tends to let subordinates know what is expected of them. The supportive leader treats subordinates as equals. The participative leader consults with subordinates and uses their suggestions and ideas before reaching a decision and the achievement-oriented leader sets challenging goals, expects subordinates to perform at the highest level, and continually seeks improvement in performance. There are some weaknesses in the path-goal theory. Northouse (2001) pointed out that path-goal theory is so complex and incorporates many different aspects of leadership that interpreting the meaning of the theory can be confusing. Another weakness of the path-goal theory is that it fails to explain adequately the relationship between leadership behaviour and worker motivations. The other weakness is that path-goal theory suggests it is important for leaders to provide coaching, guidance, and direction for subordinates; to help subordinate to define and clarify goals; and to help subordinates around obstacles as they attempt to reach their goals (Northouse, 2001). In reality this is not the case, as the leader affects the subordinate and the subordinate may easily become dependent on the leader to accomplish his or her work.

According to Georgiades and Macdonell (1998, pp. 88 - 89), situational factors give rise to many different leadership styles. These styles pose a dilemma for practicing managers. They may not be sure which style is appropriate for the type of work. However, Vroom and Yetton (1973) seened to be addressing this problem when they laid out a set of prescriptions intended to help leaders select an appropriate style. Their leader-participant model for the prescriptions to help leaders was a complex decision-tree incorporating seven contingencies: (whose relevance could be identified by making “Yes” or “No” choices) and four alternative leadership styles which are classified as direct style, coaching style, supporting style and delegating style (Northouse, 2001). The
research by Vroom and Jago (1987) has resulted in a revision of this model. The new model retains the same five alternative leadership styles but expands the contingency variables to twelve. These are (1) Quality requirement (2) Commitment requirement (3) Leader information (4) Problem structure (5) Commitment probability (6) Goal congruence (7) Subordinate conflict (8) Subordinate information (9) Time constrain (10) Geographical dispersion (11) Motivation time and (12) Motivation development.

Hersey and Blanchard's (1972), situational leadership theory examined how the transactions between leaders and followers, in terms of their level of maturity and job experience, should be the main factors affecting the decisions a leader should make. This contingency (situational) focuses on the followers. According to Hersey and Blanchard (1972) successful leadership is achieved by selecting the right leadership style, which is contingent on the level of the follower's maturity. The term 'maturity', as defined by Hersey and Blanchard (1972), is the ability and willingness of people to take responsibility for directing their own behaviour. In downsizing business organisations today, many employees are put on contract, or on a casual basis, and whether a situational theory works, or not, is arguable. This theory has not undergone extensive evaluation to test its validity (Robbins, 1993).

Models based on situational theories had some initial success but, in the 'real world', their applications had limited success in terms of leadership. Some of the criticisms of the situational theories according to Northouse, 2001) are, first, the situational leadership does not fully address the issue of one-to-one versus group leadership in an organisation setting. For example, should a leader with a group of 20 employees lead by matching her or his style to the overall development level of the group or to the development level of individual members of the group? Another criticism is that, the authors of situational leadership model do not make clear how 'commitment' is combined with 'competence' to form four distinct levels of development (Graeff, 1997; Yukl, 1989). A final criticism of situational leadership can be directed at the leadership questionnaires that accompany the model. Questionnaires on situational leadership typically ask respondents to analyse various work-related situations and select the best leadership style for each situation. The questionnaires are constructed so as to force respondents to describe their leadership style in terms of specific parameters of
situational leadership (such as directing, coaching, supporting, and delegating) rather than in terms of other leadership behaviours. Because the best answers available to respondents have been predetermined, the questionnaires are biased in favour of situational leadership (Graeff, 1983; Yukl, 1989).

Some researchers’ findings have encouraged practitioners to superimpose different types of leadership on managers, supervisors and those in authority. Some of this research has led government to institute training sessions. In Australia, it comes under the Australian National Training Authority (1992).

The trait theories pinpoint certain characteristics that can be internalised by a learner to be a good leader. But Stogdill (1974) cautions against these theories, as he believes that the followers’ activities and goals must bear some relevant relationship to the leader. Research on traits has been criticised by Northouse (2001) for failing to look at leadership outcomes. Northouse goes on to say that research has not addressed how leadership traits affect group members and their work. The trait approach is not a useful approach for training and development for leadership on the ground that traits are not easily changed as they are relatively fixed psychological structures.

Realising the inadequacy of the trait theory, researchers began to turn to the behaviours of efficient leaders hoping to pick up critical behaviours that are determinants of leadership (Robbins, 1993). The idea was to integrate specific behaviour determinants into leadership training programmes. From this research, the behaviour theory emerged which also takes into account the consideration of the feelings and aspirations of the followers.

In a business organisation, the leader-manager needs to put maximum production as part of the vision of the company. To achieve this, he or she has to interact with the employees. The manager has to consider the employees’ feelings, needs, goals and recognition. The leader has to ‘work’ within this ambit so that the workers perform satisfactorily. This type of leading is known as behavioural leadership.
Behavioural leadership has been classified into four categories according to House (1997). These are directive, supportive, participative and achievement oriented.

Directive leadership encompasses the action of a leader who lays down instructions for the employees about their task which include what is expected of them, how it is to be done and the time frame of completion (Northouse, 2001).

The behaviour of a supportive leadership indicates consideration of the subordinates. A supportive leader or manager is friendly and approachable, and he or she pays attention to the well-being and human needs of the workers.

A participative leader invites subordinates to share in the decision-making. The leader consults with subordinates, gets their ideas and opinions, and integrates their suggestion into decisions for implementation (Northouse, 2001).

An achievement-oriented leader challenges workers to work at the highest level. The behaviour of this type of leader is to set up a high standard of excellence for followers. Achievement-oriented leaders believe that subordinates are capable of establishing and accomplishing challenging goals (Northouse, 2001).

Each of these category styles lead to different types of leadership depending on the personality of the manager and the culture of the organisation. But when leaders react to situations brought about by changes, their attitudes and adaptation to the circumstances would evoke another style of leadership known as situational leadership. It is this type of leadership that needs to be focused on because the present business environment is affected by globalisation and multi-national companies. Changes are inevitable and bound to bring uncertainty in traditionally run companies. A leader who is able to function in the ever-changing business environment is an asset to a company. The style leadership approach has some weaknesses. According to Northouse (2001), the first is that, researchers have not been able to associate the behaviours of the leaders (task and relationship) with outcomes such as morale, job satisfaction, and productivity.
Another weakness is that, researchers from the style approach have not been able to identify a universal set of leadership behaviours that would consistently result in effective leadership. Last, the style approach implies, but fails to support fully, the idea that the most effective leadership style is a high-high style.

Transformational and Transactional Leadership

Trait to behavioural and situational approaches to leadership seemed to lose their impetus among researchers, as they offer only superficial insights into leadership. The superficial insights have challenged others to a more in-depth study of leadership. Recent research has tended to shift from traditional leadership (trait behavioural and situational) to transformational leadership as a result of awareness of strong leadership forces such as charisma, that help change the direction and focus of an organisation (Burns 1978; Conger 1991; Conger & Kanungo 1988a, 1988b). Burns (1978) in his book Leadership, agreed that there were significant differences between managers and leaders. He called them transformational leaders and transactional managers. Transformational leaders do things that change the organisation whereas transactional managers keep the organisation going in the same direction. Transformational leaders make major changes in the firm’s or unit’s mission, way of doing business, and human resource management to achieve their vision. They overhaul the entire philosophy, system, and culture of an organisation (Ivancevich & Matteson, 1996). For example, a transformational leader like Eisner at Walt Disney, was able to lead Disney into live-action movies, syndicate a business show for television, introduce a TV channel, develop new cartoon characters, and license new apparel products. Eisner transformed Walt Disney Company from a conservative firm into an assertive, proactive one. Eisner brought in a work ethic style, and a vision that has helped put Disney back into the forefront of entertainment (Groves, 1991). Transactional leaders on the other hand, help the follower identify what must be done to accomplish the desired results: better-quality output, more sales, or services, reduced cost of production. The transactional leaders rely on contingent reward and on management by exception (Ivancevich & Matteson, 1996). Burns (1978) indicated that every organisation needs both elements in all of its managers and leaders.

In a changing world, managers as leaders need to have certain attributes to produce levels of effective effort from subordinates. The new charismatic leader wants followers not only to question established views but the leader’s views as well (Bass &
Avolio, 1990a). The new model of transformational leadership developed by Bass also incorporates the concept of transactional leadership (Bass 1985a, 1985b).

**Transformational leadership theory**

Transformational leadership motivates workers to perform beyond expectations (Bass & Avolio, 1990b). There are two aspects of transformational leadership. One aspect is that, transformational leaders link organisation goals to the needs and beliefs of workers. A second aspect is that, transformational leaders seek to raise the consciousness of followers by appealing to their higher ideals and values such as liberty, justice, equality, peace and humanitarianism (Bass, 1985b). By the above references, one can assume that in transformational leadership, the driving force is motivation and using it to link with the goals of the companies. It can be inferred that employees will work to the maximum and give their very best, thus resulting in job satisfaction.

Transformational leaders, in their endeavour to get the best from their workers in a co-operative way, began to bring out different styles of leading, depending on the personalities of the leaders. Four main personality types have been identified: idealised influence, inspirational motivation, individualised consideration, and intellectual stimulation. Idealised influence refers to the kind of behaviour that causes followers to identify with, and wish to emulate in a leader (mission and vision, general feeling of trust and respect in their workers). Inspirational motivation raises workers' expectations and beliefs about the mission and focuses their vision for the future of an organisation. Individualised consideration leads to the leader coaching and teaching on an individual basis. Intellectual stimulation is where these workers are encouraged to be creative in problem solving, and to adopt new ways of thinking and reasoning before taking action. However, research done by Tracey and Hinkin (1998) has indicated substantial overlapping between idealised influence, inspirational motivation, intellectual stimulation and individual consideration. This suggests that the dimensions are not distinct, and that all of them are important at different times, with different organisations, to different extents.

In essence, transformational leadership produces greater results than transactional leadership. This fact emerged when Lowe, Kroeck, and Sivasubramaniam (1996) made a meta-analysis of 39 studies in the transformational literature and found leaders who
indicated that transformational leadership was perceived to be more effective with better work outcomes than transactional leadership. These three researchers went on to say that findings were true for higher-level and lower-level leaders. Transformational leadership moves followers to accomplish more than is usually expected. The followers become motivated to transcend their own self-interest for the good of the group or organisation (Bass & Avolio, 1990a).

Transactional leadership theory

The two main types of transactional leadership are management by exception and contingent reward. Management by exception refers to behaviour that avoids giving directions as long as old ways appear to work and performance goals are met (Bass & Avolio, 1990b). Contingent reward is behaviour that provides rewards for contracts or necessary expended effort, with its emphasis on facilitating the achievement of work objectives agreed to by followers.

Transformational Leadership

![Diagram of Transformational Leadership](image)

Transactional Leadership

![Diagram of Transactional Leadership](image)

Figure 1 Model of Transactional and Transformational Leadership
Source: Bass and Avolio (1990a)
The model of leadership proposed by Bass and Avolio (1990a) needs some improvements as the roles of managers and leaders have changed quite dramatically over the last few years. In the transformational model, the elements of strategic thinking, organisation awareness, cultural awareness, technical management and partnering were not incorporated into the model. These elements, or components are needed for leadership of today. For instance, there is no mention of organisation awareness whereby the stakeholders' interest are vital for organisation survival.

The Transactional Model on Management by Exception is not always applicable to every business or organisation. For example, the products and methods of doing things are changing all the time. Transactional managers must be aware of new methods and ways of achieving goals, and be prepared for them. Management by Exception, by itself, has no planning for further vision and no strategic skills are mentioned or involved. As for the contingent rewards, this area is more or less static.

**Competency**

While there is substantial documented information about the moves towards competency-based training in Australia (National Training Board, 1992), there is not much evidence about its relationship with leadership competencies. The concept of competencies has been in existence for some time. What differs today is an increasing emphasis on choosing the competencies that will create wealth for organisations. Competencies are seen to link organisational strategy with people, and people who are aligned with the strategic goals are better equipped to meet the challenges that global competitiveness requires. Competency, therefore, has the potential to be a powerful answer to the problems that people and organisations are likely to face in the next decade. Reports in the literature indicate an increase in training and development in competency in a number of different types of jobs overseas (see for example, Chung-Herrera, Eng & Lankau, 2003, for hospitality leadership competency; Lea & Monsen, 2003, for nursing leadership competency; Wallick, 2002, in healthcare competency; Boak & Coolican, 2001, competencies in retail leadership; Bonnstetter, 2000, global leadership competencies; Naquin & Holton, 2003, competencies in state government). In Australia, this field appears to be partly undeveloped (Karpin, 1995; McLaughlin, 2002).
Definitions of competencies

There are at least four definitions of competency. One definition is the ability of what a person can do as a result of some training course. A second is defined as "an underlying characteristic of a person, which results in effective and/or superior performance in a job" (Klemp, 1980, p.5). A third definition is "the ability to use knowledge and skills effectively" (Constable 1998, p.19). A fourth definition is the ability of a manager to perform activities within an occupational area to the levels of performance expected in employment (National Park Service Essential Competencies, 1999).

The first definition of competency emphasises a way of approaching training that places primary importance on what a person can do as a result of some training outcome. This is a shift away from an emphasis on the process involved in training to industry specific standards, rather than an individual's achievement relative to others in the group (Australian Chamber of Commerce and Industry, 1992). The emphasis that training courses will make a person competent is not completely true. The researcher is of the opinion that unless training is put into practice in a real situation, the possession of any type of competency will not be possible.

In the second definition of competency, Klemp (1980, p.6) defines competency as "an underlying characteristic of a person, which results in effective and/or superior performance in a job" and is further elaborated by Boyatzis (1982, p.8) who considers this characteristic to be an effective mix of motives, traits, skills, aspects of one's self image or social role, together with a body of knowledge used by an individual. This definition, unlike the first, stresses that competency in a person is a derivative process of effective performance in a job. The possession of competency skills are the underlying characteristics that drive a person to be effective. Klemp (1980) and Boyatzis (1982) do not discriminate against the levels of competency in an individual, but speak broadly about competency.
In the third definition, Constable (1998, p.19) defines competency as "the ability to use knowledge and skills effectively in the performance of a managerial role". These competencies embrace an intangible set of attributes, including an ability to make sound judgements, creativity, willingness to take risks, a decisiveness, high energy level, ability to take initiatives, results-orientation, tenacity, ability to take independent action, integrity, adaptability, resilience, ability to deal with detailed information and lateral thinking. These competencies give rise to a behavioural function of attaining performance goals through the various skills such as communicating skills, people skills, management skills and other skills dealing with those outside the realm of the firms or companies. Constable (1998) links competency with management, but his elaboration on management covers more on leadership qualities. He also does not include the impact of a leadership competency on employees who have their own sets of competencies.

In the fourth definition (National Park Service Essential Competencies, 1999), competency is defined as the ability to perform the activities within an occupational area to the levels of performance expected in employment. As such, management skills will come under the ambit of this definition. Managers must have the following skills or competencies: control skills, setting objectives, forecasting, planning and budgeting. In the area of public relations, the manager must have people skills, which means a consideration of culture and language differences among workers. Managers should also have leadership competencies.

Leadership competencies consist of an advanced set of knowledge, skills and abilities for the designated supervisors and executives in the agency who have vision, inspire employees to accomplish the vision, and take responsibility to guide employees through change. Leadership competencies are the skills, knowledge and abilities that are required to excel as a leader. Leadership competency is the management of attention through a set of intentions or a vision, not in a mystical or religious sense, but in the sense of outcome, goal or direction (Bennis, 1994). In the fourth definition, managerial leadership competencies are mentioned but what are said are all about managerial skills rather than leadership skills. However, as Gardner (1990) says every time he encountered first-class managers they turned out to have leadership qualities in them. A search of the www, using the terms leadership, competency, business, provided a definition of
leadership competency involving five aspects: leading change, leading people, result driven, business acumen, and building coalitions/communication (listed in appendix A to a handbook under United States Office of Personnel Management). These aspects broadly cover all four definitions of competency.

Measuring Leadership

Measuring leadership capabilities (regardless of whether measuring behaviour or traits) have always been difficult. According to Ousman (2002), research has simply been too difficult because of an absence of suitable hypotheses to test, because of doubts about the validity of actual data collected or because the measurement of leadership is insufficiently valid and reliable to make the conclusions widely applicable. Another difficulty is the failure to capture those moments when leadership is displayed. None of the measures use a linear scale in which the person measures are calibrated on the same scale as the item difficulties. The best that can be said for any of the measures is that they produce a rank order (using True Score Test Theory), but True Score Test Theory cannot even guarantee this, since it doesn’t test that the single cancellation condition for ordering holds (see Mitchell, 1991; Kassabos, 2001).

It must be noted that there are many shortcomings of the classical test theory (Bond & Christine, 2001). Some examples are the lack of empirical rigour, the widespread practice of summing values from responses to a Likert scale and treating the total score as if it were a measure. Others include assigning numbers to response categories to produce ordinal-level data, after which the numbers are summed to produce a total score. This total score then is used in subsequent statistical analyses. Another example is to treat ordinal data as if they were interval-level data, and no hypotheses are tested to acknowledge that this particular assignment of numbers represents a falsifiable hypothesis. Hence, the additive structure of these quantitative attributes is summarily ignored. In this study, the use of Rasch measurement model to construct an interval level scale overcomes many of the shortcomings of the classical test theory (Choppin, 1987).
Instruments of measurement

The Least Preferred Co-worker (LPC) Measure (Fiedler, 1967) is used to find out whether a leader’s behaviour is task-related or people-related. Briefly, the Least Preferred Co-worker instrument has 18 sets of adjectives. Against each set a ranking of 1 to 8 is given. The assessor has to be a co-worker with whom the leader finds it hard to work. The total scores of 18 sets are added. A high score indicates the leader to be people-related. The low score indicates the leader is task-related. This instrument is quite stable over time, as it is merely a personality measurement. But it is biased because the co-worker selected to respond to the instrument is difficult to work with. It lacks reliability as well, as it takes into account only one co-worker. This instrument does not give feedback to the subordinates, as none of the followers are assessors of a leader’s skill.

There are many instruments used to measure leadership styles. The two most commonly used measures have been the Leadership Behaviour Description Questionnaire (LBDQ) (Stogdill, 1963) and the Leadership Grid (Blake & McCance, 1991). Both of these measures provide information about whether a leader leans toward tasks or people relationships. This is a set of 20 items, which contain either task or people skills. The respondent has five options to choose from each item. This instrument is self-reported. Again, this instrument does not reveal much of leadership in different situations and it has not been analysed using Rasch to produce a linear scale.

A better instrument, Situational Leadership: A Brief Questionnaire (Blanchard, Zigarmi & Zigarmi, 1992) was developed to measure ability, flexibility and effectiveness of a leader. The instrument has between 12 to 20 work-related situation items. The assessor selects his or her preference for each situation. From the answers, the leader’s style can be determined from items of ability, flexibility and effectiveness. This is a self-reported questionnaire, based on the perceptions of the leader, and the perceptions of bosses and associates can be revealed by using the same instrument for measuring the manager’s leadership skills.
Four aspects of leader behaviour are measured by the Path-Goal Leadership Questionnaire (Indvik, 1985, 1988). The aspects measured are directive style, supportive, participative and achievement-oriented. The instrument is based on a Likert scale with seven response categories and 20 items, and measures which style a leader belongs. This is a self-reported instrument. The criticism is that it does not measure subordinate motivation levels, respondents cannot discriminate consistently and logically with as many as seven Likert response categories (see Waugh & Chapman, 2004), and it has not been analysed with Rasch to create a linear scale. In the Blanchard’s latest model (1992), Australian leadership prefers a supportive style rather than a directive style (Avery, 2001).

Some leadership training programs, according to Fields and Herold (1997), use subordinate assessments of leaders as a vehicle for providing feedback and focusing leader attention on key behaviours thought to be associated with effective leadership. Most approaches on measuring leadership now go under the name of ‘360-degree feedback’. That is, subordinates (along with peers and bosses) provide feedback through questionnaires as to how leaders do what they are supposed to do. Whereas such instruments often focus on fairly specific behavioural dimensions, recent work has proposed use of broader conceptualisations of leadership behaviours such as transactional and transformational leadership (Bass, 1990; Yukl & Van Fleet, 1992).

Fields and Herold (1997), in their study to measure transformational and transactional leadership, mentioned the following leadership instruments used by other researchers to measure leadership behaviour. Some of the behaviours assessed by leadership instruments include initiation of structure and consideration, praise and other positive rewards, goal setting, and problem solving (Yukl & Van Fleet, 1992), as well as role modeling and inspiration (Kouzes & Posner, 1997).

The transactional leader-follower relationship is based on an exchange model, where the follower makes contributions in anticipation of, or in response to, rewards, support, and various accommodations from the leader. Typical transactional leadership behaviours are the clarification of task requirements and the specification of contingent rewards (Bass, 1990; Hater & Bass, 1988). Transformational leadership, on the other hand, reflects followers’ strong personal identification with the leader and shared vision of the future, resulting in followers’ attitudes and behaviours that go above and beyond
those linked to an exchange of rewards or compliance (Hater & Bass, 1988).
Transformational leaders activate the higher order needs of followers, getting
subordinates to think and act for the sake of the organisation, often by making these
employees more aware of the importance and interdependence of their efforts (Yukl &

Transactional and transformational leadership approaches seem to be conceptually
distinct. Several studies have examined the question of whether subordinates can tell the
difference (Hater & Bass, 1988; Scandura & Schriesheim, 1994; Seltzer & Bass, 1990;
Yanmarino & Dubinsky, 1994), whereas others (Scandura & Schriesheim, 1994) have
found that subordinates may not distinguish between the two concepts. The difference in
these results may be a function of the different leadership instruments used in the studies,
or an indication that transformational and transformational leadership behaviours may not be
distinct to subordinates. The conceptual and empirical distinction between
transformational and transactional leadership styles raises interesting issues for leadership
competency development. First, how do leadership instruments that focus on several
narrower dimensions of leadership behaviours relate to leadership competencies? Second,
is it possible for these leadership instruments to assess the narrower behavioural
dimensions for detailed and constructive feedback in development of leadership
competencies?

To illustrate, the Leadership Practices Inventory, a widely used instrument in the
context of leadership development context (Kouzes & Posner 1997), categorises
leadership behaviours into five dimensions: Challenging the Process, Inspiring a Shared
Vision, Enabling Others to Act, Modeling the Way, and Encouraging the Heart (Kouzes
& Posner, 1997). Although, this instrument can be used to measure the contents of the
different aspects from the subordinate’s view point, a proper scale has not been
constructed in which the item difficulties of the questionnaire and leadership
competencies are measured on the same scale. But a Rasch model could be applied to
data collected from it to create a proper linear scale.

Transformative leadership is assessed by using the Multifactor Leadership
Questionnaire (MLQ) developed by Bass (1985a). It measures leadership behaviour in
seven areas: individual consideration, inspirational motivation, intellectual stimulation,
idealised influence, contingent reward, management by-exemption, and laissez-faire behaviour. It is a self-reported instrument. Each item has four options for a reply ranging from 1 to 4. It was an ordered response format with once in a while as 1, sometimes as 2, fairly often as 3 and frequently, if not always as 4. High scores on the instrument will indicate individual consideration and motivation, which are considered the most important dimension in transformational leadership. Bass and Avolio (1990a, 1990b) have established the following Cronbach alpha reliability coefficients for each factor: Inspirational Motivation, 0.84; Individualised Consideration, 0.85; Intellectual Stimulation, 0.88 Management by Exception, 0.79; and Contingent Reward, 0.87 with reliabilities between 0.57 to 0.66 (Sarros, Densten, & Santora (1999). However, this instrument does not take into consideration the subordinates' perception of their leader.

**Evaluation of Instruments**

The measurement of trait qualities does not help in developing competencies in leadership. It only measures individual traits. A swing towards behavioural leadership became vogue at a certain period. The two most commonly used measures are the Leader Behaviour Description Questionnaire (LBDQ) (Stogdill, 1963) and the Leadership Grid (Blake & McCanse, 1991). These instruments measured whether the leader is task-related or people-related. This is again looking at leadership style. Not much can be learned about developing competencies. The instrument for measuring leadership style in a situational dimension is an improvement and requires thoughtful answers from self-reporting leaders. This is a brief questionnaire with four situations and the respondent has to give his or her decision. It forms a basis of teaching leadership with flexibility according to changes in situation. However, the questionnaire is not graded from easy to hard and the use of the instrument gives feedback at only one level.

The Least Preferred Coworker (LPC) is a personality-like measurement and it is full of adjectives in the questionnaire. It does not help in providing material for training in competencies. A co-worker’s assessment is likely to be biased and may lead to a wrongful conclusion. Moreover, there is no checking for inconsistent answers in the questionnaire but, of course, this is true of most questionnaire data.
The Path-Goal Leadership Questionnaire (Indvik, 1985, 1988) measures and categories leaders into directive, supportive, participative and achievement styles. There can be grey areas for some leaders. This is also a self-reported analysis of a leader. The aggregate of scores of an area or country can reflect the type of leadership that exists there. In Australia, researchers using this measurement and the Blanchard’s latest model have classified Australian managers and supervisors towards a supportive style, rather than to a directive style (Avery, 2001). The Path-Goal Leadership Questionnaire does to some extend have many items to predict behavioural style of leaders. Issues relating to the four categories can be structured in lesson forms to improve competencies. This requires the work of an educationist.

Transformational leadership is assessed by the Multifactor Leadership Questionnaire (Bass, 1985a) into the seven areas as mentioned before. Out of the seven, charisma, inspirational motivation, intellectual stimulation and idealised influence could be developed as part of the competence building programme for leaders. The instrument, as laid down, gives more information about employees’ attitudes to leaders and supervisors. But there is no built-in mechanism to sieve the exaggeration of the leaders when they answer the items. Organisation development relies very strongly on leaders in the companies. The ‘360-degree feedback’ is a ‘massive’ exercise with questionnaires answered by individuals and the Chief Executive Officer with reference to individuals, teams, and the business as a whole. This would reveal how successful they have carried out improvements in organisational development.

No studies have used a Rasch Measurement Model to create a linear measure of leadership or leadership competencies. The Rasch Measurement Model offers a number of positive features and advantages. By calibrating the item difficulties and leadership competencies on the same scale, a comparison can be made on a manager’s leadership competencies. That is, competencies can be aligned from easy to hard on the same scale as different person measures of leadership can be aligned from low to high. Items that do not conform to the Rasch Measurement Model are removed from the analysis. The validity and reliability of the data are improved in comparison to data used in True Score Test theory, and a proper linear scale is created.
Main Aspects of Leadership Competencies.

A review of the literature on leadership competencies indicates that the following most commonly mentioned attributes of effective leadership are Leading change, leading people, building communication, guiding employees (coaching, counseling and mentoring) and creating best practice. It seems likely that these four competency aspects (leading change, leading people, building communication, and creating best practice) will lead managers to acquire leadership qualities that could bring success in their organisations in the present economic environment (See figure 2 for the model).

**Leading Change** (*Vision, Creativity, Organisation awareness, motivation, flexibility, decisiveness and initiative.*)

It seems that a good manager leader can successfully lead changes in an organisation, if he or she possesses the characteristics of vision, creativity, organisational awareness, motivation, flexibility, decisiveness and initiative. Without these, the manager does not possess the characteristics to adapt to changes, as well as to make subordinates see that the changes are necessary. Change is inevitable in industries that need to keep up with the global economy. According to Topping (2002 p 25) "change today is constant. There is no stopping it and there is no standing still. In this way, change is a relentlessly powerful force pounding on organisations" and managers are to keep with it and be flexible to change. Schein (1985, p.382) mentions that one of the critical roles of leadership is "first of all to notice changes in the environment and then to figure out what needs to be done to remain adaptive".

**Vision and Creativity**

Some of the literature on leadership stressed the importance of leaders having vision. Kotter (1990) defines vision, as a description of something such as culture or technology in terms of what it should become in the future. Nanus (1992, p.35) suggests that “vision is the key to leadership, and leadership is the key to organisational success. It is a signpost for an organisation to know where it is going and where it intends to go.” Organisational vision has been operationalized in various studies (Enz, 1986; Niehoff et al., 1990). These studies indicate that vision, as a leadership attribute, is related directly to employee commitment and work satisfaction.
Sarros and Woodsman (1993, pp.3-9), in a study of Australian executives, identified five main leadership attributes as vision and creativity, setting objectives / achieving targets, confident decision making, team building and charisma. Kotter (1990) suggested that vision and direction setting are the building blocks to change, where producing change is the primary function of leadership. Krantz (1990, p.5) claims that “setting directions and providing vision (by leaders) is clearly grounded in the need for organisations to adapt continuously to changing, unstable environments”. However, too much emphasis on vision in leadership can be misleading. Leaders, in an organisation, can also be blinding and misleading as a role model. There may be some flaws in the particular direction of change that goes uncorrected because of the leader’s dominance (Fullan, 1992).

Bennis and Nanus (1985), in their study of 900 leaders in the USA, identified four strategies that leaders and followers use to raise one another to higher levels of motivation and morality. They are attention through vision, meaning through communication, trust through positioning, and development of self through positive self-regard. In his report to the Australian Institute of Management’s national summit on Management skills, Hilmer (1991) identified five characteristics of effective leaders. They should have a measurable vision, the ability to communicate widely and directly, be able to continually inject new points of view, adopt an ‘indirect approach’ and get rid of ‘clutter’.

In a similar vein, Dceley (1991) has developed a fifteen-point list of qualities of a leader. Some of these qualities are interpersonal skills, ability to motivate, setting clear objectives, gaining respect from subordinates, giving regular counseling to the staff, settles differences within the team, creating the appropriate environment that is both fair and firm. According to Sarros (1992, p. 26), whatever the management style most suits our organisation, we must ensure that our leaders are proactive and empowering, rather than reactive and de-energising. This means that leaders have vision and creativity.

*Organisational awareness*

A manager who is a good leader must be aware of the happenings in the organisation. According to Robbins (1993), a manager must be aware of the organisational structure, which means the degree of complexity, formalisation and
centralisation in the organisation. A manager has also to be aware of the impact of individuals, and groups, and the internal organisational structure on behaviour within organisations, for the purpose of applying such knowledge toward improving an organization's effectiveness. It is in the second statement of Robbins that suggests an opportunity for managers to be leaders, in terms of organisational awareness.

**Motivation**

There are a number of theories on motivation. Some of the early theories of motivation are the hierarchy of needs theory, and Motivation-Hygiene Theory. The needs theory by Maslow (1954) is that needs are arranged in a hierarchy. The lowest-level needs are the physiological needs (food, shelter, pain), and the highest-level needs are the self-actualisation needs (maximum use of abilities, skills and potentials.) The Motivation-Hygiene Theory developed by Herzberg, Mausner and Snyderman (1959) consisted of two factors called the dissatisfied-satisfiers and the hygiene motivators. The theory also indicates that there is a set of extrinsic conditions, the job context, which result in dissatisfaction among employees when the conditions are not present. If these conditions are present, this does not necessarily motivate employees. Some of these conditions are salary, job security, working conditions, status and company procedures. Another set is the intrinsic conditions—the job content—when present in the job, build strong levels of motivation that can result in good performance. If these conditions are not present, they do not prove highly satisfying. Examples of some of the satisfiers or motivators are: achievement, recognition, responsibility and advancement. A managerial leader should be aware of these theories and, according to Slivinski and Forster (1999), the managers must take time to reflect on feelings of demotivation, to be persistent, to think positive and to avoid negative self-talk. However, the application of motivation theory is not easy. In order to effectively motivate workers, managerial leaders need to understand human nature, which can be simple and complex.

**Flexibility**

Leaders actively seek out ways to increase choice and provide greater decision-making authority and responsibility (Kouzes & Posner, 1997). They go on to add that 'second ranking' employees should have authority serving the customer and these people will provide more responsive service, and go the 'extra mile' for the customer, when they believe they have discretion and authority to do so. It is recommended that leaders must
recruit people who have the capacity to fill varying roles, so that their responsibilities can be fairly easily changed as business changes (Topping, 2002). It makes the organisation more flexible.

**Decisiveness**

It is not enough for a manager to have vision. He or she has to be decisive in action in order to realise that vision. It means making the right strategic investment decisions and other relevant organisational changes at the right time. According to Nanus (1992, pp.142-143), the decisions are whether to pursue the vision alone or to seek strategic alliances, the choice of goals and objectives, and having sufficient capitals (physical, human and organisational).

**Initiative.**

People are inspired by those who take initiative and who risk personal safety for the sake of a cause. Only those who act boldly in times of crises and change are going to succeed (Kouzes & Posner (1997). They add that, without courage, there can be little chance of survival in today’s highly volatile economic and social situations.

*Leading people (cultural awareness, conflict management, Integrity, honesty and trust, Team building, Problem solving, coaching, counseling and mentoring)*

There is a tendency for people to drift when they are not sure, or confused, about how they should be operating. Once they are clear about a leader’s direction, and what is expected of them, they can handle the conflicting demands of work and personal affairs. It is then up to the leader-manager to spell out clearly his or her vision and work together with the staff to achieve it.

**Cultural awareness**

An understanding of differences between cultures should be particularly valuable for those who work with or manage people, whose cultural backgrounds are different from their own Robbins (1993). Companies that seek employees who are aware of and sensitive to culture are more likely to be successful in the global village (Lussier, 2003). Managers need to flexible and adapt to other peoples’ way of behaving and we cannot expect others to change for us. “The world is undergoing cultural changes that are reshaping the relationship between employer and employee” (Lussier, p.83, 2003).
Conflict management

"Conflict management involves managing your own frame of reference, your feelings, words, wants and needs, and assisting the other person to feel respected and yet understand your position at the same time." (Anderson, 1997, p.119). Leaders will be respected if they do not put others down and are willing to solve problems and care for others.

Integrity, Honesty and Trust

Research has shown that honesty is a very important ingredient in the leader-constituent relationship (Kouzes & Posner, 1997). We all want people to be truthful, ethical and principled. We want to see the integrity of our leaders. To show honesty, integrity and trust, leaders have to be consistent in action and word. Honesty is related to values and ethics. Leaders can lose trust when they don't have these three elements. When people perceive their manager to have low credibility, they are significantly more likely to be unproductive, feeling unsupported and unappreciated and be motivated primarily by money" (Kouzes & Posner, p.27, 1997).

Team Building

Putting together a group of people to work towards a particular goal is not always easy. Very often there are unnecessary delays and friction involving employees. Team building is therefore an important skill that a leader should be able to devise, create or implement. Yukl (1986b) suggested that team building and task behaviour are critical determinants of leadership. Van Setters and Field (1990, p.41) asserted that leaders "will be effective primarily in their ability to comprehend, visualize, conceptualize, and articulate to their peers and subordinates the opportunities and threats facing the organization". The involvement of individuals and teams in everyday functions of an organisation is characteristic of team building leaders. Hitt (1993, p. 4) in his studies on The Model Leader provides a list of leadership competencies that are critical to successful leadership. One of these is team building.

Problem solving

There are many problems in the business world to day because of the changes that are happening every day. Some of the changes are now due to technical developments.
The fax machines, handphones, and other mechanical improvements have brought changes that staff have to learn to use. Advances in computing (internet, search 'engines', email) are now part of day-to-day transactions in many businesses. With new developments in the workplace, many problems have to be solved fast. Managers, as leaders, often need to be able to apply problem-solving and decision-making skills daily to solve their business problems. This is helped by courses or "hands-on" training in managing the business. Other problems might be in the areas of production, human resources and competition. Much more thought could be given to these areas. For example, in conflict resolution successful problem solving sometimes requires that conflicting groups display a willingness to work collaboratively toward an integrative solution that satisfies the needs of all concern (Ivancevich & Matteson, 1996).

Mid-level managers must always be aware of the vision of the company, the production of goods and services and the target and the strategy. According to Kouzes and Posner (1997), most of the organisations assign their best people to deal with problems to the main product line where performance is below expectations, and the old technology is not as efficient and fast as the new. Leaders may draw up a list of opportunities facing the organisation and work on these challenges to solve the problems. Managers who can solve problems creatively and intuitively may give their organisations a competitive advantage, according to Kouzes and Posner (1997).

Coaching, counselling and mentoring (educating employees)

According to Pritchard (1999), coaching, counselling and mentoring are sets of skills required by a competent leader. This means that good coaching will likely include constructive use of generation and cultural peer teams to ensure full development of a unified "team spirit". Old-fashioned counselling will probably be a mainstay of the 21st century, but there could be modifications to session conduct and content. Counselling, coaching and mentoring are needed to assist employees in overcoming blocks to performance, help in dealing with personal and work-related crises, and guidance in career planning.
It also means helping others to develop the knowledge and skills needed for achieving the vision of the organisation. In small businesses, counselling in the workplace is done by co-workers, supervisors, or owners, where the nature of the problem is not perceived to be the employee's fault, such as a tragic loss in the family, or when a marriage partner is abandoned. In large organisations, this is often done in the context of employee assistance programs, or when an employee goes to visit a psychologist during a time of distress (Anderson, 1997).

Emphasis will shift to two-way communication, and the effective leader will listen well and avoid overly restrictive formalities. New-era leaders at higher levels will have to build a solid foundation of honesty, integrity and trust to elicit the best efforts of subordinate leaders in fast changing situations (Anderson, 1997).

Building communication (technical management, interpersonal skills, influence, clarity in communication and partnering)

Building communication is an integral part of business and today, business managers have the tools to communicate quickly and efficiently. There have been many innovations in this technical area so that, if a competitor does not make use of them, the company will definitely lose out. Apart from that, the style of the manager dealing with clients and employees will reflect the performance of the company. For example, a participative management style in the organisation, may help the company to increase morale and productivity in the workplace. According to Robbins, "participation by employees increases commitment to decisions. People are less likely to undermine a decision at the time of its implementation if they shared in making that decision" (Robbins, pp. 255, 1993).

Technical Management.

Technology has played an important impact on business at the start of the 21st century according to Topping (2002). He says that technology affects many industries and the internet, for example, opens a new dimension to how business is and can be run. This is supported by Nickles, McHugh and McHugh (2002) who stressed the importance of information technology and, more importantly, how to use more efficiently the data in order to gain a competitive advantage. For example, we can use information technology to allow us to use shared documents with staff to work on common document without
time-consuming meeting. Similarly, businesspeople use knowledge technology can focus on what is important and deciding about how to react to problems and opportunities.

**Interpersonal skills**

Interpersonal skills are an important tool in the hands of a manager. The chief executive of the accounting firm of Arthur Anderson & Company puts it on a higher level of importance by saying, “Pure technical knowledge is only going to get you to a point. Beyond that, interpersonal skills become critical” (Milbank, 1990, p. 11). Hyunowitz (1988) in a study of 191 top executives in the USA provided evidence that interpersonal skills are the biggest reason for a manager’s weakness. Communication is a two-way process, because it is personal and imposing, and time consuming (Anderson, 1997). The basis of any relationship is to have good interpersonal skills. For example, a manager uses wrong words, ill- ADVISED gestures, or misunderstood meanings to the employee can lead to very unsatisfactory outcomes (Weisinger, 1998). Another example is that, a manager needs to have good interpersonal skills to resolve a conflict between two employees, otherwise he might inflame one of the employees by hearing only the other person’s side.

**Influence.**

Taylor and Rosenbach (1989) believe that power and influence are central to leadership and these two ingredients are implicit and explicit in the process of leading. They are of the opinion that influence has a power dimension. This power is used by successful managers to get things done effectively. This power of influence is carried out directly or indirectly (Kotter, 1999)

**Clarity in Communication**

Employees need visible leaders who can, will and do communicate clearly with them (Hall & Norris, 1993). This finding is the result of research into three organisations in the USA. In the study, there was a discovery that some leaders do not listen to their employees and that this was detrimental to the success of the organisations. Barr and Barr (1989) mentioned that managers should go beyond their comfort zones to communicate clearly in order to accomplish goals, and bring success to the organisations.
Partnering

Fritzhard (1999) addressed partnering as building coalitions and working cross-organisationally. According to Silvinski and Forster (1999) a manager should build a climate conducive to partnering. This will lead to cooperation between organisations and the opportunities to work jointly toward common goals. This recommendation covers working harmoniously among the peers.

Creating Best Practice (Organisation learning, occupational health and safety, organisational culture, and customer focus)

According to Worksafe Australia (1992), Best Practice refers to “those practices, which lead to superior performance in a company or enterprise relative to industry or international leaders. It is a process of continuous improvement achieved by ‘benchmarking’ practices and performance”. “The idea of benchmarking is to legally and ethically find out about other products and processes and to copy them or improve upon them” (Lussier, p.138). Some examples are now explained. For example, “Ready Lube and OIl Doctor basically resemble Jiffy Lube. Pizza Hut and Little Casears copied Domino’s delivery” (Lussier, p.138, 2003).

Organisational learning

Organisational learning has the conceptual potency to bring about organisational effectiveness in the same way that education is valued because it helps individuals to improve their knowledge, skills and efficiency. It is important for leaders to demonstrate awareness of, and acquaintance with, related areas of knowledge, thought, and understanding (Kim, 1993; Garvin, 1993) in an organisation in order for the organisation to be successful.

According to Tom Peters (1987) “the essential point about learning in the work place is that the corporation is going to become a university that can add more value than its competitors around the world. Value added through brain is, simply put, the only strategy” (Peters, 1987, p.43). The managers of to-day are facing intense pressure, brought about by the performance challenges from competition, globalisation, technology, charts, shorter cycle times, demands and others. Because of this pressure,
many leaders conclude that learning will make them plan successful business strategies (Karash, 1995).

**Occupational Health and Safety**

The auditing of accident cost are injuries, property damage, wage losses, and production losses. To minimise this, health and safety procedures have been legislated in many countries, including Australia. It was suggested by Schuler, Dowling, Smart and Huber (1993) that to improve the occupational health of the workforce, a leader is required to identify the sources of harmful conditions. Certain recommendations are mentioned, such as keeping of records of accidents and causes of time wasting, making the job more comfortable and less fatiguing, through ergonomics and the use of the safety committee.

**Organisational culture**

"Organisational culture refers to a system of shared meaning held by members that distinguishes the organisation from other organisations" (Schein, 1985, p.168). Belohlav (1990) elaborates further on corporate culture as: "The system of values, beliefs, myths, tools, and practices through which we respond to the environment. The organisational culture influences how we get things done. In some cases, it is the way we get things done.... Regardless of what it says in the employee handbooks and policy manuals. Culture tells people what is permitted and what is taboo" (Belohlav, 1990, p.11). Organisational culture provides the foundation for a strong and successful organisation. The understanding and application of organisation culture is a landmark of the successful organisation (Belohlav, 1990, p.11). Therefore, the leaders in any corporation have to operate within the culture, and take advantage of the culture, in order to make the organisation successful, according to Belohlav.

**Customer focus**

Organisations that want to improve performance and productivity must also focus on their customers in terms of service excellence. According to Mercer (1992), the essence of sound marketing is the adoption of a customer's viewpoint. This includes the influence and the process that the customer uses in his or her buying decision. This influence may be traditional, or cultural, or both. Mercer (1992) goes on to add, in the
case of industrial purchases that organisational factors and the diffusion process in all markets have to be considered.

An evaluation of the four aspects of leadership competencies.

Leaders who know more about human nature and the workplace will be able to lead employees. One of the attributes of good leaders is the awareness of the culture of the organisation, as well as the culture of the ethnic workers. Such background knowledge and empathy will also help to deal with conflict management. Integrity, honesty and trust are the values that leaders should possess. According to Kouzes and Posner (1997), without these values, confusion, stress, conflict, indecision and political rivalry will be created. Moreover, these values are becoming more important in organising teamwork. A leader who is able to persuade employees to function as a team will find productivity increasing, apart from instilling job satisfaction and comradeship. Team working will solve some of the problems that changes bring, because changes filter through to the employees, some of whom are able to find solutions under a good leader who respects the individuals within the team.

An efficient leader in an established corporation looks at the long term and prepares the employees for it. This means the leader should have the competent skills of coaching, counselling and mentoring the workers. This type of leader has to go beyond the mechanical process of production as it now entails social, intellect and human aspects of the employees. A leader’s concern is to get the maximum output from each worker in due course.

Building communication, or net-working, plays an essential part in the participation of employees in decisions in an organisation. Communication comes in many forms. To-day much is made of information technology. Though Topping (2002) and Nickels, Mchugh and Mchugh (2002) agree on the importance of information technology, they suggest that leaders have to be wary of the plethora of information that might distract the organisation from its mission. A good capable leader will analyse information that is pertinent to the company. Milbank (1990, p.31) mentions that the chief executive of Arthur Anderson company stresses that pure technical knowledge is good up to a point. Beyond that point interpersonal skills become critical, and interpersonal or people skills are the armory of a leader who wishes to build
communication. Hyrowitz (1988) has provided evidence that a lack of interpersonal skills is the biggest reason for weakness of many leaders and managers.

Taylor and Rosenbach (1987) are of the opinion that leadership influence plays an important part in building communication. In exerting this influence, the leader is able to carry out company's policy and vision. Hall and Norris (1993) support that clarity in instruction help build up communication in the workplace. With clear direction, the employees are able to understand what they have to do and as a result will perform well. Leaders in business management have to create best practice if they want their companies or firms to meet the challenges brought about by global competitions. One of the challenges is that changes are affecting organisations in various ways, such as the use of information technology. For example, the use of computers allows employees to share critical information instantly. Another example is in customer relations, whereby the customer service representatives can solve customers' problems by using a company's databases to change addresses and adjust bills. Leaders, therefore, have to study more about the impact on their companies.

Kim (1993) and Garvin (1992) believe that organisational effectiveness will depend on organisation learning which means that employers and employees have to keep up with recent changes and new technology in their workplace. One of the changes that is taking place is the emphasis on occupational health and safety. Much time and money has been lost due to the neglect of health and safety procedures within organisations. A few recommendations have been suggested by Schuler, Dowling, Smart and Huber (1993) to lessen workplace accidents, such as establishing organisation health and safety objectives, creating an all-inclusive health and safety program and introducing ongoing inspections and checks. All states in Australia have health and safety regulations (laws) and a ministry to oversee the regulations in the workforce.

An efficient leader has to operate within the organisation and culture. According to Belohav (1990) organisational culture influences how things get done. One of the best practices is customer focus. Lacking in customer focus has brought down some companies. Mercer (1992) stresses that the essence of sound marketing is the adoption of customers' viewpoint. The taste and attitude of customers are changing with time and customer needs have to be satisfied, in order for a firm to be successful.
Summary
Research has revealed many styles of leadership. The study of leadership has been categorised to traits, behaviour, contingency, transactional and transforming leadership. Theories and models have emerged and have been challenged by other researchers. In some cases there are some contradictions, which led to criticism and evolvement of new theories.

Research has identified many factors in the study of leadership. Traits of inborn leaders are revealed and there is a belief that these traits can be processed and superimposed on those who want to be leaders in their fields. This gave the idea of competency-based training. However, there is a void in two areas; emotional intelligence and the lack of greater understanding of the followers. The aspiration and attitude of the workers were not given prominence in previous studies. Previous researchers have not given enough coverage to the followers, but tend to concentrate on leaders and managers.

In some theories of leadership, certain variables are not given much prominent such as occupational health and safety issues. As the companies are expanding, more middle-level managers have to be empowered with some of the responsibilities that were reserved for the senior managers. As middle-level managers are closer to the workers and clients, they have to possess certain leadership competencies. There is a need to investigate the development of mid-level business manager leadership competencies in the present environment. There is a need to investigate the best aspects that will help to develop successful mid-level managers and leaders.

It is believed that the four main aspects that would help in leadership in mid-level management are leading change, leading people, building communication and best practice. These could have an impact on competencies in an organisation. These four aspects have not been measured together in research with middle-level managers.

The instrument to measure leadership competency effectively is likely to be different from other instruments such as the Leadership Practices Inventory and alternative second-order factor models. Other leadership training programmes use
subordinate assessments of leaders. In the assessment of behaviour leadership, the instruments used include initiation of structure and consideration, praise and other positive reward goal setting, and problem solving (Yukl & Van Fleet, 1992). But such instruments only focus on specific behavioural dimensions. Bass (1990) proposed the use of broader conceptualisations of leadership behaviour. Most of the above instruments hardly touch on the phenomena of changes that are taking place in the present economy. There is a need to include the aspect of change in any new measure of leadership. Finally, there is a need to make a proper linear measure of leadership competency, since there is none in the literature. A linear measure, based on a model, has the advantage that it quantifies the different difficulties of the various aspects of leadership competency and allows one to say what highly competent leaders can do and what poorly competent leaders cannot do.

The next chapter describes the theoretical framework of this study.
CHAPTER THREE

THEORETICAL FRAMEWORK

The purpose of this chapter is to outline the model and the theoretical framework that gave some direction to the conduct of this study of self-reported middle-managerial leadership competencies. First, a model of leadership competency is proposed. Second, Ajzen and Fishbein’s (1980) Theory of Reasoned Action, Ajzen and Madden’s (1986) model of planned behaviour are integrated and explained in relation to leadership competencies. Third, the model of the measure of the four competency aspects is explained. Fourth, the rationale for the interviews is given.

Theory of Reasoned Action and Theory of Planned Behaviour applied to leadership competencies

The theoretical framework for this research involves managers’ perceptions and behaviour in the context of reasoned actions and planned behaviour. Their perceptions are conceptualised as based on their ideal self-views of four main aspects of leadership, namely, leading, managing, communicating, and best practice. Their ideal self-views are related to their capability self-views of the four aspects, and both their ideal and capability self-views influence their behaviour (competency) in leading, managing, communicating and implementing best practice.

Managers’ leadership competencies, involving these perceptions and behaviour are based partly on the theory of reasoned action (Ajzen, 1989; Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975) and partly on the theory of planned behaviour (Ajzen & Madden, 1986). The model assumes that behaviour is influenced by a person’s self-belief in his or her behavioural intention. This is conceptualised as a conscious and reasoned thought leading to action. In turn, intention is determined by two major components, one personal (attitude related to the behaviour) and the other social (subjective norms or capabilities) related to the behaviour. The theory suggests that a person’s attitudes are his
or her own, and that his or her dispositional domain will be influenced by the degree to which experience with the attitude object has been integrated or differentiated, so that a reasoned behaviour results. For example, a manager’s attitude and behaviour in the decision making process depends on his or her knowledge, experience, motive, and the ability to recall, and interpret information in managing and leading the organisation. In the light of the researcher’s experience in dealing with a number of middle-level managers, the research found that some managers are not efficient in leading their organisations, as they do not take into account other impinging factors on international markets. In the Australian beef markets where Japan is not one of the main buyers, tariffs have been implemented to safeguard the Japanese beef industry thus affecting the beef industry in Australia by cutting down production. Another example is in the area of communication. The researcher in his work encountered some middle-level managers who just pick up the telephone and gave strong verbal complaints to their workers without hearing the employees’ side of the story. This resulted in the lowering of staff morale and respect for the manager in the company. Without the ability to communicate, a manager or leader cannot effectively cast his vision and call his people to act on that vision. How a manager approaches staff when there are problems can make a difference to staff relationships and morale.

According to Fishbein and Ajzen (1975) and Ajzen (1989), attitudes are not merely related to beliefs, they are a function of them; that is, belief has a causal effect on attitudes, such that each belief about an object links to a certain attribute. This attribute could be overall feelings and emotion, or it could be a self-view of one’s capability. This means that one’s leadership behaviours are influenced by one’s ideal views (or norms) and one’s self-capability views, and this is part of the model that is tested in this study.

Ajzen’s (1989) model is depicted in figure 3.1. For the purposes of the present study, this model is simplified and reduced to ideal self-views and capability self-views that influence leadership behaviours. The ideal views (or norms) are expected to be easy to hold at a high level. There is a natural attribute of human nature to aim for a high moral, or achievement, level. One’s capability views are expected to be harder to hold at a high level because we don’t all have the same natural talents to achieve at a high level. Behaviours are expected to be harder to achieve at a high level because they depend on
our experience and cognition, and because it takes more effort to actually do things (that is, behave in a certain way) than it does to just think about what one can do.

![Updated model of attitude structure](image)

**Figure 3.1: Updated model of attitude structure**

Source: Ajzen, 1989

### Structure of Leadership Competency

A complete understanding of self-reported mid-level leadership competencies is likely to be complex. It will be difficult to understand fully all the aspects of leadership competencies and their inter-relationships. However, it is possible to simplify the problem by building a theoretical structure in which only the most important competencies are used. The main leadership competencies are shown in Figure 3.2. This simplified structure can give direction to research in regard to the collection of data and provide guidelines for analysing and interpreting those data.
The structure developed for this study is proposed as a general leadership competency structure applying to the mining, manufacturing, retailing and service areas of business. In creating this structure, it was necessary to assume that there are fundamental generalisations common to all leadership competencies in retail, manufacturing, mining and service industries. These generalisations are embodied in the structure. When the structure is applied to a specific case of leadership competencies, such as mid-level business managers, the generalisations can be tested.

The model, which underpins this research, is based on three models of the change process. The three models are: (1) Kotter's (1995) Strategic Model for Transforming Organisations, (2) Jick's (1991a) ten-steps for implementing change and (3) the General Electric (GE) change model (Garvin, 2000). The first model is Kotter's (1995) eight-step model for transforming organisations. Kotter's model was developed after a study of over 100 organisations varying in size and industry type. After learning that the majority of major change efforts failed, Kotter couched his model as a way of avoiding major errors in the change process. It is best viewed as a vision for the change process. The eight steps are: (1) Establish senses of urgency, (2) Form a powerful guiding coalition, (3) Create a vision, (4) Communicate the vision, (5) Empower others to act the vision, (6) Plan for creating short-term wins, (7) Consolidate improvements to produce more changes and (8) Institutionalize new approaches.

The second is Jick's (1991a) model to guide the implementation of major organisational change. His ten-step approach serves as a blue print for organisations embarking on the change process as well as a way to evaluate a change effort already in progress. Jick states that how a manager implements change is as important as what the change is. How well one does in implementing a particular change depends ultimately on the nature of the change, on how sensitive the implementers are to the voices in the organisation, and on the recognition that change is a continuous, not a discrete process. His ten steps are: (1) Analyse the organisation and its need for change, (2) Create a shared vision and common direction, (3) Separate from the past, (4) Create a sense of urgency, (5) Support a strong leader role, (6) Line up political sponsorship, (7) Craft an implementation plan, (8) Develop enabling structures, (9) Communicate, involve people and be honest and (10) Reinforce and Institutionalise the change.
The General Electric (GE)'s change model (Garvin, 2000) used a seven step change acceleration process. It involves a notion of unfreezing, movement and refreezing as the essential components of the change process. The model focuses on the leader's role in creating urgency for the change, crafting and communicating the vision, leading change, measuring the progress of change along several dimensions, and institutionalising the change. These seven-step change includes, (1) Leader behaviour, (2) Creating a shared need, (3) Sharing a vision, (4) Mobilising commitment, (5) Making change last, (6) Monitoring progress and (7) Changing system structures.

These three models of the change process are considered as a mind map. Mind mapping is a creativity and productivity enhancing technique that can improve the learning efficiency and capability of individuals and organisations (Buzan, 1989; Ment, Jones & Dimadorfer, 2000). Since leadership is about change, the three models of the change process as described above are applicable to leadership competency in terms of how to implementing change in the organisation, and improving the efficiency of the leaders. The three models are also useful to serve as a guide for leadership competency training purposes.

From these three models of change process, the author created four main aspects of leadership competencies and these are depicted in figure 3.2. The four aspects are leading change, managing staff, building communication, and implementing best practice. These four aspects came about as a result of the literature review and from the three models, which has been identified as central to the phenomenon in leadership competency. These are now explained.

The first aspect Leading Change relates to business managers’ leading and changing skills, which help lead the business organisation in future directions and implement improvements and changes. Leading change is conceptualised as involving the development of perceptions and the implementation of vision, creativity, organisation awareness, flexibility, decisiveness and initiative. They are conceptualised as important to mid-level business managers self-view of their leadership competencies, and some examples help to explain why. For example, the middle-level manager should give
some flexibility to the staff to make quick decisions regarding price structure within a
given price range for discount in a retail sales business. In manufacturing and mining,
middle-level managers should encourage staff to take initiative to increase efficiency and
productivity.

The second aspect of Leadership Competencies relates to Managing. Managing is
conceptualised as involving the development of perceptions and the implementation of
management, integrity, honesty, trust, team building, problem solving, coaching,
mentoring and counseling. Leadership skills in these areas are conceptualised as helping
middle managers to motivate workers, make good decisions and help the workers
personal development in the organisation are some examples relating to business
leadership. For example, some workers are paid according to piecework rather than time.
The more they produce the more they get. Another example is to send workers for in-
service (personal development) courses to improve their skills.

The third aspect of Leadership Competencies is Building Communication. Good
communication with staff and other business organisations promotes good relationships,
and opens up more worker co-operation so that work can be done more efficiently. Good
communication is conceptualised as involving the development of interpersonal skills,
technical management, influence, and partnering and written communication. For
example, team spirit should be encouraged rather than individual effort, although
individual effort can be important too. Another example is for the organisation to
organise social events for employees so that they can come together to build up good
working relationships.

The fourth aspect is Best Practice. With Best Practice being introduced to the
organisation, it is conceptualised that greater health and safety can be assured and it is
likely that customers will receive quality products and service. Best practice is
conceptualised as involving the development and implementation of continuous learning,
customer focus, organisation culture and occupational health and safety.
1. LEADS CHANGE
   - Is able to give directions
   - Is able to give advice and suggestions
   - Has the ability to implement changes

2. MANAGING
   - Has the ability to set targets
   - Is creative
   - Has problem solving skills
   - Is decisive
   - Able to adapt and implementing changes
   - Able to make good decisions

3. BUILDS COMMUNICATION
   - Has effective communication skills
   - Able to communicate with staff about work problems

4. CREATING BEST PRACTICE
   - Has coaching, counselling and mentoring skills
   - Able to evaluate staff and provide best practice methods
   - Has the ability to focus on customer needs and wants
   - Is able to help staff to implement a focus on customers

Figure 3.2 The proposed four main aspects of leadership competencies for mid-level managers.
Source: Developed from the literature by Philip Teo (2002)

The model of leadership competency is shown in figure 3.3. The model is based partly on Fishbein and Ajzen (1975) and Ajzen (1989) theory of reasoned action. Briefly, the model assumes that behaviour is influenced by a person's self-belief in his or her behavioural intention and that belief has a causal effect on attitudes. In this study, the model of leadership competency is simplified and reduced to ideal self-views, capability self-views and behavioural self-views.
The ideal self-views are expected to be easy to hold at a higher level, harder to be capable of holding at a high level and harder still to actually achieve behaviourally at a high level. The natural attribute of human nature is to aim for a high moral or achievement, level. So the ideal perspective is expected to be high. The capability perspective is expected to be harder because we don’t all have the same natural talents. Similarly, the actual perspective is expected to be harder still because behaviour (competency) involves actually doing things successfully rather than just thinking about what can and should be done.

<table>
<thead>
<tr>
<th>ASPECTS OF LEADERSHIP COMPETENCY</th>
<th>IDEAL SELF-VIEW</th>
<th>CAPABILITY SELF VIEW</th>
<th>BEHAVIOURAL SELF VIEW</th>
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<tr>
<td>LEADS CHANGE</td>
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<td>BUILDS COMMUNICATION</td>
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<tr>
<td>CREATING BEST PRACTICE</td>
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*Figure 3.3 The proposed structure (model) of leadership competencies to be tested.*
Source: Developed from the literature by Philip Teo (2002)

Note: 1. Aspects of Leadership Competency are conceptualised from easy (lead change) to hard (creating best practice).
2. Perspectives of Leadership Competency are conceptualised from easy (ideal self-view) to hard (behavioural self-view).
It was expected that the structure of the four leadership competency aspects will be ordered from easy to hard with Leading being the easiest, followed by Managing (harder, but still easy), Communicating (harder still) and Best Practice (hardest). Leading is expected to be easiest, because many leaders find it easy to take charge and tell employees what should be done. Managing is expected to be harder, but still relatively easy, because managing involves leading and more. It involves setting targets, being creative in managing different employees with different characteristics, and being able to make good decisions in many circumstances. Communication is expected to be hard, as effective communication involves factors such as verbal and listening skills (in addition to managing) which are harder to acquire. Best Practice is expected to be hardest, as focusing on customers require more complex skills, such as interpersonal and emotional intelligence aspects that cannot be easily taught and attained.

The Rationale for interviews

In order to gain further insights and understand more about managerial self-reported leadership competencies, it was planned that interviews would be conducted with a number of middle-level managers. A structured interview was developed from the questionnaire, and it was designed to uncover some information about the actions and thoughts that make up leadership competencies. The aims of the interview are: (1) to obtain specific information regarding the managers' thinking about leadership competencies and (2) to obtain information about what they were thinking when they answered questions on the four aspects (leading, managing, communicating and best practice) in the questionnaire.

Qualitative research meets quite different objectives from quantitative research, and provides a distinctive kind of information (Bryman, & Burgess, 1999). In this study, the qualitative objective is to understand the reasoning and thinking of middle-level managers when they answered the questionnaire. It also helps understanding middle-level Manager's experience in relation to business. The quantitative objective is to create a linear measure in which the item difficulties are ordered from easy to hard and calibrated on the same scale as the competency measures from low to high, so that equal differences between numbers on the scale represent equal amounts of competency.
Maykut and Morehouse (1994, p3) argue that “qualitative research is based on a
phenomenological position while quantitative research is based on a positivist position”.
Patton (1990) points out that qualitative research attempts to understand the meaning that
events have for persons being studied. The interview section was Important to the present
study, as attempts were being made to understand middle managers’ perceptions,
attitudes and behaviours in relation to leadership competencies. It was also
important to help the researcher examines the factors that underlie their leadership
perceptions, attitudes and behaviours.

Creswell (1994) referred to the “mixed methodology design” and stated that by
using both qualitative and quantitative methods of data collection, a concept can be better
understood, or explored, than if only one of the methods is employed. Thus, the
combination of both qualitative and quantitative approaches in studying leadership
competencies is appropriate for this study. In this case, it is expected that the concept of
leadership competencies can be better understood. This leads to the interview questions
for leadership.

Questions 1 and 2 on leading and directing were: Why did you provide these
answers on leading and directing? Can you explain what you are thinking? Can you explain how you lead and direct your staff?

Questions 3 and 4 on changing and leading were: Why did you provide these
(questionnaire) answers on changing and leading? Can you explain what you are thinking? Can you explain how you led a major change at your work recently?

These interview questions were asked to the middle-level managers to provide the
researcher with clearer perceptions of middle managers’ attitudes and behaviours toward
the four aspects of leadership competencies. The questions also provide the opportunity
for the middle-level managers to justify their responses and to provide extended answers
to the questions they have answered. The responses from the managers will help the
researcher to gauge the actual implementation of the four aspects of leadership
competency in their work place, and understand what the managers were thinking.
The same question formats were asked on the other sub-groups for managing, communication and creating best practice. These four parts of the model (leading, managing, communicating and best practice) were used to test the following six research expectations. These research expectations can be tested with a Rasch Measurement Model (but not with True Score theory).

Research expectation 1:

That middle-level managers' self-views on leadership competencies (leading change, building communication, managing and creating best practice) involving ideal, capability and real perspectives can be modeled and aligned on a scale from low to high using a Rasch Measurement Model.

Research expectation 2:

That the difficulties of the items relating to leadership competencies be aligned from easy to hard on the same scale as the leadership measures from low to high.

Research expectation 3:

In the aspect of leading change, it is expected that middle-level managers will find the ideal perspective easier to answer than the capability perspective, which in turn will be easier than the actual perspective.

Research expectation 4:

In the aspect of managing, it is expected that middle-level managers will find the ideal perspective easier to answer than the capability perspective, which in turn is easier than the actual perspective.

Research expectation 5:

In the aspect of building communication, it is expected that middle-level managers will find the ideal perspective easier to answer than the capability, which in turn is easier than the actual perspective.
Research expectation 6:

In the aspect of creating best practice, it is expected that middle-level managers will find the ideal perspective easier to answer than the capability, which in turn is easier than the actual perspective.

Summary

This chapter includes the major theoretical framework and philosophical assumptions that underpin this study. Ajzen and Fishbein's (1980) theory of reasoned action and Ajzen and Madden’s (1986) theory of planned behaviour were integrated into a theoretical perspective to this study, with particular reference to the four aspects of a leadership competency model. It is proposed that the four aspects of leadership competencies (leading, managing, communication and best practice) play an important role in the middle-level managers' self-view of leadership and that their ideal self-views and their capability self-views influence their behaviour in each of the four aspects. It was assumed that if middle-level managers have these four important aspects of leadership competencies, they were considered to be capable and competent managers.

A rationale for the interviews was proposed. It was assumed that more detailed information could emerge as a result of the interviews to complement the information obtained from the questionnaire and the creation of a linear scale of Leadership Competency. In the last section of this chapter, six research expectations were created to be tested in this study, and it is proposed that ideal self-views and capability self-views influence behaviour (competency) in each of the four aspects.

The next chapter discusses the measurement related to managerial leadership and the instrument used for measuring leadership competencies.
CHAPTER FOUR

QUESTIONNAIRE, MEASUREMENT, AND INTERVIEW

This chapter begins with a description of the new leadership competency questionnaire for middle-level managers and the model of the questionnaire used in this study. Background to the measurement of leadership competencies is then provided, followed by an explanation on the interpretation of a Rasch measurement model, in order to create a new leadership competency scale. The interview questions and the reasons for their use are then explained.

Questionnaire: Self-reported leadership competencies

A self-reported survey questionnaire was developed to assess leadership competencies of middle-level managers. The survey questionnaire is made up of two sections. Section A contains 27 stem-items on the four main aspects of managerial leadership competencies: Leading, Managing, Communicating and Best Practice (see Figure 4.1). Leading is defined in terms of leading and directing (3 items), and changing and leading (3 items). Managing is defined in terms of meeting targets (3 items), creativity (3 items), and adaptability (3 items). Communication is defined in terms of decision-making (3 items) and communicating (3 items). Best Practice is defined in terms of mentoring (3 items), and customer focus (3 items). Each item is answered in three perspectives: Ideally, this is what I think should happen, this is what I think I am capable of, and this is what I actually do with my staff. This makes an effective item sample of 27 x3, equal to 81 items. Section B contains two open-ended questions about what the managers think are the most important aspects to their business and why these aspects are important to their business.
Questionnaire on leadership competencies

Directions: Please rate the 27 items according to the following three perspectives and place a number corresponding to ideally, this is what I think should happen. This is what I think I’m capable of having my staff do, and This is what I actually do with my staff. On the appropriate line opposite each statement.

All the time or nearly all the time put 4
Most of the time put 3
Some of the time put 2
None of the time put 1

Example Item 2 (Items 4-6)

If you think your staff listen to you and consult you nearly all the time, put 4; if you think that you are capable of getting your staff to listen to you and consult with you most of the time, put 3; and if your staff actually listen to you and consult with you some of the time, put 2.

<table>
<thead>
<tr>
<th>Item 4-6</th>
<th>Sub-group: Leading (18 Items)</th>
<th>Leading and directing</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. 1-3</td>
<td>Staff look to me for directions</td>
<td></td>
</tr>
<tr>
<td>2. 4-6</td>
<td>Staff listen to me and consult me for advice on work problems</td>
<td></td>
</tr>
<tr>
<td>3. 7-9</td>
<td>Staff consult me for work advice and then get the work done quickly and efficiently.</td>
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</tbody>
</table>

Sub-group: Managing (27 Items)

Meeting Targets

7. 19-21 Staff understand the targets set by the company management.
8. 22-24 Staff understand the targets and work with me to achieve these targets.
9. 25-27 Staff anticipate certain problems and work with me to achieve these targets.

Creativity

10. 28-30 Staff understand the competitiveness in our business place.
11. 31-33 Staff show me how we can be creative and more competitive in our business.
12. 34-36 Work with staff to implement innovative practices and make the business more competitive.
<table>
<thead>
<tr>
<th>Item nos.</th>
<th>Item wording</th>
<th>Ideally, this is what I think should happen</th>
<th>This is what I think I am capable of</th>
<th>This is what I actually do with my staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>13, 37-39</td>
<td>Make decisions in the best interests of my company rather than my staff.</td>
<td></td>
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<tr>
<td>14, 40-42</td>
<td>Adapt my decisions whenever the situation requires this, for the best interests of the company.</td>
<td></td>
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<tr>
<td>15, 43-45</td>
<td>Think, adapt and implement decisions to keep the company competitive in the marketplace.</td>
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<tr>
<td><strong>Sub-Group: Communication (18 Items)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Decision-making</strong></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>16, 46-48</td>
<td>Make decisions in the best interests of my company rather than my staff.</td>
<td></td>
<td></td>
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<tr>
<td>17, 49-51</td>
<td>Make decisions after consulting with staff and then convey the decisions to staff for implementation.</td>
<td></td>
<td></td>
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<tr>
<td>18, 52-54</td>
<td>Convey decisions to staff and then work with staff to implement them successfully.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Communicating</strong></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>19, 55-57</td>
<td>Available to talk to staff about work problems.</td>
<td></td>
<td></td>
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<tr>
<td>20, 58-60</td>
<td>Talk to staff and communicate in other ways with staff about work problems.</td>
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<tr>
<td>21, 61-63</td>
<td>Communicates with staff on work problems and provides follow-up communication after implementation.</td>
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<tr>
<td><strong>Sub-Group: Best Practice</strong></td>
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<tr>
<td><strong>Mentoring</strong></td>
<td></td>
<td></td>
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<tr>
<td>22, 64-66</td>
<td>Available to be a mentor to prospective good workers.</td>
<td></td>
<td></td>
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<tr>
<td>23, 67-69</td>
<td>Available to mentor good workers and counsel other workers for implementing best practice.</td>
<td></td>
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<tr>
<td>24, 70-72</td>
<td>Evaluate staff and best practice methods to ensure the company is up-to-date with best practice</td>
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<tr>
<td><strong>Customer Focus</strong></td>
<td></td>
<td></td>
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<tr>
<td>25, 73-75</td>
<td>Have a strong focus on customer needs and wants.</td>
<td></td>
<td></td>
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<tr>
<td>26, 76-78</td>
<td>Have a strong focus on customer satisfaction and help staff to focus on customers.</td>
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<tr>
<td>27, 79-81</td>
<td>Help staff to implement a focus on customer satisfaction and best business practice to keep competitive.</td>
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</table>

**Figure 4.1 Questionnaire for leadership competencies**  
(Devised by Philip Teo for this study, based on the literature)
Open-ended questions.

In the second part of the questionnaire, there were two open-ended questions. These questions were asked to seek further information about middle-level managers' experiences and views with regard to leadership competencies. The open-ended questions were:
1. What are the most important leadership aspects in your business?
2. Why are these aspects important to your business? Please say what your business does.

Model of the questionnaire

The questionnaire of Leadership Competencies in Middle Level Management was created using ordered-by-difficulty items for each aspect of leadership, where the items were answered in three perspectives ordered-by-difficulty (ideally, this is what I think should be happening, this is what I think I am capable of doing, and this is what I actually do with my staff), and an ordered set of subject response categories (none or rarely, some of the time, most of the time, all the time). The ideal perspective is expected to be easiest, the capability perspective harder, and the actual perspective is expected to be hardest, because it involves actually doing something rather than just thinking about it.

The model of Leadership Competencies is based on four main, but simple ideas, that when integrated would help explain a complicated situation of Leadership Competencies for middle level managers. The first involves the creation of a structure based on four main aspects of Leadership Competencies (Leading, Managing, Communicating and Best Practice), with each aspect composed of a number of sub-aspects. The second involved creating stem-items in an ordered pattern by difficulties, within each sub-aspect. The structure of Leadership Competencies in middle level management was then based on sub-sets of stem-items in patterns of ordered difficulty each aligned from easy to hard. The third involved an ordered set of perspectives from easy to hard for each of the stem-items. The fourth involved calibrating all the item difficulties from easy to hard onto the same scale of Leadership Competencies from low to high, using a Rasch Measurement Model (see Waugh, 2001; Waugh, Teck & Islam, 1999; Waugh, 1999).
Sub-group: Leading

It was expected that most middle level managers would find it easy to say that ideally, they think that staff are looking to them for directions (stem-item 1) every time and that there would be some variation in responses around this. It was expected that managers would find it harder to say that ideally, staff listen to them and consult them for advice on work problems (stem-item 2) every time and that there would be some variation around this. It was expected that they would find it harder still to say that ideally, staff consult them for work advice and then get the work done quickly and efficiently (stem-item 3), and that there would be some variation around this. So it was expected that these three stem-items would form an ordered pattern of responses by difficulty on average, from easy to hard, when managers reported that this is ideally what they should do with their staff. That is, there is a vertical ordering of stem-items by difficulty in the questionnaire from easy to hard when we read from top to bottom vertically (items). In other words, we expect to find the easy items at the top of each sub-group increasing to hard and harder items towards the bottom of each sub-group.

It was expected that perspective 1 would be easier than perspective 2 which would be easier than perspective 3, as the perspectives were framed in such a way that this was a logical and consistent sequence by difficulty. The ideal perspective was expected to be easy to hold at a high level. It is a natural attribute of human nature to aim for a high moral ground or achievement level. The capability perspective was expected to be harder to hold at a high level because we don’t all have the same natural talents to achieve at a high level. The behaviour perspective was expected to be harder to achieve at a high level because behaviour depends on our experience and cognition and, it is just harder to exert oneself to behave in a certain way, than it is to just think about it.
The response format was clearly ordered from none of the time to some of the time, to most of the time and nearly all the time. So the questionnaire items and perspectives are set up in such a way that, theoretically, the item difficulties are ordered from easy to hard vertically and easy to hard horizontally, within each sub-group. When the item difficulties are measured on the same linear scale using a Rasch measurement model (described later), this theoretical model of the item difficulties can be tested.

**Expected ordering by difficulty pattern for the other sub-groups (managing, communicating, best practice)**

The expected ordering by difficulty patterns for the other sub-groups of stem-items and perspectives in the questionnaire follow a similar line to that reported above and are not reported here to avoid repetition and save space. A reader can easily work out the expected patterns of the order of the difficulties of stem-items and the perspectives from the questionnaire (see figure 4.1). In the questionnaire, the stem-items are placed in order from easy to hard in each sub-group and the perspectives are placed in order from easy to hard across the top of the questionnaire. As stated before, this theoretical pattern of ordering of item difficulties can be tested using a Rasch-created linear scale.

**Measurement**

Measurement can be viewed as a process in which numbers are used to link concepts on a continuum (Punch, 1998), but this has to be done in special way where measures go from low to high on the continuum, and equal differences between numbers on the continuum represent equal amounts of the measure. Traditionally, the most common means of measuring attitudes have been based on classical test theory with the use of Thurstone (1974) and Likert scales (1932). However, it is now recognised that these methods have deficiencies and that latent trait theory, also referred to as item response theory, in conjunction with Rasch modeling is a more desirable model for measurement (Andrich, 1982; Hambleton & Swaminathan, 1985; Molenar, 1995). The reasons for this are now explained.
Requirements for measurement

The attempt to obtain formal measurements through the use of measurement models should lead to a "greater understanding of the variable or trait in question" (Andrich, 1997, p.878). Andrich (1989) described five basic requirements for measuring social variables. The first centred on the notion of 'unidimensionality' and a continuum. In order to measure a trait, it must be possible to make such comparisons as there being 'more' or 'less' of the trait. Therefore, a method is required that allows the difficulty of the items that measure the trait to be calibrated, and the people measures of the trait to be calibrated on the same linear continuum, thus forming a scale, which conveys meaningful measurement in which equal difficulties between the numbers on the scale represent equal amounts of the trait being measured.

The second requirement was based on the need for formalising measurement with the use of statistical models. The use of statistical models means that differences between item and person parameters can be determined and checks made on the consistency of the estimates, thus providing internal consistency for the data of the scale. In modern measurement, one talks about the data being valid and reliable, not the scale being valid and reliable.

The third requirement for measurement was related to the consistency of item locations (difficulties) on the continuum. 'Additivity' must be met by the item locations (difficulties) whereby each item must hold a determined scale value (equal distances between locations) in relation to other items, or it is rejected. Item locations should also be invariant across groups of people.

The fourth requirement for measurement was that the same measures, or scale values, can be obtained regardless of which items are used to estimate the measures and regardless of which individuals were used to calibrate the items. In particular, the attitudes or opinions of those who constructed the scale should not affect the item measures.
The fifth requirement of measurement suggested by Andrich was that data must fit the criteria or requirements (ultimately contained within a measurement model like Rasch) in order for valid measurement to occur.

One family of measurement models, based on Item Response Theory and satisfying the requirement of measurement, as suggested by Andrich (1989), is the Rasch models which have been hailed to be "simple" yet "very powerful" models of measurement (Hambleton & Swaminathan, 1985, p.4). It has also been noted that Rasch models incorporate the best elements of the Thurstone and Likert approaches (Andrich, 1982; Wright & Stone, 1997). The original Rasch model developed by Danish mathematician George Rasch in the 1950s was the Simple Logistic Model (Rasch, 1980/1960) which was used to analyse dichotomous responses (Anderson, 1995; Andrich, 1988b). This Simple Logistic Model was the first measurement model in the social sciences to satisfy the previously stated requirements of measurement. Central to the notion of objective measurement in Rasch models, also termed specific objectivity or sample independent measures (Andrich 1988b; Douglas, 1982; Wright & Masters, 1982), is that both item difficulties and person measures can be calibrated on the same scale. That is, differences between pairs of person measures and differences between pairs of item difficulties are expected to be sample independent, which is a requirement of measurement. Further material on Rasch measurement is given later in this chapter.

Item response theory

Item Response Theory is based on the notion of the relationship between the observable responses to test items and the unobservable traits assumed to underlie responses of items on a test. A mathematical formula is used to describe this relationship (Hambleton & Swaminathan, 1985; Rasch, 1980/1960) and is the foundation of the Rasch measurement model.

According to Lai & Griffin (2001) an item response model postulated that a response to an item is determined by a latent, unobserved variable measured on a continuous scale. Each person j has a value θ_j, called the ability parameter on this scale. Each item i also has a value, δ_i, called the difficulty parameter along the same scale. Both θ_j and δ_i are measured in the same units. In the simplest form, the model postulates the probability, P, for the person j to elicit a correct response to the item i as a
function of the difference between the measure of the person's ability and the item's difficulty ($\theta_j - \delta_i$). Mathematically, it is expressed as

$$p = f(\theta_j - \delta_i);$$

where $f$ is a monotonically increasing function of $\theta_j - \delta_i$. In simple Rasch model (Rasch, 1960), $f$ is the logistic cumulative function

$$f(\theta_j - \delta_i) = \frac{\exp(\theta_j - \delta_i)}{1 + \exp(\theta_j - \delta_i)}.$$ 

In this setting, inferential procedures in statistics, such as those dealing with the estimation of parameters and testing hypotheses, can be applied to assess individual differences in ability.

Item response theory makes assumptions about a person's behaviour when responding to questionnaire items. For example, it is possible to describe an item independently of any sample of people who might respond to the item. Second, it is possible to characterise a person independently of any sample of questions administered to the person and, third, it is possible to predict properties of a test in advance. Item response theory assumes that it is possible to describe mathematically the relationship between a person's trait level and their performance on a test item (Keeves, 1997, p.836).

In the present study, a manager’s ideal perspective and a capability perspective are not observable. Their existence is inferred from their self-reported answers to the questionnaire items and their link to the managers’ self-reported behaviours.

Rasch measurement

The Simple Logistic Model of Rasch, the original and simplest form of item response theory, was developed by Danish mathematician George Rasch (1960/1980; Andrich, 1978a, p.451; p.561; Griffin & Nix, 1991, p.90; McArthur, 1987, p.111). A basic requirement central to a Rasch model of item response theory is that of specific objectivity, which means that the difference between person abilities on the scale is independent of the difficulties of the items, and the difference between item difficulties is independent of abilities of the persons. This ordering permits a parameterization of people and tasks that fits the Simple Logistic Model of Rasch (Andrich, 1978b, p.561;
Rasch's (1960/1980) Simple Logistic Model is used where dichotomous responses are required, that is, answers are right or wrong, yes or no. Andrich (1988a, p.635) extended this model to allow for polytomous, or partial credit responses, and it is Andrich's (1988a) Extended Logistic Model that is used in the present study. Both Rasch's (1960/1980) model and Andrich's (1988a) Extended Logistic Model are one parameter models, which means that neither a guessing factor, nor a discrimination parameter is included.

An implication of the basic requirement of the model is equality of discrimination; that is, the ordering of the items in terms of difficulty must be the same for persons of lower ability as for persons of higher ability. Unidimensionally is also a consequence of the basic requirement (Andrich, 1978b, p.562; McArthur, 1987, p.112). This means that, in order to represent the interaction of person and task, a unidimensional test measures only a single trait or ability. According to Andrich (1989, p.14), these specifications for the Rasch (1980) model should no longer be referred to as assumptions as they are, in fact, requirements for the data to produce measurements and not assumptions about the model.

If data conform to the measurement model, it is possible to use different overlapping sets of questions with different groups of middle-level managers, or to delete questions which are problematic in some tests, while retaining them in others without compromising the comparability of middle-level managers measures (Masters, 1994, p.1; Honeyman, 1996, p.3).

The Extended Logistic Model of Rasch

The Extended Logistic Model of Rasch (Andrich, 1988a) was used to derive a scale based on the 81 items of leadership competencies. The scale is based on the log odds (called logits) of middle-level managers' responses to the items. The items are ordered along the scale at interval measurement level from easiest (that is, those with negative logit values), to most difficult (that is, those with positive logit values). The Rasch method produces scale-free person ability measures and sample-free item difficulty measures (Andrich, 1988b; Wright & Masters, 1982). This means that the differences between middle-level managers leadership competency measures and item
difficulties are expected to be sample independent. Thresholds are conceptualised as a set of boundaries between response categories and indicate the change in odds (1:1) of a response occurring in two adjacent categories. The threshold values are calculated in logits. When the data fit the measurement model, the thresholds are ordered in correspondence with the ordering of the response categories.

In this study, the thresholds between none of the time and some of the time should be lowest, the thresholds between some of the time and most of the time should be higher, and the thresholds between most of the time and all the time should be highest for each item.

In order to obtain a measure on a ratio scale, there must be a zero point from which to start counting. However, an absolute zero on a scale of leadership competency is essentially beyond definition and, in practice, zero is often a convenient reference point (Wright & Masters, 1982). In the present study, there is no true zero point, as there is no item that represents zero managerial leadership competencies in middle management. Zero on the scale in the present study is the mean of the item difficulties, calibrated to be zero. The RUMM (Rasch Unidimensional Measurement Models) 2010 program (Andrich, Sheridan, Lye & Luo, 2000) estimates parameters to derive an ordered threshold structure, in line with the ordered response categories of the items. Within a four category response set (as in the present study), there are three thresholds, or boundaries, and it is necessary for these to be aligned with the order of the response categories if there is to be satisfactory discrimination or differentiation between leadership competency measures. The three thresholds (three item parameters) are location or difficulties ($\delta$), scale ($\theta$) and skewness ($\eta$). The location specifies the average difficulties of the item on the measurement continuum. The scale defines the unit of measurement for the item and ideally, all items constituting the measure should have the same scale value. The skewness specifies the degree of modality associated with the responses across the item categories. A fourth parameter, kurtosis ($\psi$) can be added if there are five response categories.
The model takes the general form below:

\[ \Pr \{ X=x; \beta_n, \delta, \tau_{ki} \} = \exp \left\{ x(\beta_n - \delta_i) - \sum_{k=1}^{m} \tau_{ki} \right\} / \gamma_{ni} \]

where:

1. Person \( n \) with attitude/behaviour \( \beta_n \) responds to item \( i \) of difficulty \( \delta_i \);

2. There are \( m \) ordered thresholds \( \tau_{ki} \) for \( k=1, \ldots, m \) on the measurement scale;

3. the score \( x \in \{0,1,2,\ldots,m\} \);

4. The normalising factor is

\[ \gamma_{ni} = 1 + \sum_{k=1}^{m} \left\{ \exp k(\beta_n - \delta_i) - \sum_{j=1}^{k} \tau_{ji} \right\}; \]

5. The constraints \( \sum_{j=1}^{m} \tau_{ji} = 0.0 \) and \( \sum_{k=1}^{m} \tau_{ki} = 0.0 \) are imposed;

6. The category coefficient for score \( x \) is defined as

\[ k_{xi} = - \sum_{k=1}^{x} \tau_{ki} \text{ with } k_{x0} = 0. \]

The re-parameterization of the thresholds takes the general form:

\[ \Pr \{ x; \beta, \delta, \theta, \eta, \psi \} = 1/\gamma \exp \left\{ -x \delta + x(m-x)\theta + x(m-x)(2x-m)\eta + x(m-x)(5x^2 - 5xm + m^2 + 1)\psi \right\} + x\beta \]

The unit of measure used to calculate the item difficulties and measures of managerial leadership competencies is called the logit, which in essence are the log odds of answering the item correctly.

The RUMM computer program

In this study, the Extended Logistic Model of Rasch (Andrich, 1988a) was used with the RUMM (Rasch Unidimensional Measurement Model) 2010 computer program (Andrich, Sheridan, Lyne, & Luo, 2000) to analyse the data and derive a scale of managerial leadership competencies in middle-level management. RUMM is a sophisticated data analysis program in which data for analysis are considered in two
broad sections, item responses and person abilities, which allows for analysis of extended response category data.

It also provides tests-of-fit for an item-trait interaction and for item-person interactions, threshold estimates, and individual person fits to the model (Andrich, Sheridan, Lyne & Luo, 2000). One of the special features of the program is its ability to provide a range of graphical displays including a Guttman pattern, category probability curves, item characteristic curves, person frequency distribution and person-item frequency distribution. Application and use of these features were extremely useful in examining the data for fit to the measurement model.

**Item fit with RUMM computer program**

Parameter estimates are substituted back into the model and the RUMM 2010 program examines the difference between the expected values predicted from the model and the observed values using two tests-of-fit. The first is the item-trait test-of-fit (a chi-square) which examines the consistency of the item parameters across the managerial leadership competency measures for each item and provides an overall test-of-fit (see Andrich & van Scoubroeck, 1989, p.479-480 for the equations). Essentially, a consensus is obtained for all items across middle-level managers with differing scores of leadership competencies. The second is the person-item test-of-fit across managers. When the data fit the measurement model, the fit statistics approximate a distribution with a mean near zero and a standard deviation near one. Negative values indicate a response pattern that fits the model too closely, probably because response dependencies are present (see Andrich, 1985). Conversely, positive values indicate a poor fit to the model, possibly due to other measures or “noise” being present. One can also check the residuals and try to keep items with low residuals. A residual is the difference between the expected estimate and the actual values for each item (see Andrich & van Scoubroeck, 1989, p.482 for the equations).
Use of this Rasch measurement program ensures that only items that contribute logically and consistently to the measurement of managerial leadership competencies are included in the scale. Any items that do not fit on the scale in a consistent pattern with the other items, that is, items that contribute 'noise', are rejected.

The most likely reason for an item to be rejected at this stage is that it is not consistently measuring an element relevant to managerial leadership competencies. The RUMM 2010 computer program calibrates items that fit the model from easy to hard and managerial leadership competency measures from low to high on the same scale. In other words, the program ascertains whether middle-level managers who report high, medium and low managerial leadership competency scores agree to the item difficulties aligned from easy to hard. An item is rejected as measuring ‘noise’ if there is poor agreement among managers about its level of difficulty, or location on the scale.

It is acknowledged that the words easy and hard are not usually used when referring to aspects of middle-level managerial leadership competencies, or items in the model of middle-level managers’ leadership competencies. However, there are no other words that can be substituted to describe adequately the difficulties of items for attitudes or self-views. In this study, there is a sense in which the middle-level manager’s leadership competency items are easy or hard. For example stem item 3, Staff consult me for work advice and for getting the work done quickly and efficiently was considered to be among those with higher difficulty for the real, capable and ideal modes. In this case, the majority of middle-level managers found this item very hard or hard to answer positively. This means that most responded with none of the time or some of the time rather than most of the time or all of the time. In contrast, stem-item 3, staff look to me for directions in performing their work were be among those of a lower difficulty. That is, the majority of middle-level managers found this item very easy or easy to answer positively in the ideal, capable and real modes respectively, indicating they achieved what they set out to achieved most of the time or all of the time. Hence, it is sensible to use the words easy and hard when referring to items in this study, just as is usually done for achievement items.
Pilot test of questionnaire

An informal trial of the questionnaire was conducted with five mid-level managers. Their feedback indicated respondents might prefer, or find it easier, to respond to stem-items in the order of ideally this is what I think should happen followed by this is what I'm capable of and this is what I actually do with my staff, rather than responding in the reverse. No other problems or issues were raised by the five managers and so I proceeded to a formal pilot test of the questionnaire with 15 middle-level managers. The sample was obtained by approaching middle-level managers known to the researcher. Each participant was asked to complete the original 27 stem-item questionnaire and provide either verbal or written feedback on six aspects. Every middle-level manager was asked to consider the following six questions, adapted from Bell (1987, p.65).

1. How long did it take to complete the questionnaire?
2. Were the instructions clear?
3. Were the response format categories workable?
4. Did you object to answering any questions?
5. Do you think any major aspect has been left out?
6. Any other comments?

Respondents reported varying times taken to complete the questionnaire, ranging from 25 to 45 minutes, with most reporting around 35 minutes. One manager commented that “the questions are tricky and he had to give more thought to it”. One of the 15 managers reported that the instructions were not clear. However, two managers pointed out the difficulty in responding to the perspective wording on this is what I actually do with my staff in answering item 6 and item 10. However, after explaining and clarifying with them, the problems were resolved. The ideal, capability and real perspective format remains unchanged. The rest of the items were alright. Three managers complained that the wordings in the questionnaire were too small. While realising that changing the wordings of the questionnaire into bigger print would increase the number of pages of the questionnaire, the researcher decided to leave it as it was.
Interview

The interview consisted of two stages. In stage one, the open-ended section of the questionnaire was comprised of two questions that sought information about mid-level managers' views of the most important leadership aspects in their business and why these leadership aspects were important. All 300 participants answered these. In stage two, a separate interview schedule was administered to 29 middle-level managers. The interview schedule questions were meant to find out the attitude and thinking of mid-level managers on the questionnaires, regarding the four aspects of leadership competencies. That is, why did they provide their answers on Leading, Managing, Communication and Creating Best practice? They were also asked to explain what they were thinking.

The interview questions are listed.

Sub-group: Leading

Leading and directing
1. Why did you provide these answers on leading and directing? Can you explain what you were thinking?
2. Can you explain how you lead and direct your staff?

Changing and leading
3. Why did you provide these answers on changing and leading? Can you explain what you are thinking?
4. Can you explain how you led a major change at your work recently?

Sub-group: Managing

Meeting targets
5. Why did you provide these answers on meeting targets? Can you explain what you were thinking?
6. Can you explain how you led staff to meet company targets recently?
Creativity
7. Why did you provide these answers on creativity? Can you explain what you were thinking?
8. Can you explain how you worked with your staff on a creative project recently?

Adaptability
9. Why did you provide these answers on adaptability? Can you explain what you were thinking?
10. Can you explain how you adapted a decision to help your company be competitive recently?

Sub-group: Communication

Decision-making
11. Why did you provide these answers on decision-making? Can you explain what you were thinking?
12. Can you explain how you recently conveyed a new decision to staff and worked with them to implement it?

Communicating
13. Why did you provide these answers on communicating? Can you explain what you were thinking?
14. Can you explain how you recently communicated with staff on a problem and then followed up on it?

Sub-group: Best Practice

Mentoring
15. Why did you provide these answers on mentoring? Can you explain what you were thinking?
16. Can you explain how you recently mentored staff to help them and the company implement Best Practice?
Customer Focus

17. Why did you provide these answers on Customer Focus? Can you explain what you were thinking?

18. Can you explain how you recently helped staff to focus on customers and Best Practice to help your company?

Summary

A new questionnaire of middle-level manager leadership competencies was created in response to problems with existing models of leadership competencies. Background on the measurement of a latent trait such as self-reported managerial leadership competencies was given and the use of a Rasch model of measurement in order to test the new middle-level leadership competencies scale was explained. The pilot test of the questionnaire was described and the problems were explained. Lastly, the open-ended questions and interview schedule were explained and included. The next chapter explains the methodology of the present study.
CHAPTER FIVE

METHODS

This chapter begins with an explanation of the procedures and methods used in this study. The procedure to conduct the pilot scheme and the fine-tuning of the questionnaire are explained. The sample and process of data collection for the questionnaire and the interviews are explained. This is followed by an explanation of how the questionnaire data were analysed using the Rasch Unidimensional Measurement Model (RUMM, 2010) computer program, (Andrich, Sheridan, Lyne & Luo, 2000) and a brief description of how the open-ended questionnaire and interview data were analysed. Finally, a preliminary analysis on the raw questionnaire data are provided.

This study uses quantitative and qualitative methodologies. The quantitative methodology involved data collection using a questionnaire about the four aspects of mid-level managerial leadership. A competency based mid-level managerial leadership scale, using the Extended Logistic Model of Rasch (Andrich; 1988 a; Rasch, 1960/ 1980), was created. The scale was based on four aspects of competency-based leadership: leading change, leading people, building communication and best practice. Data from this scale were tested to ensure it had sound psychometric properties by analysing it with the computer program RUMM (Andrich, Sheridan, Lyne & Luo, 2000).

The qualitative methodology involved analysing the written comments given at the end of the questionnaire and analysis of interview data from 29 middle-level managers. The interviews were structured and based on the model of leadership used in the questionnaire. The duration of each interview was about 25 minutes. The questions were designed to help explain why managers answer the way that they do on the questionnaire, and to understand how they thought about managing their staff.
Procedure

Ethics

Initial approval to conduct the research was obtained from the University Ethics Committee. The confidentiality of the participants was respected. The participants' names were not required and the questionnaires were anonymous. The data were entered without names for the Rasch analysis. All questionnaires are to be destroyed by shredding when the study is completed. The shredding will be done five years after the completion of the thesis. A letter of consent attached to the questionnaire was given to the participants (see Appendix C). The letter informed them that participation is voluntary and that the participants can pull out at any time without prejudice.

Participants in the questionnaire were also informed on their consent form to let the researcher know if they were willing to assist in an interview by putting their names and address on the questionnaire, so that they could be contacted. Those who were willing to take part in the interview their names were not recorded or used in the thesis. Instead, their names were coded. The interview data were to be kept in a safe place and will be destroyed five years after the completion of the thesis. A consent form setting out the confidentiality of the interview, and other information, was given to the participants (see Appendix D).

Data collection

Sample for questionnaire

The addresses of businesses in three selected industries, manufacturing and mining, servicing, and retailing, were taken from the Perth telephone directory in Western Australia. The three industries were chosen to give a coverage of the main industries in Australian business. Addresses of some of the businesses were obtained through the telephone book and through personal business contacts. Questionnaires were distributed by post and e-mail, to various businesses. At other times, questionnaires were
hand delivered and some were also distributed at a number of trade exhibitions in Perth. For manufacturing and mining, 700 questionnaires were distributed, 650 questionnaires were sent to servicing industries and another 650 for retailing.

Of these 2000 questionnaires, 320 mid-level managers responded, but 20 were rejected as being incomplete. Out of the 300 usable questionnaires, 120 came back by post, 20 were delivered by hand, 80 came by e-mail and the rest were returned at trade exhibition centres or in person. The overall response rate was 16% (Table 5.1). Some private and small companies contacted the author to clarify some aspects of the questionnaire and some to ask whether they had to answer all the items on the questionnaires. The open-ended questions at the end of the questionnaires were answered very briefly, but good enough to reflect the thoughts of some middle-level managers. There were often problems in getting back the questionnaires. Reminders were sent by post and through phone calls. At times repeated calls had to be made by personal contact over the phone and over the Internet.

Middle-level managers are people holding the position in the organisation with the titles such as sales manager, branch manager or department head. Middle-level managers are responsible for implementing top management's strategies and policies by developing short term operating plans. They generally report to the executives and general managers above them and supervise employees below them (Lussier, 2003).

Table 5.1

Summary of questionnaires distributed and returned

<table>
<thead>
<tr>
<th>Types of Industries</th>
<th>Number Distributed</th>
<th>% of total</th>
<th>Sent by post</th>
<th>Sent by e-mail</th>
<th>Sent by other means</th>
<th>Number Returned</th>
<th>Number Rejected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing/Mining</td>
<td>700</td>
<td>35%</td>
<td>30</td>
<td>15</td>
<td>20</td>
<td>65</td>
<td>3</td>
</tr>
<tr>
<td>Retailing</td>
<td>650</td>
<td>32.5%</td>
<td>45</td>
<td>34</td>
<td>55</td>
<td>134</td>
<td>8</td>
</tr>
<tr>
<td>Service</td>
<td>650</td>
<td>32.5%</td>
<td>45</td>
<td>31</td>
<td>45</td>
<td>121</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td>2000</td>
<td>100%</td>
<td>120</td>
<td>80</td>
<td>120</td>
<td>320</td>
<td>20</td>
</tr>
</tbody>
</table>
Sample for Interviews

Middle-level managers who indicated their interest in being interviewed wrote their names and contact details on the consent form. Twenty-nine middle-level managers were selected for the interview out of thirty-eight. They were chosen randomly. The time and place for the interviews were set according to the wishes of the managers. When the distance was too far away, an agreement was made for a day and the time to have an interview over the telephone. The interviewer sought permission to use a tape recorder in order to rule out some of the bias, as well as capture some of the very personal opinions of middle managers. Nearly all the managers declined the interview to be taped recorded. However, most preferred to answer them in written form in the interview schedule that was given to them earlier. This, they said, allowed them to give more time and thought to the interview questions.

Table 5.2
Summary of the interview schedule

<table>
<thead>
<tr>
<th>Types of industries</th>
<th>Number of managers interviewed</th>
<th>Percentage of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturing/mining</td>
<td>5</td>
<td>17 %</td>
</tr>
<tr>
<td>Retailing</td>
<td>9</td>
<td>31 %</td>
</tr>
<tr>
<td>Servicing</td>
<td>15</td>
<td>52 %</td>
</tr>
<tr>
<td>Total</td>
<td>29</td>
<td>100 %</td>
</tr>
</tbody>
</table>
Data analysis

Data from Questionnaires

Responses to the questionnaires were entered into an Excel file in terms of the response category codes (one, two, three or four) and converted to a text file in Microsoft word. The data were then analysed using the Rasch Unidimensional Measurement Model (RUMM 2010) computer program (Andrich, Sheridan, Lyne & Luo, 2000).

According to Waugh, (2003), in his studies on the measurement of variables for a cumulative trait, the best computer program to use in deriving a linear scale is Rasch Unidimensional Measurement Models (RUMM) (Andrich, Sheridan, Lyne & Luo, 2000). Waugh (2003) stated that this computer program makes six tests of the data to fit the measurement model so that a linear scale can be created. Before these are explained, one must first understand that the Rasch model requires that data must fit the measurement model and not the other way round (see Andrich, 1989). The measurement requires that item difficulties be ordered from easy to medium to hard. It requires that persons with high measures most probably answer the hard, medium and easy items positively, that persons with medium measures most probably answer the medium and easy items positively (but not the hard items), and that persons with low measures only answer the easy items positively. Mathematically, the Rasch method produces scale-free person measures and sample-free difficulties (Andrich, 1988b; Wright & Masters, 1982, 1981). This means that differences between pairs of person measures and the corresponding pairs of item difficulties are sample independent, a requirement of a linear measure.

The six tests of data to fit a linear scale derived with the RUMM computer program (see Waugh, 2003) are now given. One, item thresholds are calculated in relation to the category responses. At a threshold, person have odds of 1:1 of answering in adjacent categories. Three responses categories means that there are two thresholds, four responses categories means that there are three thresholds, and so on. If the category responses are answered consistently by persons, in line with their person measures and
the item difficulty, it is a test of whether or not the research expectations of ordered categories is tenable. Otherwise, the item is deleted.

Two, an item-trait test-of-fit is calculated as a chi-square, with RUMM provides a chi-square statistics and the associated probability which can be tested against a level of significant (see Andrich & Van Schouwbroeck, 1989, pp.479-480 for the equations). If the observed and expected values are not significantly different, then there is no significant interaction between the responses to the items and the person measures along the trait, according to the measurement model. This test shows the collective agreement for all items across students of different measures along the scale and indicates whether a uni-dimensional trait (inferred by a single score for each person) can be used to describe each person’s item response.

Three, an item-person interaction and a person-item interaction are calculated. The item-person test-of-fit examines the response patterns for items across persons and the person-item test-of-fit examines the response patterns for persons across items. It examines the residual between the expected estimate and the actual values for each person-item summed over all items for each person and summed over all persons for each item (see Styles & Andrich, 1993, p.914 for the equations). The fit statistics approximate a distribution with a mean near zero and a standard deviation near one, when the data fit the model. Negative fit statistics indicate a response pattern that fits the model too closely (probably because response dependencies are present, see Andrich, 1985) and positive fit statistics indicate that other measures are present as ‘noise’.

Four, the Index of targeting is ‘constructed as the ratio of estimated true variance among persons, using the estimates of their locations (measures) and the standard errors of these locations (measures)’ (Andrich & van Schouwbroeck, 1989,p.483). For good Rasch measures, this index would always be expected to be greater than 0.90 and is interpreted in the same way as a Cronbach Alpha. Standard errors of measurement for the measures and the item difficulties are calculated (see Wright & Masters, 1982, for the equations).
Five, residuals are calculated for items and for persons. Residuals are the differences between the expected values predicted from the measurement model and the observed values. For good measurement, residuals should be minimised, but this depends on collecting good data and on the persons answering the questionnaire properly and consistently in line with the truth.

The sixth test concerns construct validity of the data. A questionnaire measuring leadership competency for example, will have items designed to be ordered from easy to hard in each of the four aspects. Each item was answered in three perspectives, which themselves are ordered from easy to hard. So the questionnaire has different items ordered vertically from easy to hard, with each item perspective ordered horizontally from easy to hard. This structure of conceptual item difficulties can be tested, by examining the actual item difficulties, and so the construct validity of the data supporting the model behind the questionnaire can be tested.

Data from the open-ended questionnaires

As for the two open-ended questions at the end of the questionnaires, the data were analysed in two parts. The first part involves categorizing the data. The second part was to analyse the data by means of calculating the percentages. The purpose of this analysis was to find out from the middle-level managers which aspect of leadership competencies was the most important and which aspect the least important. Each question was analysed for its content. For each question, the responses were read carefully to identify possible codes, or headings, or clusters, to represent the primary data. Once all responses had been assigned to a cluster, the process of reading and reading again, the responses within the clusters continued. This process of comparing responses within and across clusters involved looking for similarities, or links between clusters. In this manner, cluster headings were reduced, as themes merged for the inclusion of two or more clusters under the one heading, thus forming a meta-cluster (Miles & Huberman, 1994). Once the process of forming the meta-clusters was completed, the number of responses under each heading was tallied. Percentages were calculated based on the 300 returns. Summaries of the results of analysis are presented in Tables 7.1 to 7.3 in chapter seven.
Data from Interviews

The data from the interview were analysed by categorizing the data and by calculating the percentage of response from each category of the data. The purpose of this analysis was to find out the perceptions of middle-level managers and the reasons or explanation given for answering the questionnaire. Each answer (manager response) was analysed for its content. For example, the first question on Leading, Why did you provide these answers on leading and directing? Can you explain what you were thinking? was analysed in two parts. That is, factors that helped explain their answers on the leading aspect were identified as part one, and factors connected to what they were thinking were identified as part two. The same procedure applies to managing, communicating and best practice aspects. The responses were read a number of times to gain an understanding of the general themes and to identify possible codes, or headings, to represent primary data. Once the responses were assigned to a category, they were coded, and the number of responses under each heading was tallied. Percentages were calculated based on the 29-interview schedules. Summaries of the results of the analysis are presented in tables 7.4 and 7.5 in chapter seven.

Preliminary raw data analysis

Qualitative data from the questionnaire

Leading

Out of the 300 responses, 54 middle-level managers (16 percent) cited Leading (empowerment, Leading by example) as an important aspect. These responses were obtained from middle-level managers' comments on what they considered are the most important leadership aspects in their business. The responses were coded and tallied. Percentages were then calculated and based on the 300 returns.
Leading was considered an important aspect in this study based on the frequency of the responses and the percentage calculated. Most managers answered in the positive response categories of nearly all the time and most of the time for items relating to Leading and this supported, and was consistent with, the written open-ended comments. In general, most managers’ perceptions of leading were that managers must be able to lead by example, giving empowerment to workers, and becoming change agents.

Percentage responses for the Leading aspect by perspective

Table 5.3 shows the percentage of responses by middle-level managers to the various items. The responses are taken from response categories four and three as the weight of positive responses fall mainly into these two categories. These responses gave a preliminary ‘feel’ about leadership competency data from the questionnaire.

In Leading and Directing, the overall response in the ideal perspective was 66.5 percent for the combined nearly all and most of the time categories. The capability response was 65 percent and the behaviour perspective was 68 percent for the same two response categories.

In Leading and Changing, the response in the ideal perspective was 56.6 percent for the combined nearly all and most of the time categories. The response in the capability perspective was 58 percent and in the behaviour perspective was 60 percent for the same two combined response categories. Overall, this indicates that managers place the Leading perspective as important to leadership competency.
Table 5.3
Percentage responses for Leading by perspective and response category

<table>
<thead>
<tr>
<th>Stem-item</th>
<th>Ideal %</th>
<th>2</th>
<th>1</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>4</th>
<th>3</th>
<th>2</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leading and Directing</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>1-3 Staff looking to me for directions in performing their work</td>
<td>29</td>
<td>38</td>
<td>21</td>
<td>12</td>
<td>31</td>
<td>33</td>
<td>27</td>
<td>9</td>
<td>30</td>
<td>38</td>
<td>21</td>
</tr>
<tr>
<td>4-6 Staff listening to me and consulting me for advice on work</td>
<td>31</td>
<td>35</td>
<td>23</td>
<td>11</td>
<td>30</td>
<td>36</td>
<td>24</td>
<td>10</td>
<td>35</td>
<td>35</td>
<td>22</td>
</tr>
<tr>
<td>7-9 Staff consulting me for work advice and then getting the work done quickly and efficiently</td>
<td>36</td>
<td>30</td>
<td>21</td>
<td>13</td>
<td>32</td>
<td>33</td>
<td>25</td>
<td>10</td>
<td>37</td>
<td>31</td>
<td>21</td>
</tr>
<tr>
<td>Changing and Leading</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>10-12 Staff looking to me for directions on work changes</td>
<td>23</td>
<td>35</td>
<td>30</td>
<td>12</td>
<td>25</td>
<td>30</td>
<td>30</td>
<td>15</td>
<td>24</td>
<td>30</td>
<td>26</td>
</tr>
<tr>
<td>13-15 Staff looking to me and also providing suggestions for work changes</td>
<td>30</td>
<td>31</td>
<td>30</td>
<td>9</td>
<td>31</td>
<td>32</td>
<td>27</td>
<td>10</td>
<td>30</td>
<td>32</td>
<td>29</td>
</tr>
<tr>
<td>16-18 Staff providing suggestions for work changes and working with me to implement the best changes</td>
<td>25</td>
<td>26</td>
<td>26</td>
<td>23</td>
<td>27</td>
<td>29</td>
<td>25</td>
<td>15</td>
<td>32</td>
<td>32</td>
<td>21</td>
</tr>
</tbody>
</table>

Note: All the time 4  Some of the time 2
Most of the time 3  Rarely or none of the time 1
Managing

Sixty middle-level managers (20 percent) out of 300 responses cited Managing as an important aspect of leadership competencies. The comments most of the managers gave on managing were that: Managers should be able to analyse the situation of the company, and be able to adapt to changes to meet the company objectives and visions. These responses were obtained from middle-level managers' comments on what they considered are the most important leadership aspects in their business. These are consistent with, and support the raw questionnaire data. In general, the managers' perceptions were that managers need to set goals for workers, and managers need to be creative and be able to demonstrate skills in management.

Percentage responses for the Managing aspect by perspective

Table 5.4 shows the percentage of responses by middle-level managers to the various items. In Meeting Targets, the overall response in the ideal perspective was 59.3 percent for the combined nearly all and most of the time categories. The capability response was 59.3 percent and the behaviour perspective was 41 percent for the same two response categories. In Creativity, the response in the ideal perspective was 66.3 percent for the combined, same two response categories. The response in the capability perspective was 65.3 percent and in the behaviour perspective was 63 percent. In Adaptability, the response in the ideal perspective was 76 percent for the combined, same two response categories. The response in the capability perspective was 69.6 percent and in the behaviour perspective it was 66.6 percent. Overall, the response indicates that most managers place Managing as important to leadership competency.
<table>
<thead>
<tr>
<th>Stem-Item</th>
<th>Ideal</th>
<th>Perspect</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4 %</td>
<td>3 %</td>
<td>2 %</td>
</tr>
<tr>
<td>Meeting targets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-21 Staff understand the targets set by the company management</td>
<td>30 %</td>
<td>30 %</td>
<td>29 %</td>
</tr>
<tr>
<td>22-24 Staff understand the targets and working with me to achieve these targets</td>
<td>29 %</td>
<td>30 %</td>
<td>27 %</td>
</tr>
<tr>
<td>25-27 Staff anticipating certain problems and working with me to overcome them and meet the targets</td>
<td>29 %</td>
<td>30 %</td>
<td>23 %</td>
</tr>
<tr>
<td>Creativity</td>
<td>4 %</td>
<td>3 %</td>
<td>2 %</td>
</tr>
<tr>
<td>28-30 Staff understanding the competitiveness in our business market place</td>
<td>31 %</td>
<td>36 %</td>
<td>22 %</td>
</tr>
<tr>
<td>31-33 Staff showing me how we can be creative and more competitive in our business</td>
<td>33 %</td>
<td>34 %</td>
<td>17 %</td>
</tr>
<tr>
<td>34-36 Working with staff to implement innovative practices and make the business more competitive</td>
<td>32 %</td>
<td>33 %</td>
<td>23 %</td>
</tr>
<tr>
<td>Adaptability</td>
<td>4 %</td>
<td>3 %</td>
<td>2 %</td>
</tr>
<tr>
<td>37-39 Making decisions in the best interests of my company rather than my staff</td>
<td>41 %</td>
<td>39 %</td>
<td>15 %</td>
</tr>
<tr>
<td>40-42 Adapting my decisions whenever the situation requires this, for the best interests of the company</td>
<td>36 %</td>
<td>35 %</td>
<td>22 %</td>
</tr>
<tr>
<td>43-45 Thinking, adapting and implementing decisions to keep the company competitive in the marketplace</td>
<td>40 %</td>
<td>37 %</td>
<td>14 %</td>
</tr>
</tbody>
</table>
Communicating

Ninety-six middle-level managers (32 percent) cited Communication as important to leadership competencies. Most of the managers' perceptions were that managers must be able to communicate effectively to make good business decisions and have good people's skills. They commented that managers should have good decision and interpersonal skills. These responses were obtained from middle-level managers' comments on what they considered are the most important leadership aspects in their business and why these aspects are important, and they are consistent with the responses from the questionnaire data.

Percentage responses for the Communicating aspect by perspective

Table 5.5 shows the percentage of responses by middle-level managers to the various items. In Decision-making, the overall response in the ideal perspective was 80 percent for the combined nearly all and most of the time categories. The capability perspective response was 77.6 percent and the behaviour perspective was 65 percent for the same combined two response categories. In Communicating, the response in the ideal perspective was 81.3 percent for the same, combined two categories. The response in the capability perspective was 78 percent and in the behaviour perspective it was 68 percent. Overall, this indicates that managers place Communicating as a very important aspect of leadership competency.
Table 5.5
Percentage responses for Communicating by perspective and response category

<table>
<thead>
<tr>
<th>Stem-item</th>
<th>Ideal</th>
<th></th>
<th></th>
<th>Perspective</th>
<th></th>
<th></th>
<th></th>
<th>Actual</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Decision-making</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>46-48 Making decisions in the best interests of my company rather than my staff</td>
<td>34</td>
<td>47</td>
<td>17</td>
<td>2</td>
<td>25</td>
<td>53</td>
<td>20</td>
<td>2</td>
<td>20</td>
<td>44</td>
<td>28</td>
</tr>
<tr>
<td>49-51 Making decisions after consulting with staff and then conveying the decisions to staff for implementation</td>
<td>36</td>
<td>45</td>
<td>18</td>
<td>1</td>
<td>24</td>
<td>51</td>
<td>22</td>
<td>3</td>
<td>22</td>
<td>42</td>
<td>27</td>
</tr>
<tr>
<td>52-54 Conveying decisions to staff and then working with staff to implement them successfully</td>
<td>33</td>
<td>46</td>
<td>20</td>
<td>1</td>
<td>26</td>
<td>54</td>
<td>18</td>
<td>2</td>
<td>24</td>
<td>45</td>
<td>26</td>
</tr>
<tr>
<td>Communicating</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>55-57 Available to talk to staff about work problems</td>
<td>37</td>
<td>47</td>
<td>15</td>
<td>1</td>
<td>23</td>
<td>55</td>
<td>18</td>
<td>4</td>
<td>23</td>
<td>46</td>
<td>23</td>
</tr>
<tr>
<td>58-60 Talks to staff and communicates in order ways with staff about work problems</td>
<td>35</td>
<td>46</td>
<td>16</td>
<td>3</td>
<td>27</td>
<td>52</td>
<td>19</td>
<td>2</td>
<td>19</td>
<td>47</td>
<td>24</td>
</tr>
<tr>
<td>61-63 Communicates with staff on work problems and provides follow-up communication after implementation</td>
<td>32</td>
<td>47</td>
<td>19</td>
<td>2</td>
<td>30</td>
<td>47</td>
<td>20</td>
<td>3</td>
<td>22</td>
<td>47</td>
<td>25</td>
</tr>
</tbody>
</table>

Note: All the time 4  Some of the time 2  Most of the time 3  Rarely or none of the time 1
**Best Practice**

Sixty-four middle-level managers (28 percent) out of 300 responses cited Best Practice aspect as important leadership competencies. These responses were obtained from middle-level managers' comments on what they considered are the most important leadership aspects in their business and why these aspects are important. Most middle-level managers commented that they should focus on customers and be more competitive. These comments were consistent with and supported the data from the questionnaire. Best Practice aspect was considered to be important by middle-level managers based on the frequency of the responses and the percentage calculated. In general, the managers' perceptions were that managers need to focus more on customers' needs and be more competitive in business.

**Percentage responses for the Best Practice aspect by perspective**

Table 5.6 shows the percentage of responses by middle-level managers to the various items. In Mentoring, the overall response in the ideal perspective was 71 percent for the combined nearly all and most of the time categories. The capability perspective response was 68.3 percent and the behaviour perspective was 69.6 percent. In Customer Focus, the response in the ideal perspective was 75.3 percent. The response in the capability perspective was 69.3 percent and in the behaviour perspective was 69 percent. Overall, this indicates that managers have given the Best Practice perspective a high priority in leadership competency.
<table>
<thead>
<tr>
<th>Stem-Item</th>
<th>Ideal</th>
<th>Perspective</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>%</td>
<td>%</td>
</tr>
<tr>
<td>Mentoring</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>64-66 Available to be a mentor to prospective good workers</td>
<td>39</td>
<td>38</td>
<td>17</td>
</tr>
<tr>
<td>67-69 Available to mentor good workers and counsel other workers for implementing best practice</td>
<td>34</td>
<td>35</td>
<td>24</td>
</tr>
<tr>
<td>70-72 Evaluating staff and best practice methods to ensure the company is up to date with best practice</td>
<td>33</td>
<td>34</td>
<td>23</td>
</tr>
<tr>
<td>Customer Focus</td>
<td>4</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>73-75 Having a strong focus on customer needs and wants</td>
<td>40</td>
<td>38</td>
<td>19</td>
</tr>
<tr>
<td>76-78 Having a strong focus on customers and helping staff to focus on customers</td>
<td>41</td>
<td>37</td>
<td>15</td>
</tr>
<tr>
<td>79-81 Helping staff to implement a focus on customers and best business practice to keep competitive</td>
<td>34</td>
<td>36</td>
<td>24</td>
</tr>
</tbody>
</table>

*Note: All the time 4  Some of the time 2  Most of the time 3  Rarely or none of the time 1*

The next chapter reports the results of the Rasch analysis of the questionnaire data (Chapter 6). Chapter 7 reports the results of the interview data.
CHAPTER SIX
DATA ANALYSIS (PART A): RESULTS OF RASCH ANALYSIS

This chapter begins with a description of the process of data analysis for the model of leadership competencies for middle-level managers using the Rasch Unidimensional Measurement Model (RUMM 2010) program (Andrich, Sheridan, Lyne, & Luo, 2000). Following this, the results are presented in the form of tables, figures, graphs and explanations. The meaning of the leadership competency scale is explained and discussed.

Results

The results of the analysis are set out in Tables 6.1 to 6.6, Figures 6.1 to 6.21 and Appendices A and B. Table 6.1 presents a summary of the global statistics of the measure of middle-level manager Leadership Competency, and the global statistics for item-fit to the measurement model. Tables 6.2, 6.3, 6.4, 6.5, 6.7 and 6.8 show the item difficulties for each of the four aspects of Leadership Competency in the ideal, capability and behaviour perspectives. Figure 6.1 is a graph of Managerial Leadership Competency measures and item locations (difficulties) on the same scale. Figures 6.2, 6.11, 6.15, 6.18, 6.21 show the item threshold values and the Leadership Competency measures on the same scale. Figures 6.3, 6.4, 6.5 and 6.6 are the Item Category Curves for item 9, a good-fitting item, item 4, a not-so-good-fitting item, item 78, a not-so-good-fitting item, and item 18, a reasonably fitting item. Figures 6.7, 6.8, are Item Characteristic Curves for item 9 and item 18 (good items). Figures 6.9, 6.10, 6.12, 6.13, 6.14, 6.16, 6.17, 6.19, 6.20 are item difficulty maps for the aspects, Leading and Directing, Leading and Changing, Meeting Targets, Creativity, Adaptability, Decision Making, Communicating, Mentoring and Customer Focus respectively. Appendix A shows the item difficulties on the continuum, fit to the model and probability of fit to the model for the 54 items forming the scale in location order. Appendix B shows the threshold values between the categories for each item.

Initially, there were 81 items that formed the Managerial Leadership Competency Model, but 27 did not fit the measurement model and were deleted (see Appendix A). This left 54 items for which the data fitted the measurement model. Of these, 18 items
measured an ideal perspective of Managerial Leadership Competency (Ideally, this is what I think should happen), 18 items measured a capability perspective of Managerial Leadership Competency (This is what I think I am capable of doing), and 18 items measured a real perspective (This is what I actually do with my staff).

Table 6.1

<table>
<thead>
<tr>
<th>Items</th>
<th>Middle-level managers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number 54</td>
<td>300</td>
</tr>
<tr>
<td>Location mean 0.00</td>
<td>0.71</td>
</tr>
<tr>
<td>Standard deviation 0.47</td>
<td>1.02</td>
</tr>
<tr>
<td>Fit statistic mean 0.23</td>
<td>-0.35</td>
</tr>
<tr>
<td>Fit statistic standard deviation 1.68</td>
<td>1.16</td>
</tr>
</tbody>
</table>

Item-trait interaction chi-square = 655.41

Probability of fit (p) = 0.17

Degrees of freedom = 216

Managers' Separation Index = 0.96 (Cronbach alpha = 0.95)

Power of tests of fit: Excellent (based on the Index of Separation)

Notes on Table 6.1

1. The item means are constrained to zero by the measurement model

2. When the data fit the model, the fit statistic approximates a distribution with a mean near zero and a SD near one (a reasonable fit for these data)

3. The item-trait interaction indicates that there is no significant interaction between the responses to the items and the person measures along the scale. That is, there is good agreement about the difficulties of the items along the scale, and a unidimensional trait has been measured.

4. The Manager Separation Index is the proportion of observed manager leadership competency variance considered true (in this scale 96% and very high).
Psychometric characteristics of the scale data

Evidence for the validity and reliability of the data

The Index of Separability (akin to traditional reliability in Classical Test Theory) for the data of the 54 item scale with the three response categories is 0.96, and this means that the proportion of observed variance considered true is 96 percent.

The RUMM 2010 program rates the overall power of tests-of-fit in the categories of too low, low, reasonable, good, and excellent, based on the Index of Separability. The 54-item scale of Managerial Leadership Competency was rated as 'excellent' which indicates that we can have confidence that the tests-of-fit of the data for this scale are sufficiently sensitive to detect any major non-compliance with the measurement model.

The RUMM 2010 program provides two statistics for the estimation of item fit to the model. The first of these is the item-trait test-of-fit (see Table 6.1) which examines the consistency of the item parameters over the range of managerial leadership competency scores and an overall test-of-fit. The chi-square probability of 0.17 indicates a good degree of consensus about the item difficulties across the managers located at different measurement levels. It means that the responses to the 54 items are influenced by a unidimensional trait, in this case, managerial leadership competency, and that there is a good agreement amongst the managers concerning which items are of easy, medium and hard difficulty.

The second statistic provided by the RUMM program is the item-manager interaction test-of-fit, which examines the consistency of response patterns for managers across all items and for items across all managers. The item-manager test-of-fit statistics indicates that there is a good consistency of manager and item response patterns (see Table 6.1). The mean of the fit statistics for both items and managers is near to zero, and the standard deviation is near to one, as required for fit to the measurement model.

The locations (difficulties) of the items are well targeted against the managers with a range of items from easy to hard which cover the lower range of managerial leadership competency scores (see figure 6.1). The thresholds of the items range from
about −5.0 to +3 logits and cover the whole range of managerial leadership competency measures (approximately −1.4 to +3 logits, see Figure 6.2).

Using Figure 6.1, managerial leadership measures are displayed on the same scale as the item difficulties. From −2 to zero logits, there are 52 (17.3%) managers and these can be regarded as having low self-reported competency. From zero to +1 logits, there are 138 (46.0%) managers and these can be regarded as having moderately good competency (they can answer a lot of the items with a high response category). From +1 to +2 logits, there are 89 (29.7%) managers and they can be regarded as having a high self-reported competency. From +2 to +4 logits, there are 22 (7.3%) and they have a very high self-reported competency.

Figure 6.1: Managerial Leadership Competencies scores and item locations on the same scale

Notes on Figure 6.1
1. The scale is in logits, the log odds of answering the response categories
2. Leadership Competency measures (low to high) are placed on the upper side of the scale and item location difficulties from easy to hard are placed on the lower side of the scale.
Figure 6.2 Item thresholds and Leadership Competency measures on the same scale.

Note 1. There are three thresholds per item, corresponding to the odds (1:1) of answering in the adjacent response categories. The thresholds are ordered in line with the ordering of the response categories from low to high.

2. Targeting is good since the item thresholds ‘cover’ the range of leadership competency measures.
The spread of item thresholds indicates there are too many easy items for these particular managers. Some of these very easy items could be discarded in a future version of the scale, but of course it depends on the leadership competencies of the managers that need to be measured. At the other end of the scale, there are perhaps a few hard items needed to match the highest Managerial Leadership Competencies scores for these particular managers, but the highest response categories for these hard items, with their high threshold values, 'cover' the high measures of Managerial Leadership (see Figure 6.2), except for three managers.

The data shown in the results indicate that a good unidimensional scale of self-reported Middle-Level Manager Leadership Competencies has been constructed. For this 54-item scale, the errors are small, the internal reliability is very high and the power of the tests-of-fit is excellent. The evidence supports the view that the data are valid and reliable and that one can have confidence in interpreting the data from the 54-item scale.

Besides fitting the measurement model, the items that form the scale mirrored aspects of the conceptual model. It was conceptualised from the outset, and subsequently realised in the results that, for most items, managers found it easier to have higher ideal self-views of leadership competencies (Ideally, this is what I think should be happening,) than capability self-views of leadership competencies (This is what I am capable of) and, in turn, behavioural self-views of leadership competencies (This is what I actually do with my staff). This supports, at least partially, the model behind the questionnaire, and it means that there is support for the construct validity of the data for the 54 items of Managerial Leadership Competency.

Non-fit of items to the model

Data from 27 items did not fit the measurement model. One reason for the non-fit is that some managers did not answer the response categories consistently and logically, resulting in disordered thresholds. Items that fit the model have ordered thresholds that correspond to the ordering of the response categories. An example where the managers did not answer the response categories consistently and logically is stem-item 10-12, Staff look to me for directions on work changes. It is likely that the wording of the item led to some confusion in answering according to the response categories. For example, the
wording "directions on work changes" may be interpreted differently by different managers. It could mean policy changes, administrative changes, personal changes, client changes or workplace safety changes, in which different amounts of manager directions are needed, or discussed, with staff. Another reason for the non-fit of some items may have been the lack of consensus among managers on the difficulties of the items on the scale. Some managers with high leadership competency scores found some items easy, while others with similar leadership competency scores found the same items difficult. Any disagreement about the item difficulty shows up as an inconsistent response pattern. For example, in stem-items 37-39, *make decisions in the best interest of my company rather than my staff*, the response pattern shows inconsistencies, and the item was, therefore, deleted. Other stem-items were deleted for similar reasons.

**Ordered thresholds and response categories**

In order to determine the threshold values, the RUMMM 2010 program estimates the boundaries between two adjacent response categories for each item where there are equal odds of answering in either of the adjacent categories. For an item to fit the model, the thresholds need to be ordered in line with the response categories. Category threshold values are ordered from low to high, (see Appendix B), which indicates that managers answered the response categories consistently and logically. As the response categories increase from none of the time, to some of the time, most of the time, to all of the time, managers need correspondingly higher leadership competency scores in order to provide a positive response. This means that managers with low leadership competencies scores would most likely be able to respond positively to an easy item, but managers would need progressively higher leadership competency scores in order to respond positively to the harder items. If the progression of managerial leadership competencies scores from low to high corresponds with the item difficulties from easy to hard, then the item thresholds will be in an ordered sequence. For the 54 items fitting the measurement model, all the thresholds were ordered correctly.

**Category Probability Curves**

The RUMM 2010 program provides a Category Probability Curve for each item, which makes it possible to view the extent to which the thresholds are ordered and the way in which managers with different measures of leadership have responded in each category. A careful study of the category curves for the 54 items indicates the managers
answered the response categories consistently and logically, resulting in ordered thresholds. For example, in Figure 6.3 the category curve is shown for the good fitting item 9, *Staff consult me for work advice and then get the work done quickly and efficiently* (real perspective).

Figure 6.3: Item Category Curve for Item 9 (good fitting item)

Note
1. Threshold 1 is about −1.04 logits (boundary between category 0 and category 1)
2. Threshold 2 is about +0.42 logits (boundary between category 1 and category 2)
3. Threshold 3 is about +18 logits (boundary between category 2 and category 3)

Item 9 is a moderately hard item with a chi square probability of 0.630 which indicates a good fit to the measurement model. Its difficulty is 0.39, which means that managers found it moderately hard to say *Staff consult me for work advice and then get the work done quickly and efficiently*. Figure 6.3 shows that the Category zero curve indicates that a person with a Managerial Leadership Competency score of −4 logits (Person Location) has around 0.95 probability of answering in this category (Rarely or none of the time). However, if the Managerial Leadership Competency score was around +2 logits, the probability of answering in this category reduces to near zero. Looking at the Category 1 curve, with a Managerial Leadership Competency score of 4 logits, the probability of answering in this category (*some of the time*) is around 0.05, while with a
Managerial Leadership Competency score near zero corresponds with a probability of near 0.5. For the Category 2 curve, a Managerial Leadership Competency score of –2 logits corresponds with a probability near zero for answering in this category (most of the time), while with a Managerial Leadership Competency score of around +1 corresponds with a probability of around 0.5. For the Category curve 3, a Managerial Leadership Competency score of –1 corresponds to a probability of answering in this category (all the time) of about zero, while a Managerial Leadership Competency score of +5 corresponds to a probability near 0.98. Examination of the Category Curve for item 9 illustrates that thresholds for this item are ordered –1.04 to +0.42 to +1.8 and that, as expected, increasingly higher measures of Managerial Leadership Competency are required in order to respond to this item in the higher categories. That is, in order to respond positively to the item, Staff consult me for work advice and then get the work done quickly and efficiently in the category of all the time, managers need to have higher Managerial Leadership Competency scores than to respond positively in the categories none of the time, and some or most of the time.

Of the 54 items that fitted the model, the worst fitting was item 4, Staff listen to me and consult me for advice on work problems (ideal perspective), shown in Figure 6.4. Item 4 is a very easy item on the scale with a location of -0.90 and a chi square probability of almost zero indicating a poor fit to the model. For this item, the probability of managers with low leadership competency scores responding in the higher categories is increased, compared to item 4. Examining the Category Probability Curve for item 4 (see Figure 6.4) reveals that for a Managerial Leadership Competency score of around –7, there is a probability of 0.95 of answering in the zero category (none of the time), while a Managerial Leadership Competency score of around zero corresponds to the probability of zero. The Category 1 curve indicates that, for a person with a Managerial Leadership Competency score of around –5, there is a probability of near 0.20 of responding in the category some of the time, while with a Managerial Leadership Competency score of around –2 carries the probability of around 0.75 of responding in this category. The Category 2 curve indicates that for a Managerial Leadership Competency score of around –4 there is a probability near zero of responding in this category (most of the time), while for a Managerial Leadership Competency score of around +0.5 there is a probability near 0.45 of responding in this category. The Category 3 curves indicates that, for a person with a Managerial Leadership Competency score of
near −2, there is a probability near zero of responding in this category (all the time),
while for a Managerial Leadership Competency score of around +5, there is a probability
near 0.98 of responding in this category. Although thresholds are ordered for this item,
with managers needing increasingly higher Managerial Leadership Competency scores to
respond more frequently in the higher category, it is evident through the relatively low
peak of the category two curve, that some managers had not responded as expected.
Managers with measures near +0.5 had similar probabilities of answering category 1
(some of the time), category 2 (most of the time), and category 3 (all the time), contrary to
the conceptualisation of the response categories.

Figure 6.4: Item Category Curve for Item 4 (not so good fitting item)
Note: 1. Probability of response, none of the time (category curve 0)
2. Probability of response, some of the time (category curve 1)
3. Probability of response, most of the time (category curve 2)
4. Probability of response, all the time (category curve 3)

Another not-so-good-fitting item was item 78, having a strong focus on customers
and helping staff to focus on customers (Ideal perspective) (see in Figure 6.5). Item 78 is
an example of an easy item with a difficulty of −0.46 which indicates managers found it
easy to say they are having a strong focus on customers and helping to focus on:
customers.
The category curved 0 (none of the time) and the category scored 1 (some of the time) are answered as conceptualised, and these are described on the next page. However, category 2 is not answered as conceptualised. At a measure of about 0.7, the probabilities of answering three categories (some, most and all the time) are about the same (0.35), and category 2 is not sufficiently discriminating from category 3.

![Graph](image)

**Figure 6.5**: Category Curve for item 78 (not-so-good-fitting item)

Figure 6.5 shows that the category 0 curve indicates that a person with a Managerial Leadership Competency score of -6.0 logits has around 0.97 probability of answering in this category. If the Managerial Leadership Competency score was around 1.0 logits, the probability of answering in this category is near zero. Looking at the Category 1 curve, with a Managerial Leadership Competency score of -6, the probability of answering in this category is around 0.03, while a Managerial Leadership Competency score of -1 corresponds with a probability near 0.7. In the Category 2 curve, a Managerial Leadership Competency of near -3.5 corresponds with a probability of zero for answering in this category, while a Managerial Leadership Competency score of around 0.5 corresponds with a probability near 0.40. In the Category 3 curve, a Managerial Leadership Competency score of -1.8 corresponds with a probability near zero, while a Managerial Leadership Competency score of around +5 corresponds with a probability of around 0.98.
The category curve for a difficult item is shown in Figure 6.6 (Item 18), *Staff provide suggestions for work changes and work with me to implement the best changes* (behaviour perspective).

![Graph](image)

**Figure 6.6:** Item Category Curve for Item 18 (good-fitting item)

Item 18 is one of the hardest items on the scale with a location of +0.60. Examining the probability category curve for item 18 reveals that, for a Managerial Leadership Competency score of −4.0, there is a probability near 0.98 of answering in the zero category, while a Managerial Leadership Competency score of +2 corresponds with a probability of zero. The category 1 curve indicates that for a person with a Managerial Leadership Competency score of around −4, there is a probability of around 0.02 that they would respond in this category, while a Managerial Leadership Competency score of around zero carries the probability of around 0.45 to respond to this category. The category 2 curve indicates that, for a Managerial Leadership Competency score of around −2.5, there is a probability near zero of responding in this category, while for a Managerial Leadership Competency score of around +1, there is a probability near 0.35 of responding in this category. The category 3 curve indicates that, for a Managerial Leadership Competency score of −1, there is a probability of zero responding in this category, while for a Managerial Leadership Competency score of around +5 there is a probability of around 0.98 of responding in this category. At a leadership score of about +1.3, the probabilities of answering three categories (some, most and all of the time) are about equal (0.3), and category 2 is not sufficiently discriminating from category 3.
Figure 6.7: Item characteristic curve for Item 9 (good item)

Figure 6.7 describes how well item 9 can differentiate between the middle-level managers have abilities below the item location and those having abilities above the item location. Item 9 represents an item of medium difficulty because the probability of correct response is low at the lowest ability levels for middle-level managers, around 0.5 in the middle of the ability scale and near 2.3 at the highest ability level.

Figure 6.8: Item characteristic curve for Item 18 (good item)

Figure 6.8 describes how well item 18 can differentiate between the middle-level managers have abilities below the item location and those having abilities above the item location. Item 18 represents an item of medium difficulty because the probability of correct response is low at the lowest ability levels for middle-level managers, around 0.5 in the middle of the ability scale and near 2.3 at the highest ability level.
Meaning of the scale (54 items)

The mean of the item difficulties in logits for the items that fit the model using the RUMM 2010 program are summarized in three perspectives. For the Ideal perspective, the mean is -0.32 logit which indicates that the items are very easy on the scale. For the Capability perspective, the mean is -0.15 logit which indicate that the items are easier on the scale. For the behaviour perspective, the mean is +0.39 logit which indicates that the items are hard on the scale.

The 54 items that make up the variable of Managerial Leadership Competency are conceptualised from four leadership aspects (Leading, Managing, Communication, and Best Practice). These four orientations are confirmed as contributing to the variable. The 54 items covering ideal attitudes, capability and behaviour define the variable. They have good content validity and they are derived from a conceptual framework based on previous research and theory. These, together with the data relating to reliability and fit to the measurement model, provide strong evidence for the validity of the data measuring this variable. This means that the middle-level managers' responses to the 54 items are related sufficiently well to represent the variable, Managerial Leadership Competency, as a unidimensional variable.

The scale for Managerial Leadership Competency is created at the interval level of measurement, with no true zero point of item difficulty, or manager measure. Equal distances on the scale between measures of Managerial Leadership Competency correspond to equal distances between the item difficulties on the scale. Items at the easy end of the scale (for example, items 4 and 13, see Table 6.2) are answered positively by nearly all the managers. For example, Staff listen to me and consult me for advice on work problems (-0.90) and Staff look to me to provide suggestions for work changes (-0.49) are considered as easy items in the ideal perspective. Items at the hard end of the scale (6 and 18, for example, see Table 6.2) are only answered positively by those managers who have high leadership competency.
The items in the capability perspective are moderately difficult: for example, Staff consult me for work advice and then get the work done quickly and efficiently (+0.1) (see Table 6.3) and I help staff to implement a focus on customers and best business practice to keep competitive (+0.13) (see Table 6.5). The hard items are found in the behaviour perspective: for example, Staff understand the competitiveness in our business market place (+0.73) (see Table 6.3) and I evaluate staff and best practice methods to ensure the company is up-to-date with best practice (0.88) (see Table 6.5). Some more detailed comment about the items on each of the four aspects of Leadership Competency are now explained.

**Leading (1st aspect of managerial leadership competency)**

The first aspect of Managerial Leadership Competency, Leading, has two parts. One part is Leading and Directing which has 6 items (2 ideal, 2 capability and 2 real) that fit the measurement model. The difficulties of these items range from −0.90 to +0.50 logits (see Table 6.2). Figure 6.9 below plots the difficulties of the six items from the Leading sub-scale on a continuum showing the item difficulty, and order of items from easy to hard.

<table>
<thead>
<tr>
<th>Item</th>
<th>very easy</th>
<th>moderately easy</th>
<th>moderately hard</th>
<th>hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficulties</td>
<td>-0.90</td>
<td>-0.47</td>
<td>-0.07</td>
<td>+0.11</td>
</tr>
</tbody>
</table>

**Figure 6.9:** Item difficulties for the aspect Leading and Directing.

*Note:* The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.
Figure 6.9 shows the difficulties for items 4, 5, 6, 7, 8 and 9, the items from the aspect of Leading and Directing that fitted the measurement model. As the scale indicates, in general, managers found items 4 and 5 very easy, with items 7, 8, and 9, becoming progressively harder, and item 6 being the hardest of the six items for managers to answer in the highest category. Using the cut-off points shown in Figure 6.9, the difficulty of the items can be described in the following terms. Items 4, and 5, are very easy, item 7 is moderately easy, items 8 and 9 are moderately hard, item 6 is a hard item.

Table 6.2 shows the item difficulties by perspective for the second part of Leading, Leading and Directing. In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and harder still to hold high behavioural self-views for Leading and Directing. The ideal items were easier than the capability items, which were easier than the behaviour items.

In the behavioural perspective self-view of Leading and Directing (What I actually do), managers found it hard to say that staff listen to and consult them on work problems (item 6). They found it moderately hard to say that staff consult them for work advice and get then get the work done quickly and efficiently (item 9). In a capability self-view perspective of Leading and Directing (What I think I am capable of), managers found it very easy to say that staff listen to and consult them on work problems (item 5). They found it moderately hard to say that staff consult them for work advice and then get the work done quickly and efficiently (item 8). In an ideal self-view perspective of Leading and Directing (What I think should be happening), managers found it very easy to say that staff listen to and consult them on work problems (item 4). They found it moderately easy to say that staff seek their advice and get the work done quickly and efficiently (item 7). As conceptualised, the difficulties of each of these items in their ideal perspective is easier than their corresponding capability perspective, which in turn, is easier than their behavioural perspectives.
The second part of Leading is Leading and Changing, and this has 6 items (2 ideal, 2 capability and 2 real) that fit the measurement model. The difficulties of these items are shown in order in Figure 6.8. The difficulties of these items range from -0.49 to +0.60 logits. In a *This is what I actually do* self-view perspective of Leading and Changing, managers found it 'hard' in the behaviour perspective (item 15) to say that staff look to them and also provide suggestions for work changes. They found it harder and very hard to say that staff provide suggestions for work changes and work with them to implement the best changes (item 18). In a *This is what I am capable of* self-view perspective, managers found it moderately hard to say that staff look to them and also provide suggestions for work changes (item 14). They found it moderately hard to say that staff provide suggestions for work changes and work with them to implement the best changes (item 17). In a *What I think* ideal self-view perspective, managers found it very easy to say that staff look to them for directions on work changes (item 13). They found it moderately hard to say that staff provides suggestions for work changes and work with them to implement the best changes (items 16).

<table>
<thead>
<tr>
<th>Item</th>
<th>13</th>
<th>17</th>
<th>16</th>
<th>14</th>
<th>15</th>
<th>18</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties</td>
<td>-0.49</td>
<td>0.19</td>
<td>0.28</td>
<td>0.29</td>
<td>0.35</td>
<td>0.60</td>
</tr>
</tbody>
</table>

*Figure 6.10: Item difficulties for the aspect Leading and Changing.*

*Note:* The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.
Table 6.2

<table>
<thead>
<tr>
<th>Leading and Directing</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ideal</td>
</tr>
<tr>
<td>Staff listen to me and consult me for advice on work problems (items 4-6)</td>
<td>-0.90</td>
</tr>
<tr>
<td>Staff consult me for work advice and then get the work done quickly and efficiently (items 7-9)</td>
<td>-0.07</td>
</tr>
<tr>
<td>Leading and Changing</td>
<td>Staff look to me to provide suggestions for work changes (items 13-15)</td>
</tr>
<tr>
<td></td>
<td>Staff provide suggestions for work changes and work with me to implement the best changes (items 16-18)</td>
</tr>
</tbody>
</table>

Notes

1. The scores are the item difficulties in logits for the items that fit the model and belong to the sub-group indicated.
2. Negative values indicate the item difficulty in logits are low on the scale (or easier). Positive values indicate that the item difficulty in logits are high on the scale (or harder).
3. All item difficulties are easiest in the ideal perspective, harder in the capability perspective, and hardest in the behaviour perspective (except for the items 16 and 17), as conceptualised.
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PERSONS</th>
<th>ITEM DIFFICULTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>High Leadership</td>
<td>Hard items</td>
</tr>
</tbody>
</table>

| 3.0      | X           |                    |
| X        |             |                    |
| X        |             |                    |
| XX       |             |                    |
| 2.0      | X           |                    |
| XXX      |             |                    |
| XXXX     | LeadBeh1, LeadBeh4 |          |
| XXXXXX   | LeadBeh2, LeadBeh3 |          |
| XXXXXXXX | LeadCap2, LeadCap3, LeadId1, LeadCap4 |      |
| 1.0      | XXXXXXXX    |                    |
| XXXXXXX  | LeadId2    |                    |
| XXX      |             |                    |
| X        | LeadCap1, LeadId3 |    |
| X        | LeadId1    |                    |
| X        |            |                    |
| -2.0     | Low leadership | Easy items        |

Each X = 3 persons

**Figure 6.11** Leadership measures against item difficulties (Leading)

Note
1. LeadId1 means Item 1 for leading in the ideal perspective
2. LeadCap1 means Item 1 for leading in the capability perspective
3. LeadBeh1 means Item 1 for leading in the behaviour perspective
4. LeadId2 means Item 2 for leading in the ideal perspective
5. LeadCap2 means Item 2 for leading in the capability perspective
6. LeadBeh2 means Item 2 for leading in the behaviour perspective
7. LeadId3 means Item 3 for leading in the ideal perspective
8. LeadCap3 means Item 3 for leading in the capability perspective
9. LeadBeh3 means Item 3 for leading in the behaviour perspective
10. LeadId4 means Item 4 for leading in the ideal perspective
11. LeadCap4 means Item 4 for leading in the capability perspective
12. LeadBeh4 means Item 4 for leading in the behaviour perspective
Managing (2nd aspect of Managerial Leadership Competency)

The second aspect of Managerial Leadership Competency, Managing, has three parts. The first part is Meeting Targets which has 6 items (2, real, 2 capability and 2 ideal) that fit the measurement model. The difficulties of these items range from -0.67 to +0.39 logits (see Table 6.2). In general, managers found it easiest to hold high ideal self-views, harder to hold high capability self-views, and hardest to hold high behavioural self-views. Figure 6.10 below plots the difficulties of the 6 items from the Meeting Targets sub-group on a continuum showing the item difficulty, or order of items, from very easy to hard. As the scale indicates, in general, managers found item 22, very easy, items 23, and 24, moderately easy, items 26 and 24, moderately hard, and item 27, the hardest of the six items to answer in the highest category.

<table>
<thead>
<tr>
<th>Item</th>
<th>Very easy</th>
<th>moderately easy</th>
<th>hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>26</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>27</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure 6.12: Item difficulties for the aspect Meeting targets.

Note: The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.

In a behavioural self-view perspective of What I actually do with my staff, managers found it moderately easy to say that staff understand the targets and work with them to achieve those targets (item 24). They found it harder to say that they staff anticipate certain problems and work with them to overcome them and meet the targets (item 27). In a capability self-view perspective of This is what I am capable of, managers found it moderately easy to say that staff understand the targets and work with them to achieve those targets (item 25). They found it moderately easy to say that staff anticipate certain problems and work with them to overcome and meet the targets (item 26).
In an ideal self-view perspective of *This is what I think should happen*, managers found it very easy to say that staff understand the targets and work with them to achieve those targets (item 22). They found it moderately easy to say that staff anticipate certain problems and work with them to overcome and meet the targets (item 23).

The second part of Managing, creativity, has 6 items (2 real, 2 capability, and 2 ideal) that fit the measurement model. The difficulties of these items range from -0.24 to +0.96 logits. In a behavioural self-view perspective of *This is what I actually do with my staff*, managers found it hard to say that staff understand the competitiveness in our business market place (item 30). They found it harder and hard to say that staff show me how we can be creative and more competitive in our business (item 33). In a capability self-view perspective of *This is what I think I am capable of*, managers found it hard to say that staff understand the competitiveness in our business market place (items 32). They found it moderately easy to say that staff show me how we can be creative and more competitive in our business (item 29). In an ideal self-view perspective of *This is what I think should happen*, managers found it moderately easy to say that staff understand the competitiveness in our market place (item 28). They found it very easy to say that staff show me how we can be creative and more competitive in our business (item 31).

<table>
<thead>
<tr>
<th>Very easy</th>
<th>moderately easy</th>
<th>hard</th>
<th>very hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item</td>
<td>31</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>Difficulties</td>
<td>-0.24</td>
<td>-0.03</td>
<td>+0.07</td>
</tr>
</tbody>
</table>

*Figure 6.13: Item difficulties for the aspect Creativity.*

*Note: The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.*
The third sub-group of Managing, adaptability, has 6 items (2 real, 2 capability, and 2 ideal) that fit the model. The difficulties of these items range from \(-0.69\) to \(+0.60\) logits. In a behavioural self-view perspective of *This is what I actually do with my staff*, managers found it moderately hard to say that they adapt their decisions whenever the situation requires, for the interest of the company (item 42). They found it harder to say that they think, adapt and implement decisions to keep the company competitive in the market place (item 45). In a capability self-view perspective of *This is what I think I am capable of*, managers found it moderately easy to say that they adapt their decisions whenever the situation requires, for the interest of the company (item 41). They found it moderately hard to say that they think, adapt and implement decisions to keep the company competitive in the marketplace (items 44). In an ideal self-view perspective of *This is what I think should happen*, managers found it very easy to say that staff adapt my decisions whenever the situation requires this, for the interest of the company (item 40).

\[
\begin{array}{cccccc}
\text{Very easy} & \text{moderately easy} & \text{moderately hard} & \text{hard} \\
40 & 41 & 44 & 42 & 43 & 45 \\
\end{array}
\]

Difficulties \(-0.69\) \(-0.16\) \(+0.20\) \(+0.22\) \(+0.25\) \(+0.60\)

*Figure 6.14: Item difficulties for the aspect Adaptability.*

*Note:* The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.
Table 6.3

**Item difficulty by perspective for Managing.**

<table>
<thead>
<tr>
<th>Managerial Leadership Competencies</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ideal</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td><strong>Meeting Targets</strong></td>
<td></td>
</tr>
<tr>
<td>Staff understand the targets and</td>
<td>-0.67</td>
</tr>
<tr>
<td>work with me to achieve those</td>
<td></td>
</tr>
<tr>
<td>targets.</td>
<td>(Items 22, 23, 24)</td>
</tr>
<tr>
<td>Staff anticipate certain problems</td>
<td>-0.30</td>
</tr>
<tr>
<td>and work with me to overcome them</td>
<td></td>
</tr>
<tr>
<td>and meet the targets.</td>
<td>(Items 25, 26, 27)</td>
</tr>
<tr>
<td><strong>Creativity</strong></td>
<td></td>
</tr>
<tr>
<td>Staff understand the competitiveness in our business market place.</td>
<td>+0.07</td>
</tr>
<tr>
<td>(Items 28, 29, 30)</td>
<td></td>
</tr>
<tr>
<td>Staff show me how we can be creative and more competitive in our business.</td>
<td>-0.24</td>
</tr>
<tr>
<td>(Items 31, 32, 33)</td>
<td></td>
</tr>
<tr>
<td><strong>Adaptability</strong></td>
<td></td>
</tr>
<tr>
<td>Adapt my decisions whenever the situation requires this, for the best interest of the company.</td>
<td>-0.69</td>
</tr>
<tr>
<td>(Items 40, 41, 42)</td>
<td></td>
</tr>
<tr>
<td>Think, adapt and implement decisions to keep the company competitive in the market place.</td>
<td>+0.25</td>
</tr>
<tr>
<td>(Items 43, 44, 45)</td>
<td></td>
</tr>
</tbody>
</table>

**Notes on Table 6.3**

1. The scores are the item difficulties in logits for the items that fit the measurement model and belong to the sub-group indicated.

2. Negative values indicate the item difficulty in logits are low on the scale (or easier). Positive values indicate that the item difficulty in logits are high on the scale (or harder).
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PERSONS</th>
<th>ITEM DIFFICULTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>High Leadership</td>
<td>Hard items</td>
</tr>
<tr>
<td>3.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XX</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXX</td>
<td>ManBeh4</td>
</tr>
<tr>
<td></td>
<td>XXXX</td>
<td>ManBeh3, ManBeh6</td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td>ManBeh1, ManId6</td>
</tr>
<tr>
<td></td>
<td>XXXXXXXX</td>
<td>ManBeh5, ManBeh2</td>
</tr>
<tr>
<td>0.0</td>
<td>XXXXXXXX</td>
<td>ManId3, ManCap5, ManCap6</td>
</tr>
<tr>
<td></td>
<td>XXXXXXXX</td>
<td>ManCap1, ManId2, ManId4</td>
</tr>
<tr>
<td></td>
<td>XXX</td>
<td>ManId1, ManId5</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ManCap2</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ManCap3</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ManCap5</td>
</tr>
<tr>
<td>-2.0</td>
<td></td>
<td>Low leadership</td>
</tr>
</tbody>
</table>

Each X = 3 persons

Figure 6.15 Leadership measures against item difficulties (Managing) (L=18)

1. ManId1 means Item 1 for Managing in the ideal perspective
2. ManCap1 means Item 1 for Managing in the capability perspective
3. ManBeh1 means Item 1 for Managing in the behaviour perspective
4. ManId2 means Item 2 for Managing in the ideal perspective
5. ManId3 means Item 3 for Managing in the ideal perspective
6. ManId4 means Item 4 for Managing in the ideal perspective
7. ManId5 means Item 5 for Managing in the ideal perspective
8. ManCap2 means Item 5 for Managing in the capability perspective
9. ManBeh2 means Item 5 for Managing in the behaviour perspective
10. ManId6 means Item 6 for Managing in the ideal perspective
11. ManBeh3 means Item 4 for Managing in the behaviour perspective
12. ManBeh4 means Item 3 for Managing in the behaviour perspective
13. ManBeh5 means Item 2 for Managing in the behaviour perspective
14. ManBeh6 means Item 6 for Managing in the capability perspective
15. ManCap3 means Item 6 for Managing in the capability perspective
16. ManCap4 means Item 2 for Managing in the capability perspective
17. ManCap5 means Item 3 for Managing in the capability perspective
18. ManCap6 means Item 5 for Managing in the capability perspective
Communication (3rd aspect of managerial Leadership Competency)

The third aspect of Managerial Leadership Competency, Communication, has two parts: Decision-making and Communicating. Decision-making, has 6 items (2 real, 2 capability, 2 ideal) that fit the measurement model. The difficulties of these items range from -0.55 to +0.80 logits (see Table 6.4). Table 6.4 shows the item difficulty by perspective for Communication (decision-making). In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and, in turn, harder to hold high behaviour self-views for Communication. That is, the ideal items were easier than the capability, which were easier than the behaviour items. Figure 6.14 below plots the ‘difficulties’ of the six items from the Communicating sub-scale on a continuum showing the item difficulty, or order of items, from very easy to very hard.

<table>
<thead>
<tr>
<th>Item</th>
<th>very easy</th>
<th>moderately easy</th>
<th>very hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>49</td>
<td>53</td>
<td>51</td>
</tr>
</tbody>
</table>

Difficulties: -0.86, -0.55, +0.00, -0.04, +0.04, +0.80

Figure 6.16: Item difficulties for the aspect Decision-making.

Note: The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.
In a behavioural self-view of *This is what is actually happening*, managers found it moderately easy to say that they make decisions after consulting with staff and then convey the decisions to staff for implementation (item 51). They found it very hard to say that they convey decisions to staff and then work with staff to implement them successfully (item 54). In a capability self-view of *This is what I think I am capable of*, managers found it very easy to say that they make decisions after consulting with staff and then convey the decisions to staff for implementation (item 50). They found it moderately easy to say that they convey decisions to staff and then work with staff to implement them successfully (item 53). In an ideal self-view of *This is what I think should be happening*, managers found it very easy to say that they make decisions after consulting with staff and then convey the decisions to staff for implementation (item 49). They found it moderately easy to say that they convey decisions to staff and then work with staff to implement them successfully (item 52). As conceptualised, the difficulties of each of these items in their ideal perspective is easier than their behaviour perspective.

The second part, Communicating, has 6 items (2 real, 2 capability, 2 ideal) that fit the model. The difficulties of these items range from −0.49 to +0.74 logits. In a behavioural self-view of *This is what I think should be happening*, managers found it moderately easy to say that they talk to staff and communicate in other ways with staff about work problems (item 60). They found it very hard to say that they communicate with staff on work problems and provides follow-up communication after implementation (item 63). In a capability self-view of *This is what I think I am capable of*, managers found it very easy to say that they talk to staff and communicate in other ways with staff about work problems (item 59). They found it moderately easy to say that they communicate with staff on work problems and provide follow-up communication after implementation (item 62). In an ideal self-view of *ideally, this is what I think should be happening*, managers found it very easy to say that they talk to staff and communicate in other ways with staff about work problems (item 58). They found it hard to say that they communicate with staff on work problems and provide follow-up communication after implementation (item 61). Each of the ideal items in this sub-group are easier than the corresponding behaviour items, as conceptualised.
<table>
<thead>
<tr>
<th>Item</th>
<th>easy</th>
<th>moderately</th>
<th>hard</th>
<th>very hard</th>
</tr>
</thead>
<tbody>
<tr>
<td>59</td>
<td>58</td>
<td>62  60</td>
<td>61</td>
<td>63</td>
</tr>
<tr>
<td>Difficulties</td>
<td>-0.49</td>
<td>-0.47</td>
<td>+0.07 +0.07</td>
<td>+0.44</td>
</tr>
</tbody>
</table>

Figure 6.17: Item difficulties for the aspect Communicating.

Note: The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.

Table 6.4 shows the item difficulty by perspective from the easiest to the 'hardest' for Communication (Communicating). In general, middle-level managers found it easier to hold higher ideal self-views than to hold high behavioural self-views for Communicating.
Table 6.4
Item difficulty by perspective for Communication

<table>
<thead>
<tr>
<th>Managerial Leadership Competency</th>
<th>Perspective</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Ideal</td>
<td>Capability</td>
<td>Behaviour</td>
<td></td>
</tr>
<tr>
<td><strong>Decision-making</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make decisions after consulting with staff and then convey the decisions to staff for implementation (Items 49, 50, 51)</td>
<td>-0.55</td>
<td>-0.86</td>
<td>+0.04</td>
<td></td>
</tr>
<tr>
<td>Convey decisions to staff and then work with staff to implement them successfully. (Items 52, 53, 54)</td>
<td>+0.04</td>
<td>-0.03</td>
<td>+0.80</td>
<td></td>
</tr>
<tr>
<td><strong>Communicating</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Available to talk to staff and communicate in other ways with staff about work problems. (Items 58, 59, 60)</td>
<td>-0.47</td>
<td>-0.49</td>
<td>+0.07</td>
<td></td>
</tr>
<tr>
<td>Communicates with staff on work problems and provide follow-up communication after implementation. (Items 61, 62, 63)</td>
<td>-0.44</td>
<td>-0.07</td>
<td>+0.74</td>
<td></td>
</tr>
</tbody>
</table>

Notes on Table 6.4
1. The scores are the item difficulties in logits for the items that fit the model and belong to the sub-group indicated.
2. Negative values indicate the item difficulty in logits are low on the scale (or easier). Positive values indicate that the item difficulty in logits are high on the scale (or harder)
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PERSONS</th>
<th>ITEM DIFFICULTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>High Leadership</td>
<td>Hard items</td>
</tr>
<tr>
<td>3.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>2.0</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXXXXXX</td>
<td>ComBeh2</td>
</tr>
<tr>
<td></td>
<td>XXXXX</td>
<td>ComBeh3</td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>XXXXXXXX</td>
<td>ComBeh1, ComId2, ComBeh3</td>
</tr>
<tr>
<td></td>
<td>XXXXXX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>XXX</td>
<td>ComCap1</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>ComId1, ComId3, ComId4, ComCap3</td>
</tr>
<tr>
<td>-1.0</td>
<td>X</td>
<td>ComCap2, ComCap4</td>
</tr>
<tr>
<td>-2.0</td>
<td>Low leadership</td>
<td>Easy items</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Each X = 3 persons

Figure 6.16 Leadership measures against item difficulties (Communication) (L=12)

Note
1. ComId1 means Item 1 for Communication in the ideal perspective
2. ComCap1 means Item 1 for Communication in the capability perspective
3. ComBeh1 means Item 1 for Communication in the behaviour perspective
4. ComId2 means Item 2 for Communication in the ideal perspective
5. ComId3 means Item 3 for Communication in the ideal perspective
6. ComId4 means Item 4 for Communication in the ideal perspective
7. ComBeh2 means Item 2 for Communication in the behaviour perspective
8. ComBeh3 means Item 4 for Communication in the behaviour perspective
9. ComCap3 means Item 3 for Communication in the capability perspective
10. ComCap2 means Item 2 for Communication in the capability perspective
11. ComCap4 means Item 4 for Communication in the capability perspective
Best practice (4th aspect of Managerial Leadership Competency)

The fourth aspect of Managerial Leadership Competency, Best Practice, has two parts. One part is Mentoring, which has 6 items (2 real, 2 capability, 2 ideal) that fit the measurement model. The difficulties of these items range from -0.61 to +0.88 logits (see Table 6.5). Table 6.5 shows the item difficulty by perspective from the easiest to the hardest for Best Practice (Mentoring). In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and to hold high behaviour self-views for Best Practice. The ideal items were easier than the capability items, which were easier than the behaviour items. Figure 6.13 below plots the difficulties of the six items from the Best Practice sub-scale on a continuum showing the item difficulty or order of items from easy to hard.

<table>
<thead>
<tr>
<th>Item</th>
<th>64</th>
<th>65</th>
<th>70</th>
<th>66</th>
<th>71</th>
<th>72</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties</td>
<td>-0.61</td>
<td>-0.54</td>
<td>+0.15</td>
<td>+0.17</td>
<td>+0.31</td>
<td>+0.8</td>
</tr>
</tbody>
</table>

Figure 6.19: Item difficulties for the aspect Mentoring

Note: The item difficulties are labelled, somewhat arbitrarily, from very easy to hard to help with explanation in the text.
In a behavioural self-view of *This is what I think should be happening*, managers found it moderately hard to say that they are available to be a mentor to prospective good workers (item 66). They found it very hard to say that they evaluate staff and best practice methods to ensure the company is up-to-date with best practice (item 72). In a capability self-view of *This is what I think I am capable of*, managers found it very easy to say that they are available to be a mentor to prospective good workers (item 65). They found it moderately hard to say that they evaluate staff and best practice methods to ensure the company is up-to-date with best practice (item 71). In a self-view of *ideally, this is what I think should be happening*, managers found it very easy to say that they are available to be a mentor to prospective good workers (item 64). They found it moderately hard to say that they evaluate staff and best practice methods to ensure the company is up-to-date with best practice (item 70).

The second part of Best Practice, Customer Focus, has 6 items (2 real, 2 capability, 2 ideal) that fit the model. The difficulties of these items range from -0.36 to +0.57 logits (see Table 6.5). Table 6.5 shows the item difficulty by perspective from the easiest to the hardest for Best Practice (Customer focus). In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and to hold high behavioural self-views for Best Practice. The ideal items were easier than the capability items, which were easier than the behaviour items, except for items 76, 77 and 78. Figure 6.20 below plots the difficulties of the six items from the Best Practice sub-scale on a continuum showing the item difficulty in order of items from easy to hard.
<table>
<thead>
<tr>
<th>Item</th>
<th>79</th>
<th>77</th>
<th>78</th>
<th>76</th>
<th>80</th>
<th>81</th>
</tr>
</thead>
<tbody>
<tr>
<td>Difficulties</td>
<td>-0.70</td>
<td>-0.59</td>
<td>-0.46</td>
<td>-0.36</td>
<td>+0.13</td>
<td>+0.57</td>
</tr>
</tbody>
</table>

**Figure 6.20**: Items difficulties for the aspect Customer Focus.

**Note**: The item difficulties are labelled, somewhat arbitrarily, from very easy to 'hard’ to help with explanation in the text.

In a behavioural self-view of *This is what I think should be happening*, managers found it very easy to say that they have a strong focus on customers and help staff to focus on customers (item 78). They found it very hard to say that *they help staff to implement a focus on customers and best business practice to keep competitive* (item 81). In a capability self-view of *This is what I think I am capable of*, managers found it very easy to say that *they have a strong focus on customers* (item 77). They found it moderately hard to say that *they help staff to implement a focus on customers and best business practice to keep competitive* (item 80). In an ideal self-view of ideally, *this is what I think should be happening*, managers found it moderately easy to say that *they have a strong focus on customers and help staff to focus on customers* (item 76). They found it very easy to say that *they help staff to implement a focus on customers and best business practice to keep competitive* (item 79). Each of the ideal items in this sub-group is easier than the self-reported behaviour items.
Table 6.5
Item difficulty by perspective for Best Practice

<table>
<thead>
<tr>
<th>Managerial Leadership Competency</th>
<th>Perspective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Best Practice</td>
<td>Ideal</td>
</tr>
<tr>
<td><strong>Mentoring</strong></td>
<td></td>
</tr>
<tr>
<td>Available to talk to be a mentor to prospective good workers. (Items 64, 65, 66)</td>
<td>-0.61</td>
</tr>
<tr>
<td>Evaluate staff and best practice methods to ensure the company is up to date with best practice. (Items 70, 71, 72)</td>
<td>+0.13</td>
</tr>
<tr>
<td><strong>Customer Focus</strong></td>
<td></td>
</tr>
<tr>
<td>Have a strong focus on customers and help staff to focus on customers. (Items 76, 77, 78)</td>
<td>-0.26</td>
</tr>
<tr>
<td>Help staff to implement a focus on customers and best business practice to keep competitive. (Items 79, 80, 81)</td>
<td>-0.70</td>
</tr>
</tbody>
</table>

Notes on Table 6.5

1. The scores are the item difficulties in logits for the items that fit the model and belong to the sub-group indicated.
2. Negative values indicate the item difficulty in logits are low on the scale (or easier). Positive values indicate that the item difficulty in logits are high on the scale (or harder).
<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PERSONS</th>
<th>ITEM DIFFICULTIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Leadership</td>
<td></td>
<td>Hard items</td>
</tr>
</tbody>
</table>

- 3.0
  - X
  - X
  - X
  - XX

- 2.0
  - X
  - XXX
  - XXXX
  - XXXXXX
  - XXXXXXXXXXX

- 1.0
  - XXXXXXXXXXX
  - XXXXXXXXXXXX | BestPBeh1, BestPId2, BestPCap4, BestPBeh4
  - XXXX | BestPId4
  - XXXXX
  - XXXXXXXXXXXXX

- 0.0
  - XXXXXXXXXXXXX | BestPCap2
  - XXXX | BestPId1, BestPCap1, BestCap3, BestPId4,
  - X | BestPBeh3
  - X | BestPId3

- -1.0
  - X
  - X
  - |

- -2.0
  - Low Leadership | Easy items

Each X = 3 persons

**Figure 6.21** Leadership measures against item difficulties (Using Best Practice) (N=12)

**Note**

1. BestPId1 means Item 1 for Best Practice in the ideal perspective
2. BestPCap1 means Item 1 for Best Practice in the capability perspective
3. BestPBeh1 means Item 1 for Best Practice in the behaviour perspective
4. BestPId2 means Item 2 for Best Practice in the ideal perspective
5. BestPId3 means Item 3 for Best Practice in the ideal perspective
6. BestPId4 means Item 4 for Best Practice in the ideal perspective
7. BestPCap4 means Item 4 for Best Practice in the capability perspective
8. BestPBeh2 means Item 2 for Best Practice in the behaviour perspective
9. BestPCap3 means Item 3 for Best Practice in the capability perspective
10. BestPBeh3 means Item 3 for Best Practice in the behaviour perspective
11. BestPCap2 means Item 2 for Best Practice in the capability perspective
12. BestPBeh4 means Item 4 for Best Practice in the behaviour perspective.
Summary

A Rasch Unidimensional Measurement Model computer program was used to analyse the data for Mid-Level Manager Leadership Competency, which initially comprised 84 items. After the analysis, only 54 items fitted the measurement model, and are linked together on a scale to provide valid and reliable data, based on the four aspects of middle-level Manager Leadership Competency (Leading, Managing, Communicating and Best Practice). Results of the data analysis show that middle-level managers' real, capability and ideal self-views of leadership competencies can be aligned using a Rasch Measurement Model on a scale from low to high and the difficulties of the items relating to the four aspects of leadership competency can be aligned on the same scale as the leadership competency measures from easy to hard. The Rasch analysis of the data for 54 items largely supports the theoretical model behind the questionnaire. The main findings of the Rasch analysis are set out below.

Leadership Competency Scale

1. The item threshold values are ordered from low to high indicating that managers have answered logically and consistently with the response format used.

2. The Indices of Managers' Separation Index is 0.96 indicating that the separability of the measures along the scale in relation to the errors of measurement is high.

3. The values of the person and item standardised fit residuals are approximately zero and the values of their standard deviations are approximately 1. This indicates that there is a good global fit to the measurement model.

4. The data analysis indicates that a good unidimensional scale of self-reported middle-level Manager Leadership Competency has been constructed. For this 54-item scale, the errors are small, the internal reliability is very high (0.96) and the power of tests-of-fits are excellent. The evidence supports the view that the data are valid and reliable.
Leadership Competency

(1) 52 (17.3%) of the managers have leadership measures from -2 to zero logits, and they can be regarded as having low leadership competency.

(2) 138 (46%) of the managers have leadership measures from zero to +1 logits, and they can be regarded as having moderately good leadership competency.

(3) 89 (29.7%) of managers have leadership measures from +1 to +2 logits and they can be regarded as having a high leadership competency.

(4) 22 (7.3%) of managers have leadership measures from +2 to +4 logits, and they have a very high leadership competency.

(5) The findings indicate that managers with low leadership competency measures would most likely be able to respond positively to an easy item, but managers would need progressively higher leadership competency measures in order to respond positively to harder items.
### Table 6.6

**Item difficulty by Ideal perspective for the four leadership competency aspects from the easiest to the hardest**

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>ITEM WORDINGS</th>
<th>ITEM DIFFICULTY</th>
<th>EASIEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-5</td>
<td>Staff listen and consult for advice on work problems</td>
<td>-0.50</td>
<td></td>
</tr>
<tr>
<td>79-81</td>
<td>Help staff to implement on customers and best business practice</td>
<td>-0.70</td>
<td></td>
</tr>
<tr>
<td>40-42</td>
<td>Adapt my decision whenever the situation requires for the interests of the company</td>
<td>-0.69</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>Staff understand the targets</td>
<td>-0.67</td>
<td></td>
</tr>
<tr>
<td>64-66</td>
<td>Available to be a mentor to workers</td>
<td>-0.61</td>
<td></td>
</tr>
<tr>
<td>49-51</td>
<td>Make decision after consulting with staff</td>
<td>-0.55</td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>Staff provide suggestions for work changes</td>
<td>-0.49</td>
<td></td>
</tr>
<tr>
<td>58-60</td>
<td>Communicate with staff on work problems</td>
<td>-0.047</td>
<td></td>
</tr>
<tr>
<td>76-78</td>
<td>Have a strong customer focus</td>
<td>-0.36</td>
<td></td>
</tr>
<tr>
<td>25-27</td>
<td>Staff anticipate certain problems and work with me to overcome them</td>
<td>-0.30</td>
<td></td>
</tr>
<tr>
<td>31-33</td>
<td>Staff show me how we can be creative and more competitive</td>
<td>-0.24</td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>Staff understand the competitiveness in our business market place</td>
<td>+0.07</td>
<td></td>
</tr>
<tr>
<td>70-72</td>
<td>Evaluate staff and using best practice methods</td>
<td>+0.15</td>
<td></td>
</tr>
<tr>
<td>43-45</td>
<td>Think, adapt and implement decisions to keep the company competitive</td>
<td>+0.25</td>
<td>HARDEST</td>
</tr>
</tbody>
</table>

**Notes on Table 6.6.**

1. The scores of the item difficulties are in logits for the items that fit the model.
2. Negative values indicate the items are low on the scale (or easier). Positive values indicate that the items are high on the scale (or harder).
3. According to individual item value, generally the ideal item is easier than the capability and behaviour items.
Table 6.7
Item difficulty by Capability perspective for the four leadership competency aspects from the easiest to the hardest

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>ITEM WORDINGS</th>
<th>ITEM DIFFICULTY</th>
<th>EASIEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>49-51</td>
<td>Make decision after consulting with staff</td>
<td>-0.66</td>
<td></td>
</tr>
<tr>
<td>64-66</td>
<td>Available to be a mentor to workers</td>
<td>-0.61</td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>Staff provide suggestions for work changes</td>
<td>-0.49</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>Staff listen and consult for advice on work problems</td>
<td>-0.47</td>
<td></td>
</tr>
<tr>
<td>58-60</td>
<td>Communicate with staff on work problems</td>
<td>-0.047</td>
<td></td>
</tr>
<tr>
<td>76-78</td>
<td>Have a strong customer focus</td>
<td>-0.36</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>Staff understand the targets</td>
<td>-0.29</td>
<td></td>
</tr>
<tr>
<td>40-42</td>
<td>Adapt my decision whenever the situation requires for the interests of the company</td>
<td>-0.016</td>
<td></td>
</tr>
<tr>
<td>79-81</td>
<td>Help staff to implement on customers and best business practice</td>
<td>-0.13</td>
<td></td>
</tr>
<tr>
<td>25-27</td>
<td>Staff anticipate certain problems and work with me to overcome them</td>
<td>-0.09</td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>Staff understand the competitiveness in our business market place</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>70-72</td>
<td>Evaluate staff and using best practice methods</td>
<td>+0.15</td>
<td></td>
</tr>
<tr>
<td>43-45</td>
<td>Think, adapt and implement decisions to keep the company competitive</td>
<td>+0.20</td>
<td></td>
</tr>
<tr>
<td>31-33</td>
<td>Staff show me how we can be creative and more competitive</td>
<td>+0.45</td>
<td>HARDEST</td>
</tr>
</tbody>
</table>

Notes on Table 6.7.
1. The scores of the item difficulties are in logits for the items that fit the model.
2. Negative values indicate the items are low on the scale (or easier). Positive values indicate that the items are high on the scale (or harder).
3. According to individual item value, generally the capability item is harder than the ideal item but easier than the behaviour items.
Table 6.8

Item difficulty by Behaviour perspective for the four leadership competency aspects from the easiest to the hardest:

<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>ITEM WORDINGS</th>
<th>ITEM DIFFICULTY</th>
<th>EASIEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>76-78</td>
<td>Have a strong customer focus</td>
<td>-0.046</td>
<td></td>
</tr>
<tr>
<td>13-15</td>
<td>Staff provide suggestions for work changes</td>
<td>-0.03</td>
<td></td>
</tr>
<tr>
<td>49-51</td>
<td>Make decision after consulting with staff</td>
<td>+0.04</td>
<td></td>
</tr>
<tr>
<td>58-60</td>
<td>Communicate with staff on work problems</td>
<td>+0.07</td>
<td></td>
</tr>
<tr>
<td>64-66</td>
<td>Available to be a mentor to workers</td>
<td>+0.17</td>
<td></td>
</tr>
<tr>
<td>40-42</td>
<td>Adapt my decision whenever the situation requires for the interests of the company</td>
<td>+0.22</td>
<td></td>
</tr>
<tr>
<td>25-27</td>
<td>Staff anticipate certain problems and work with me to overcome them</td>
<td>+0.39</td>
<td></td>
</tr>
<tr>
<td>22-24</td>
<td>Staff understand the targets</td>
<td>+0.39</td>
<td></td>
</tr>
<tr>
<td>79-81</td>
<td>Help staff to implement on customers and best business practice</td>
<td>+0.57</td>
<td></td>
</tr>
<tr>
<td>4-5</td>
<td>Staff listen and consult for advice on work problems</td>
<td>+0.59</td>
<td></td>
</tr>
<tr>
<td>43-45</td>
<td>Think, adapt and implement decisions to keep the company competitive</td>
<td>+0.60</td>
<td></td>
</tr>
<tr>
<td>28-30</td>
<td>Staff understand the competitiveness in our business market place</td>
<td>+0.73</td>
<td></td>
</tr>
<tr>
<td>78-72</td>
<td>Evaluate staff and using best practice methods</td>
<td>+0.88</td>
<td></td>
</tr>
<tr>
<td>31-33</td>
<td>Staff show me how we can be creative and more competitive</td>
<td>+0.96</td>
<td>HARDEST</td>
</tr>
</tbody>
</table>

Notes on Table 6.8.

1. The scores of the item difficulties are in logits for the items that fit the model.
2. Negative values indicate the items are low on the scale (or easier). Positive values indicate that the items are high on the scale (or harder).
3. According to individual item value, generally the behaviour item is harder than the ideal item and capability items.
Easiest items for Leading

The easy items for Leading and Directing are the ideal (item 4) and capability (item 5) perspectives, relating to *staff listen to me and consult me for advice on work problems*. The easiest item for Leading and Changing is the ideal perspective (item 13), relating to *staff look to me and provide suggestions for work changes*.

Easiest items for Managing

The easy items for Meeting Targets are the ideal perspective, relating to *staff understand the targets and work with me to achieve those targets* (item 22), *staff anticipating certain problems and working with me to overcome them and meet the targets* (item 25), for Creativity, the ideal perspective, relating to *staff show me how we can be creative and more competitive in our business* (item 31); and for adaptability, the ideal perspective, *adopt my decisions whenever the situation requires this, for the best interests of the company* (item 49).

Easiest items for Communicating

The easy items for Decision-Making are the ideal and capability perspectives, *making decisions after consulting with staff and then conveying decisions to staff for implementation* (items, 49 and 50), and for Communicating, the ideal and capability perspectives, *talks to staff and communicates in other ways with staff about work problems* (items 58 and 59) and *communicating with staff on work problems and provides follow-up communication after implementation* (item 61).

Easiest items for Best Practice

The easy items for Mentoring are the ideal and capability perspectives, relating to *having a strong focus on customers and helping staff to focus on customers* Items 76 and 77) and *available to be a mentor to prospective good workers* (items 64 and 65), and for Customer Focus, the ideal perspective, *helping staff to implement a focus on customers and best business practice to keep competitive* (item 79).
Hard items for the four aspects of competency

Hardest items for Leading

The hard item for Leading and Directing is the behavior perspective, relating to *staff listen to me and consult me for advice on work problems* (item 6); and staff consulting me for work advice and then getting the work done quickly and efficiently (item 9) and for Leading and Changing, the behavior perspective, relating to *staff looking to me and also providing suggestions for work changes* (item 15), staff provide suggestions for work changes and working with me to implement the best changes (item 18).

Hardest items for Managing

The hard item for meeting targets is the behavior perspective, relating to *staff anticipate certain problems and work with me to overcome them and meet the targets* (item 27); for Creativity, the behavior perspective, relating to *staff show me how we can be creative and more competitive in our business,* (item 31), *staff understanding the competitiveness in our business marketplace* (item 30), and for Adaptability, relating to *thinking, adapting and implementing decisions to keep the company competitive in the market place* (item 45).

Hardest items for Communicating

The hard item for Decision-Making are the behavior perspective, relating to *conveying decisions to staff and then working with staff to implement them successfully* (item 54), and for Communicating, the behavior perspective, relating to *communicates with staff on work problems and provides follow-up communication after implementation* (item 63).

Hardest items for Best Practice

The hard items for Mentoring are the behavior perspective, relating to *evaluating staff and best practice methods to ensure the company is up-to-date with best practice* (item 72), and for Customer Focus, the behavior perspective, relating to *helping staff to implement a focus on customers and best business practice to keep competitive* (item 81).
The aspect of Leading

For Leading and Directing, ideally, most managers would like staff to listen and consult them for advice on work problems but, in the actual behaviour, they found it hard. For Leading and Changing where, in the ideal perspective, managers found it easy to say they would like staff to look to them for suggestions and implementation on work changes but they found it hard to do. In general, middle-level managers found it easier to hold high ideal self-views than to hold high capability self-views and harder still to hold high behaviour self-views for leading and changing. That is, the ideal items were ‘easier’ than the capability items, which, in turn, were easier than the behaviour items, except for items 5 and 7, thus partially supporting the conceptual model relating to Leading.

The aspect of Managing

For Meeting Targets, ideally, managers would like staff to work with them to achieve the targets but they found it hard in the actual work situation. For Creativity, managers found it actually hard for staff to show them how to be creative and competitive in business. For Adaptability, managers found it harder to adapt and implement decisions as much as they would like in the ideal situation. In general, middle-level managers found it easier to hold high ideal self-views than to hold high capability self-views and harder still to hold high real self-views for managing (meeting targets, creativity, and adaptability). That is, the ideal items were ‘easier’ than the capability items, which were easier than the behaviour perspective except for items 28 and 29, and 43 and 44 thus partially supporting the conceptualised model relating to Managing.

The aspect of Communicating

In the Decision-Making, ideally, managers found it easier to make decisions after consulting with staff than to implement it successfully in the actual situation. For Communicating, ideally it is easy for managers to talk to staff about work but in reality, managers found it hard to do so. In general, middle-level managers found it easier to hold high ideal self-views than to hold high capability self-views and harder still to hold high real self-views for Communication (Decision-making, and communicating). That is, the
ideal items were 'easier' than the capability items, which were easier than the behaviour perspective except for items 49 and 50, 52 and 53, and 58 and 59, thus partially supporting the conceptualised model relating to Communicating.

The aspect of Best Practice

For Mentoring, ideally, it is easy for managers to say they are available to be a mentor for workers but they actually found it hard to mentor staff. For Customer Focus, ideally managers can help staff on customer needs and wants but, they found it hard to implement and to keep competitive. In general, middle-level managers found it easier to hold high ideal self-views than to hold high capability self-views and harder still to hold high real self-views for Best Practice (Mentoring, and customer focus). That is, the ideal items were easier than the capability items, which were easier than the behaviour perspective except for items 77 and 76, thus partially supporting the conceptualised model relating to Best Practice.

The next chapter explains the data analysis of the open-ended questions and interviews.
CHAPTER SEVEN

DATA ANALYSIS (PART B AND PART C): RESULTS OF OPEN-ENDED QUESTIONS AND INTERVIEWS

This chapter has two parts, B and C. Part B begins with a description of the process undertaken to analyse data from Section Two of the questionnaire. The open-ended section of the questions that sought further information from the mid-level managers' comments on the most important leadership aspects in their business and why the aspects they have chosen are important to their business. It also includes what business they are in. It addresses the second research question as outlined in Chapter One. That is, what do middle-level business managers perceived as the most important aspects of leadership? And what are the least important aspects?

Part C explains how the information from the interviews was analysed. The interviews sought information about the managers' thinking on why they answered the way they did to the questionnaire that was given to them. It addresses the research questions as outlined in Chapter One. That is, what are the perceptions of middle-level business managers towards the four leadership competencies (Leading, Managing, Communication and Creating Best practice)? And what reasons do they give for this?

Part B: Open-ended questions

Process of analysis

Of the 300 questionnaires returned, 20 (seven percent) did not provide useful answers to the open-ended questions in Section Two of the questionnaire. That is, they did not provide any information relevant to the research questions. Table 7.1 shows that most of the managers answering the open-ended questionnaire came from the servicing industry (47 percent), followed by retailing (38 percent), and manufacturing (15 percent).
Table 7.1
Managers answering the open-ended questions from type of industries

<table>
<thead>
<tr>
<th>TYPE OF INDUSTRY</th>
<th>NUMBER OF MANAGERS ANSWERING THE OPEN-ENDED QUESTIONS</th>
<th>PERCENTAGE BY INDUSTRY</th>
</tr>
</thead>
<tbody>
<tr>
<td>SERVICING</td>
<td>133</td>
<td>47.5%</td>
</tr>
<tr>
<td>RETAILING</td>
<td>111</td>
<td>39.65%</td>
</tr>
<tr>
<td>MANUFACTURING AND MINING</td>
<td>36</td>
<td>12.85%</td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>100%</td>
</tr>
</tbody>
</table>

As for the two open-ended questions at the end of the questionnaires, the data were analysed in two parts. The first part involves categorizing the data. The second part was to analyse the data by means of calculating the percentages. The purpose of this analysis was to find out from the middle-level managers which aspect of leadership competencies was the most important and which aspect the least important. Each question was analysed for its content. For example, the first question *What are the most important leadership aspects in your business and what are least important* was analysed in two sections. That is, the most important aspects were categorised in section one and least important in section two.

For each question, the responses were read carefully to identify possible codes, or headings, to represent the primary data. This task of initial data analysis began the process of data reduction by establishing categories or ‘clusters’, as referred to by Miles and Huberman (1994). To begin with, a start list was devised, whereby codes
representing short headings were assigned to responses and the respondent number was entered into a display grid formed by the cluster headings. Varying numbers of clusters and start lists were created for each aspect of leadership competency. For example, in analysing what are the most important leadership aspects, responses such as empowering, listening, and people’s skills were assigned as cluster headings or codes. In some instances, new cluster headings were added relevant to the content of the answers. The same procedure of coding applies to the other open-ended question.

During the first stage of the analysis, some categories, or cluster headings, had as few as one entry. Examples of single entry headings were ‘staff rules and discipline’ and ‘having good staff’. It was not intended at this point to engage in further data reduction of the number of categories by grouping clusters together to form meta-clusters (Miles & Huberman, 1994).

At the beginning stage of analysis, several problems arose. In their responses to particular questions, some respondents provided information sought by other questions and, in such instances, a decision was made to code and record the responses overlapped enabling categorising within more than one question. For example, some respondents confused, or made no distinction between ‘leadership aspects’ in question one and ‘profit making’. Another problem that arose during the course of analysis was that it was not possible to ascertain the meaning of some responses with any certainty. In these instances, the responses were simply discarded. Once all responses had been assigned to a cluster, the process of reading, and reading again, the responses within the clusters continued. This process of comparing responses within and across clusters involved looking for similarities or links between clusters. In this manner, cluster headings were reduced as themes merged for the inclusion of two or more clusters under the one heading, thus forming a meta-cluster (Miles & Huberman, 1994). This process was not clear cut and involved moving clusters back and forth, until the final clusters were determined. By the end of the process, most single item clusters had been assigned to a meta-cluster. All together there were five meta-clusters or categories. These were: managing, leading, communicating, using best practice, and others.
Once the process of forming meta-clusters was completed, the number of responses under each heading was tallied. Percentages were calculated and based on the 280 useful returns. Summaries of the results of the analysis of data from the open-ended questions are presented in Tables 7.1 and 7.2. Tables 7.1, and 7.2 (Part B) show reported perceptions of middle-level managers on the most important aspects of leadership and least important aspects, the manager's explanation of the leadership aspects that are important to their business, and the types of industries in which they are engaged.

**Manager's perceptions of the most important and least important leadership aspects.**

Managers reported, or have identified, the most frequent leadership competency aspect that is important to their business as communicating (96, 32 percent). This includes: decision making, listening, people's skills and interpersonal skills. Examples of comments included (numbers after the comment refer to the questionnaire number):

- Managers must be able to make quick decisions (respondent 34)
- Quick and decisive actions are important (respondent 205)
- Managers must have good people skills (respondent 207)

The second most frequently identified leadership aspect was creating best practice (84, 28 percent). This includes: mentoring, customer focus and needs, and being competitive. Examples of comments were:

- Managers need to focus on customers needs (respondent 28)
- Managers need to be more competitive in getting customers (respondent 105)
- Managers should be able to mentor fellow workers (respondent 32)

The third frequently identified leadership aspect was that of managing (60, 20 percent). This includes: meeting targets, goals, creativity, and adaptability and demonstrating skills. Examples of comments were:
Managers need to set goals for the workers (respondent 99)
Managers must be creative and adapt to changes (respondent 150)
Managers need to demonstrate skills in management (respondent 51)

The fourth frequently identified leadership aspect was that of leading (54, 16 percent). This includes: empowering and leading by example. Examples of typical comments were:

Managers must be able to lead by example (respondent 11)
The managers should give empowerment to workers (respondent 17)
Managers must be change agents to lead. (Respondent 5)

The fifth leadership aspect identified was that classified as ‘others’ (6, 2 percent). This would have to be the least important aspect identified. This includes: motivation of staff, staff rules and discipline, and having good staff in the organisation. Examples were:

Managers must be able to implement rules and instil discipline (respondent 52)
Managers must be able to recruit good staff (respondent 99)
Managers must be able to motivate staff (respondent 64)
Table 7.2
Managers' perceptions of the most important leadership aspects and least important leadership aspects

<table>
<thead>
<tr>
<th>LEADERSHIP ASPECTS</th>
<th>NUMBER OF MANAGERS</th>
<th>PERCENTAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decision making/Listening</td>
<td>95</td>
<td>33 %</td>
</tr>
<tr>
<td>People's skills/ Interpersonal skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CREATING BEST PRACTICE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mentoring/ Customer focus</td>
<td>83</td>
<td>29 %</td>
</tr>
<tr>
<td>Be competitive</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MANAGING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meeting targets/ Meeting goals/ Creativity</td>
<td>60</td>
<td>20 %</td>
</tr>
<tr>
<td>Adaptability</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demonstrating skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LEADING</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Empowering</td>
<td>54</td>
<td>16 %</td>
</tr>
<tr>
<td>Leading by example</td>
<td></td>
<td></td>
</tr>
<tr>
<td>OTHERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation/</td>
<td>6</td>
<td>2 %</td>
</tr>
<tr>
<td>Well organise</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Able to solve problems</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>280</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Note: The most important leadership aspects are given at the top of the table. The least important are given at the bottom.
Managers' explanation of their perceptions of the important leadership aspects

In identifying the important leadership aspects to their business, managers gave the following reasons, which are summarised in Table 7.3

In Communicating, some examples of the explanations given were:

- Managers need effective communication with the customers. Without effective communication, managers cannot win customers (respondent 17).
- Communication is vital for getting the message across and getting along well with customers (respondent 10).
- Ability to talk well with workers to get thing done quickly (respondent 16).

In using Best Practice, some examples of the explanation were:

- Managers need to focus on clients' needs for business profitability and competition (respondent 42).
- To update knowledge and to keep customer loyalty by providing the best service (respondent 194).

In Managing, an explanation was:

- Managing is very important because there are various variables that a manager encounters daily. Some are known, some are unexpected and some are beyond his/her control. An effective manager is able to analyse the situation and manage the variables and changes. He or she should be able to take or make the necessary course of action or decision, which best suits the company or business objectives (respondent 228).

In Leading, one explanation was:

- Anticipate clients' requirements. Leading staff to changes that are taking place in the industry and to maintain business variability (respondent 12).

In 'others', one explanation was:

- A well-motivated employee will contribute more to the company. He or she will also put in more effort to increase productivity (respondent 253).
Table 7.3
Managers' explanations of their leadership perceptions in order of importance

<table>
<thead>
<tr>
<th>LEADERSHIP ASPECT</th>
<th>REASONS OR EXPLANATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMUNICATING</td>
<td>Effective communication is vital for customers as well as for staff relationships. Need to convey a clear message for good decision making and to win customers</td>
</tr>
<tr>
<td>Decision</td>
<td></td>
</tr>
<tr>
<td>making/Listening</td>
<td></td>
</tr>
<tr>
<td>People's skills</td>
<td></td>
</tr>
<tr>
<td>BEST PRACTICE</td>
<td>Important to the manager for him or her to focus on client needs.</td>
</tr>
<tr>
<td>Mentoring/ Customer focus</td>
<td></td>
</tr>
<tr>
<td>MANAGING</td>
<td>Managers should be able to analyse the situation of the company in terms of competition and profitability. Need to be able to adapt and be agents of change to meet the company objectives and vision.</td>
</tr>
<tr>
<td>Meeting targets/ Meeting goals/ Creativity/ Adaptability</td>
<td></td>
</tr>
<tr>
<td>Demonstrating skills</td>
<td></td>
</tr>
<tr>
<td>LEADING</td>
<td>Need to anticipate clients' requirements. Need to lead staff to changes that are taking place in the industry. Able to maintain business variability.</td>
</tr>
<tr>
<td>Empowering</td>
<td></td>
</tr>
<tr>
<td>Leading by example</td>
<td></td>
</tr>
<tr>
<td>OTHERS</td>
<td>A happy worker will add value to the company by putting in extra effort. Employees that are well motivated will contribute more productivity to the company, than others.</td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
</tr>
<tr>
<td>Well organised</td>
<td></td>
</tr>
<tr>
<td>Able to solve problems</td>
<td></td>
</tr>
</tbody>
</table>

Note: The most important leadership aspects are given at the top of the table. The least important leadership aspects are given at the bottom of the table, as demonstrated by the respondents on the open-ended questions.
Part C: Interview schedule

Of the 30 interviewees, 29 turned up for the interview. Notes of the interviews were kept during the interviews. They were written out more fully immediately after the interview and coded by letter (for interviewee), number (for interview number), and letter/number (for the aspect / paragraph).

Process of analysis

The data from the interview were analysed by categorizing the data and by calculating the percentage of response from each category of the data. The purpose of this analysis was to find out the perceptions of middle-level managers and the reasons or explanation given for answering the questionnaire. Each question was analysed for its content. The first question on leading, Why did you provide these answers on leading and directing? Can you explain what you were thinking? Can you explain how you lead and direct your staff? was analysed in two parts. That is, factors or reasons that helped explain their answers on the leadership competency aspects are explained as part C1, and factors or reasons that helped explain how they lead and direct their staff as part C2. The same two-part analysis applies to all other leadership competency aspects (Communicating, Managing and Best Practice).

For each question, the responses were read a number of times to gain an understanding of the general themes and to identify possible reasons and thinking that the managers gave for their answers. At the beginning stage of analysis, a few problems arose. In their responses to particular questions, some respondents provided vague and irrational information. For example, one respondent in question one on leading and directing indicated that he provided the answer because a friend ask him to complete the survey. Another problem that arose during the course of analysis was that it was not possible to ascertain the meaning of some responses with any certainty. In these instances, responses were simply discarded.
Reasons and thinking in providing the answers to the questionnaire (Part C.1)

Leading and directing

In their responses, most of the interview participants reported that they believed the company needs mission statements to provide clear directions and goals. They thought that managers need to lead by example. Some comments are stated below.

GE/18/GE/1  I was thinking about two things. Firstly, the mission statement of the company. The staff need to see their work in relation to that constantly. Secondly, I see staff meeting to realise that I can carry the prime role of developing the company vision (sic).

MT/20/ MT/1  These answers reflect my opinion on leading and directing. I was thinking of the extent my staff look to me for direction.

JN/21/JN/1  As a manager, it is important to provide clear directions to staff, and he is the one staff would turn to for advice when staff encountered problems or difficulties. Thus I rated 4 in the ideal situation.

DK/22/DK/1  The answers on leading and directing indicate what I think is the actual present situation in my company.

Managing

In their responses to the interview on managing, managers reported that they believed that meeting targets of the company was what they were thinking when they were answering the questionnaire. They also believed that the growth of the company, the business plan, creativity and adaptability were foremost in their mind when they provided the answers.
I believe targets set by the company's business plan are essential for the growth of the company.

I visit stakeholders regularly to listen for creative ideas. Then I workshop the ideas to make practical outcomes possible.

Targets, which are realistic and achievable, are set in line with the company objectives and plan. I was also thinking of the need to monitor, to educate and modify plans to achieve the targets set.

Because outside market conditions change and, if the company doesn't change, it will not succeed.

**Communication**

In their responses to the interviews on communication, managers feel that communication is vital in the decision making process, in building better relations with staff, in the exchanging of ideas and in improving staff morale. Some comments about communication are stated below.

Find opportunities to communicate with the staff, to understand their limitations and problems. Take necessary actions to assist them.

Staff were called to a meeting and the new decision was explained to them. Their opinions were sought and agreement obtained before implementation. I was thinking of the ways I could communicate with staff effectively.

I was thinking of the fact that good and timely decision making is the key to business success and how to be decisive and effective.
RT/25/RT/13  Good communication ensures that a company survives. So I am thinking of how to ensure it is simple, effective and understandable.

**Best practice**

In their responses to the interview on best practice, managers indicated that best practice provides opportunities for their company to mentor future leaders, evaluate projects and how best to serve the needs of their customers. Some typical statements are stated below.

MT/20/MT/15  I was thinking of how best to meet the needs of our customers.

KB/16/KB/15  I want my mentoring to be effective and beneficial to the company. I was thinking on how best to do it, so that my staff will get good grounding and be effective future leaders.

SF/2/SF/15  I always make myself available to mentor staff, especially new staff, or staff having difficulty in closing sales.

GB/18/GE/16  Good mentoring provides for the development of good future leaders. Customer focus is the first priority of the company.
Table 7.4
Managers’ main reasons for providing the answers to the main aspects of the questionnaire.

<table>
<thead>
<tr>
<th>MANAGERIAL LEADERSHIP COMPETENCY ASPECT</th>
<th>REASONS FOR PROVIDING THE ANSWERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADING AND DIRECTING</td>
<td>The staff need direction relating to the company mission.</td>
</tr>
<tr>
<td>Leading change</td>
<td>As a leader, it is important to provide clear directions to staff as they seek advice.</td>
</tr>
<tr>
<td></td>
<td>Thinking of staff opinions on leading and directing.</td>
</tr>
<tr>
<td>MANAGING</td>
<td>Thinking of staff and effort made by staff to achieve the company’s objectives.</td>
</tr>
<tr>
<td>Meeting- targets, creativity and adaptability</td>
<td>Believing that targets set by the company’s business plan are essential for growth of the company. Market place is constantly changing, making the need for creativity in a competitive environment.</td>
</tr>
<tr>
<td></td>
<td>Adaptability is good for staff morale.</td>
</tr>
<tr>
<td>COMMUNICATING</td>
<td>Thinking of loyalty to the company in day-to-day operations.</td>
</tr>
<tr>
<td>Decision- making, communicating</td>
<td>Decision-making is good for staff morale and is also a factor in achieving good outcomes.</td>
</tr>
<tr>
<td>BEST PRACTICE</td>
<td>Thinking of succession planning.</td>
</tr>
<tr>
<td>Mentoring and customer focus</td>
<td>Thinking of how best to meet the needs of customers. Customer focus is the first priority of the company.</td>
</tr>
<tr>
<td></td>
<td>Good mentoring provides for the development of good future leaders.</td>
</tr>
</tbody>
</table>

Source: Summary from interviews (N=29)
How managers implement changes and work with their staff (Part C.2)

Leading and directing

In their responses about how managers lead and direct their staff, most managers indicated that they need to lead by example, encouraging openness in staff discussion and leading staff with clear instructions. Some typical statements are set out below.

**MT/20/MT/2**  
I lead my staff through face-to-face discussion on what is required to be performed and by showing them examples where required. I obtain professional assistance on the capability of the financial software I implement, discuss it objectively with staff and distribute work. I then monitor the progress and take corrective action where required.

**YL/19/YL/4**  
I employ two primary approaches to leading and directing:
(1) the company's mission and (2) staff looking for direction relating to the company's mission. Brainstorming, discussion and interaction to create awareness for change. Then further discussion, feedback and hands-on implementation.

**CY/15/CY/2**  
I lead by example. I direct with instructions, and delegate if staff are experienced. I convince myself change is happening and inevitable. I go along with the change as business needs improvement. I lead staff to believe such changes have to be supported.
I lead by modeling best practice, encouraging openness amongst staff to “air” their problems and finding solutions based on consensus. Firstly, by convincing a group of team leaders of the need for change. Then holding a workshop in which the team leaders expressed their commitment. Finally, at the workshop a series of group discussions are held to confirm the change with the staff.

Managing

In their responses to managing, on how to adapt a decision to help the company, and how to work on a creative project with staff, managers generally indicated that they look to staff for creative ideas through brainstorming and, before implementing any new decision, an explanation is given. Some typical statements are given below.

DC/26/DC/8

I held discussions with my staff and to get ideas and feedback from them. I look at the available resources and then implement them to achieve the best outcome.

MT/20/MT/8

We brainstorm by listing all possible solutions, then we discuss each item and narrow it to three items. After further discussion, we vote on the best solution. Staff are called to a meeting, and the new decision is explained to them. Their opinions are sought and agreement is obtained before implementation.

PA/10/PA/8

On a creative project, I state all positive and negative aspects, look at problems and solutions, and then trial run with a market questionnaire survey before going ahead. In adapting a decision to help my company, I create awareness and involvement, I amend and change according to the market forces.
On working with staff on a creative project, I discuss with staff and brainstorm with them, about how to win customer appeal and satisfaction.

Communication

In their responses to communication, on how to convey a new decision to staff and on how to communicate with staff on work problems, managers generally feel that they need to explain to staff and consult them on different aspects of work problems. Some typical statements are given below.

I communicate with my staff by responding to them quickly when they seek my advice. I listen to them and give them support and help. Recently, I had a staff member who is always late for appointments and submission of monthly statistics. I e-mailed him the day before the meeting to remind him and e-mail him to hand in monthly statistics. But I have not talked to him directly about his punctuality, as he is a very senior and experienced staff.

I convey a new decision to staff by calling staff to a meeting and explaining the new decision to them. Their opinions are sought and agreement obtained. I communicate with my staff by explaining the need to reconcile the bank accounts and the way to perform the task, after the work is carried out. I review the task performed and suggest ways of improving.
On conveying a new decision to my staff, I explain to them the benefits of why it will help the company and, in turn, them. With work problems, I discuss the problem with my staff individually and privately. I point out the positive and negative actions related to any solution. I discuss ways to improve and follow up with another discussion to see whether there is any improvement. I offer more help if needed.

On conveying a new decision to my staff, I make sure they understand, ask for feedback and opinion, and then implement some action. I recently communicated with staff by explaining how to perform an assignment and make it comparable with another department’s requirement. Attention to details and mode of operation are important.

Best practice

In their responses to Best Practice on how to mentor staff, and how to help staff to focus on customers, managers generally felt that they mentored their staff by showing how things were done. In helping staff to focus on customers, managers indicated that they would provide guidelines or a company manual for staff. Some typical statements are given below.

I mentored staff by having regular meetings to assist and address problems. I encourage what is best for the company. For staff to focus on customers, I used the company manual and policy statements that are designed to be customer friendly, and to focus on customer service and to be helpful and proactive towards customers.
GE/18/GE/16 I mentored staff by having weekly meetings with staff. The meeting was designed to evaluate projects by staff in an effort to develop best practice. On customer focus, company procedures and manuals were redesigned to be more friendly for customers.

MT/20/MT/16 I mentored my staff by introducing the list of work performed and the location of files and people that have to be contacted for information that is required. I helped my staff to focus on customers by explaining why the customer has the need and how best we can meet the need, and be the preferred provider of the service.

RT/25/RT/16 I mentored my staff through discussion, on the job comments, brainstorming, and help to overcome difficulties, and select what is the best method of approach. I helped my staff to focus on customers by providing training, guidelines, manuals and constant reminders.
Table 7.5
Summary of managers' responses to how they worked with staff and implemented changes in the company

<table>
<thead>
<tr>
<th>LEADERSHIP ASPECT</th>
<th>SUMMARY OF MANAGERS' RESPONSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEADIMG AND DIRECTING</td>
<td>Lead staff by example. By brainstorming and discussions. Getting feedback from staff.</td>
</tr>
<tr>
<td>MANAGING</td>
<td>By discussing with staff about work problems. Getting feedback from staff and involvement in the decision making process with them. Having regular meetings with staff.</td>
</tr>
<tr>
<td>COMMUNICATING</td>
<td>Communicating with staff through explanation and meetings. Consulting with staff about work problems.</td>
</tr>
<tr>
<td>BEST PRACTICE</td>
<td>Mentoring staff by showing how things are done. Provide company's guideline and manuals to staff, so that they could offer better service to the customers.</td>
</tr>
</tbody>
</table>

Source: Summary of data from interviews (N=29)
Summary

Results of the data analysis on the open-ended questions indicate that managers have identified communicating (32 per cent) as the most important leadership competency aspect. This was followed by best practice (28 per cent), managing (20 per cent) and leading (16 per cent), respectively. The most important perception was for communicating. Managers believed that without good communication they could not win customers and have productive staff. The second most important reason was for best practice. Managers believed that they need to focus on clients’ needs and thus make the company more profitable and competitive. The third most important reason was for managing. Managers believed that they should be able to analyse the company’s situation and meet the company’s mission and objectives. The fourth most important reason was for leading. Managers believed that they should be able to lead staff and implement changes in the organisation.

Results of the data analysis on the interviews indicate that managers perceived that it is important that the company mission and direction are clear, and that staff should understand that the company is constantly changing. Therefore, staff must be able to adapt to change. The managers believed that they should be able to implement changes through discussions, meetings, and consulting with staff. Managers believed that they should get feedback and ideas from staff and how to communicate with them effectively. Managers need to mentor staff and guide them by providing training, giving guidelines and show them how to get things done. In order to work with staff and implemented changes managers need to lead by examples, discussed with staff about work problems.

The next chapter provides a summary of the study, brings all the findings together, answers the research questions, and gives some discussion about, and the implication of this research.
CHAPTER EIGHT

SUMMARY, RESEARCH QUESTIONS, CONCLUSIONS AND IMPLICATIONS FROM THIS STUDY

This chapter begins with a summary of the study, bringing together the major findings from Parts A, B, and C. The findings are drawn together in the framework of addressing the research questions and research expectations at the outset. Next, the implications are explained for senior managers, middle-level managers, management education, and for further research.

Summary

This study was conducted in three parts (A, B, and C). Part A involved the testing of a new Managerial Leadership Competencies Model and measuring the self-reported leadership competencies of middle-level managers from manufacturing, mining, retail and service industries in Western Australia. Data were obtained through a questionnaire (N=300) based on a model involving four aspects: Leading, Managing, Communicating, and Best Practice, and three self-reported perspectives: an ideal, a capability and actual behaviour. The questionnaire consisted of six stem-items on Leading, nine stem-items on Management, six stem-items on Communication, and six stem-items on Best Practice, each answered in the three perspectives, making a total of 81 (3 times 27) items. An analysis of the data with a Rasch computer program, Rasch Unidimensional Measurement Models (Andrich, Sheridan, Lyne & Luo (2000) justified a unidimensional scale with 18 stem-items. The data shown in the results (see Table 6.1) indicate that a good unidimensional scale of self-reported Middle-Level Manager Leadership Competencies has been constructed. For the 54-item scale, the errors are small, the internal reliability (0.96) is very high and the power of tests-of-fits are excellent.
The evidence supports the view that the data are valid and reliable. The item threshold values are ordered from low to high indicating that managers have answered consistently with the response format used. The Index of Managers' Separation Index is 0.96 indicating the separability of the measures is good in comparison with errors of measurement. The values of the person and item global fit statistics are approximately zero, and their standard deviations are approximately one (see Table 6.1), indicating that there is a good fit to the measurement model. The item-trait probability test-of-fit is $p=0.17$, indicating that the answers to all 54 items are influenced by the same unidimensional trait, here called middle-level manager leadership competencies.

The questionnaire of Middle-Level Manager Leadership Competencies was based on a comprehensive model. The interval level scale was based on a strong mathematical model of measurement (Rasch). We can then have strong confidence in the conclusions drawn from the data, and in the model.

Part B involved how middle-level managers conceptualised their leadership competencies through analysis of their responses to open-ended questions. The data were analysed in two parts. The first part involves categorizing the data. The second part was to analyse the data by means of calculating the percentages. The purpose of this analysis was to find out from the middle-level managers which aspect of leadership competencies was the most important and which aspect the least important. Each question was analysed for its content. For each question, the responses were read carefully to identify possible codes, or headings or clusters, to represent the primary data. Once all the responses had been assigned to a cluster, the process of reading and reading again, the responses within the clusters continued. This process of comparing responses within and across clusters involved looking for similarities, or links between clusters. In this manner, cluster headings were reduced, as themes merged for the inclusion of two or more clusters under the one heading, thus forming a meta-cluster (Miles & Huberman, 1994). Once the process of forming the meta-clusters was completed, the number of responses under each heading was tallied. Percentages were based on the 300 returns.
Part C involved interviewing 29 middle-level managers to gain insights into their thoughts and the reasons that they gave in answering the questionnaires. The data from the interview were analysed by categorizing the data and by calculating the percentage of response from each category of the data. The purpose of this analysis was to find out the perceptions of middle-level managers and the reasons or explanation given for answering the questionnaire. Each answer (manager response) was analyzed for its content. For example, the first question on Leading, *Why did you provide these answers on leading and directing? Can you explain what you were thinking?* was analysed in two parts. That is, factors that helped explain their answers on the leading aspect were identified as part one, and factors connected to what they were thinking were identified as part two. The same procedure applies to managing, communicating and best practice aspects. The responses were read a number of times to gain an understanding of the general themes and to identify possible codes, or headings, to represent primary data. Once the responses were assigned to a category, they were coded, and the number of responses under each heading was tallied. Percentages were calculated based on the 29-interview schedules.

The Rasch analysis showed that 52 (17%) of the managers could be regarded as having low self-reported leadership competencies, 138 (46%) could be regarded as having moderately good competency, 89 (30%) could be regarded as having high competency, and 22 (7%) could be regarded as having very high competency. Whilst this is somewhat arbitrary, it is based on the difficulties of the competencies on the linear scale.

In the course of conducting the research through Parts A, B, and C, the five aims of the research were met. That is, (1) a model of middle-level manager leadership competencies was developed, based on the four aspects of leadership competencies (Leading, Managing, Communicating, and Best Practice); (2) middle-level manager’s leadership competencies were measured and calibrated with item difficulties on the same linear scale using the RUMM (2010) computer program (Andrich, Sheridan, Lyne & Luo, 2000); (3) the psychometric characteristics of the scale were analysed; (4) the meaning of the new scale of leadership competencies was interpreted; (5) the qualitative
data from the questionnaire and interviews were analysed to gain further insights into how West Australian business managers conceptualised the four aspects of leadership competencies. The major findings of the study are summarised within the framework of the research questions outlined in Chapter One.

**Research questions**

*Research Question 1*: What do middle-level business managers perceive to be the most important aspects of leadership competencies? And what reasons do they give for this? Can a single scale of middle-level business leadership competencies involving four aspects (Leading, Managing, Communicating, and Best Practice) of managerial leadership be derived and aligned on a scale from low to high, using a Rasch Measurement Model?

Research question one has been addressed specifically in Chapters 6 and 7 of the study and can be answered in two perspectives—from the interview and open-ended questions, and from the Rasch analysis. Findings from the data analysis on the open-ended questions and interviews indicate that ‘communicating’ was the one most middle-level managers perceived as the most important leadership competency aspect. Their perceptions were supported overall by 32 percent of the 29 managers interviewed in this study. The findings indicate that most managers believe that they must be able to make quick decisions and have good people skills to communicate effectively.

Best Practice was the second most important leadership competency aspect. This was supported by 28 percent of the 29 managers from this study. They believe that it is important that managers should focus on clients’ needs, so that they can be more competitive in the market place, and win more customers. To do this they also need to mentor their staff.
The third most important leadership competency aspect was Managing. This was supported by 20 percent of the 29 managers from this study. The finding of this aspect was that managers need to set goals for the workers and managers must be creative and adaptive to changes.

The fourth most important leadership competency aspect was Leading. This was supported by 16 percent of the 29 managers. The findings indicate that managers believe that they should lead their staff by example and that empowerment given to the staff is very important.

Besides the above four important leadership competency aspects, other findings from this study show that some managers (2 percent) listed the following aspects as important as well. These are being able to motivate staff, being able to implement rules and enforce discipline in the organisation, and helping staff achieve business success.

The Rasch measurement gives a view of how easy or hard these competencies, stated to be the most important and least important, are found to be.

The aspect of Leading from the Rasch measurement perspective

For Leading and Directing, most managers found it very easy to say that they would ideally like staff to listen to them and consult them for advice on work problems but, in the actual behaviour, they found it very hard. For Leading and Changing, in the ideal perspective, managers found it easy to say they would like staff to look to them for suggestions and implementation on work changes, but they found it hard to do. With regard to empowerment, most managers found it hard to say that they would like staff to provide suggestions for work changes and to work with them to implement the best changes, but this was very hard to do.
The aspect of Managing from the Rasch measurement perspective

For Meeting Targets, managers found it very easy to say that they would ideally like staff to work with them to achieve the targets, and they found it moderately hard in the actual work situation. For Creativity, managers found it moderately easy to say that ideally they would like staff to show them how to be creative and more competitive, but found it actually very hard in practice. For Adaptability, managers found it moderately hard to say that they would like staff to adapt and implement decisions, but they found it very hard in practice.

The aspect of Communicating from the Rasch measurement perspective

In Decision-Making, managers found it very easy to say that they are capable of making decisions after consulting with staff, but moderately hard to implement it successfully in the actual situation. Managers found it moderately hard to say that they are capable of conveying decisions to staff and working with them to implement them, but very hard indeed to actually do so. For Communicating, managers found it very easy to say that they are capable of talking to staff about work problems and providing follow-up communication, but in reality, managers found it very hard to do so. So while the aspect of communicating is considered most important, it is hard to achieve this competency.

The aspect of Best Practice from the Rasch measurement perspective

Ideally, it is very easy for managers to say they are capable of being a mentor for workers, but they actually found it moderately hard to mentor staff. They found it hard to say that they are capable of evaluating staff with regard to best practice methods, and very hard indeed to say that they implement this. For Customer Focus, managers found it very easy to say that they are capable of helping staff on customer needs and wants, but they found it very hard to implement and to keep competitive. So while, the aspect of best practice is considered to be second most important, it is very hard to achieve this competency.
The findings from the Rasch measurement perspectives indicate middle-level managers acknowledge the importance of leadership competencies with Communication as the most important, followed by Best Practice, Managing and Leading. This finding is consistent with the findings of the open-ended questions and interviews.

The results of Part A of the study indicate that middle-level managers' behaviour, capability and ideal self-views of leadership competencies can be aligned using a Rasch measurement model on a scale from low to high and the difficulties of the items relating to the four aspects of leadership competencies can be aligned on the same scale as the leadership measures from easy to hard.

**Research Questions 2:** How do Middle-level managers conceptualise their role with regard to leadership competencies? What are middle-level managers ‘ideal’ views, ‘capability’ views and ‘behaviour’ view of leadership competencies?

The scale for measuring leadership competencies was conceptualised from a model involving the four leadership competency aspects, Leading, Managing, Communicating and Best Practice. An Ideal Self-view, a Capability Self-view and a behaviour Self-view were added to the model. There are six stem-items for Leading, nine for Managing, six for Communicating, and sixteen for Best practice, all created with subsets of Gu-Shan or ordered pattern of increasing difficulty. Each of the stem-items was answered as an Ideal Self-view, a Capability Self-view, and a Behaviour Self-view with the expectation that the three self-views will be ordered from low to high, for each stem-item. All the items are calibrated on the same scale together so that their relationships between the aspects can be tested and explained. The results support that part of the model in relation to the increasing difficulty of the Ideal Self-view (easiest), the Capability Self-view (harder) and the Behaviour Self-view (hardest), for eighteen of the twenty-seven stem-items. The RUMM 2010 program rates the overall power of the tests-of-fit as excellent. This finding indicates that we can have confidence that the tests-of-fit of the data for this scale are sufficiently sensitive to detect any major non-compliance with the measurement.
The final Rasch derived scale showed that, in general, the ideal perspective was easier than the capability perspective which was, in turn, easier than the behaviour perspective (competency).

One of the major findings of this study confirmed the expectation, that in general, middle-level managers find it easier to hold ideal self-views for most aspects of leadership competencies, harder to hold high capability self-views and harder still to hold high real-self-views for most aspects of leadership competencies. That is, the ideal items were easier than the capability items, which, in turn, were easier than the behaviour items, for most items. For example, in Leading and Directing, staff consult me for work advice and then get the work done quickly and efficiently (items 7-9). In Managing, staff show me how we can be creative and competitive in our business (items 31-33). In Communication, available to talk to staff and communicate in other ways with staff about work problems (items 58-60). In Best Practice, help staff to implement a focus on customers and best business practice to keep competitive (items 79-81).

In general, the findings of this study indicated that middle-level managers found it more difficult than they would like, to be competent in the four leadership competency aspects (Leading, Managing, Communicating and Best Practice) of the model. For example, in the Leading aspect, middle-level managers found it very hard to say that they have the competency to get staff to provide suggestions and then work with them to implement the best changes. They found it very hard to say that they are competent in getting staff to listen to them and consult them about advice on work problems. They found it easier (but still hard) in getting staff to get work done quickly and efficiently, after consultation with them.

Research Question three: Can a model be devised to explain middle-level managers' self-views of leadership competencies, based on their ideal capability and behaviour perspectives?

A model of middle-level manager leadership competency, based on the managers’ behaviour, capability and ideal perspectives, and the four leadership competencies (Leading, Managing, Communicating and Best Practice) was mostly supported (but not entirely). These four leadership competency aspects are considered the right leadership
competencies that would make managers the leaders in their fields, and the Rasch analysis supported this model.

The first aspect Leading relates to business managers' leading and directing and leading and changing skills, which help lead the business organisation in future directions and changes. Leading is conceptualised as involving the development of perceptions and the implementation of directing and changing. These competencies are conceptualised as important to mid-level business managers self-view because they believe that they should be able to give clear directions to staff in order to get them to change their behaviours and to be able to lead staff in the right direction for the company.

The second aspect of Leadership Competencies relates to Managing. Managing is conceptualised as involving the development of perceptions and the implementation of policies, meeting targets, being creative, and being adaptive to market changes. Leadership skills in these areas are conceptualised as helping middle managers to increase a company's productivity, making good decisions and helping the company to be more competitive. Managers believe that, in order to meet the company targets, middle-level managers should be able to use various forms of incentive to motivate workers to be more productive. Low morale in the company results in absenteeism and decreasing productivity, they believe.

The third aspect of Leadership Competencies is Building Communication. Good communication with staff and other business organisations promotes good relationships, opens up more worker co-operation so that work can be done more efficiently. Good communication is conceptualised as involving the development of good decision-making, and communication skills. Managers believe that, without good communication skills, middle-level managers will not be able to solve conflicts in the workplace, perhaps resulting in ill-feelings and anger among workers, or at least less productivity.

The fourth aspect is Best Practice. With Best Practice being introduced to the organisation, it is conceptualised as important in helping middle-level managers to mentor good workers and provide quality service to customers. Best practice is conceptualised as involving the development and implementation of customer focus, and mentoring.
Managers believe that, if they do not provide good service to their customers, the customers may not come back, and will go to their competitors.

Conclusions

These conclusions can be drawn from the results of the Rasch measurement analysis.

1. In general, middle-level managers found it more difficult than they would like, to be competent in the four leadership competency aspects (Leading, Managing, Communicating and Best Practice).

2. The results of Rasch analysis indicate that middle-level managers’ ideal, capability and behaviour self-views on leadership competencies can be aligned on a scale from low to high using a Rasch Measurement Model and research expectation 1 has been met.

3. The results of Rasch analysis indicate that the difficulties of the items relating to leadership competencies can be aligned from easy to hard on the same scale as leadership measures from low to high and research expectation 2 has been met.

4. In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and harder still to hold high real self-views for leading, directing and changing and research expectation 3 has been met.

5. In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and harder still to hold high real self-views for managing (meeting targets, creativity, and adaptability) and research expectation 4 has been met.

6. In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and harder still to hold high real self-views for
Communication (Decision-making, and communicating) and research expectation 5 has been met.

7. In general, middle-level managers found it easier to hold higher ideal self-views than to hold high capability self-views and harder still to hold high real self-views for Best Practice (Mentoring, and customer focus) and research expectation 6 has been met.

8. Fifty-two (17%) of the managers had low self-reported leadership competencies. These managers found it hard to respond positively to the behaviour and capability perspectives in communicating and best practice aspects but easier to respond to the ideal perspective in leading and managing aspects.

9. One hundred thirty-eight (46%) of the managers have moderately good self-reported leadership competencies. These managers found it hard to respond positively to the behaviour perspective in the aspects of communication and best practice but easier to respond to capability and ideal perspectives in leading and managing aspects.

10. Eight-nine (30%) of managers have high self-reported leadership competencies. These managers found it slightly hard to respond to the behaviour perspective in all the four aspects but easier in the capability and ideal perspectives of the four aspects.

11. Twenty-two (7%) of managers have very high self-reported competencies. These managers are good at all four competency aspects.

The analyses of the qualitative data suggest eight main conclusions.

1. In general, managers have identified communicating as the most important leadership competency aspect, followed by best practice, managing and leading respectively.

2. The main reasons middle-level managers gave for providing their answers with regard to leadership competencies were:
• that good communication wins customers;
• that they believed that they needed to focus on clients' needs to stay profitable and be competitive;
• to meet the company's mission and objectives; and
• that managers should be able to lead staff.

3. Most Middle-level managers perceived that it is important that the company mission and directions are clear, and that staff should understand that the company is changing constantly.

4. Most Middle-level managers believed that they should be able to implement changes through discussions, meetings, and consultations with staff.

5. Most Middle-level managers believed that staff need to be mentored, given training, provided with guidelines, and shown how to get things done.

6. Most Middle-level managers believed that they should get feedback and ideas from staff and how to communicate with them effectively.

7. Most Middle-level managers acknowledge the importance of leadership competencies and they would like to be competent in the four leadership aspects.

8. Most of the middle-level managers cited Communication (Decision-making) and Best Practice (Customer focus), Managing and Leading as having most impact on the success of their business competitiveness and profitability. Any change in one of four aspects can bring about a change to their self-view of leadership competencies.

The model (figure 8.1) shows the four aspects of leadership competencies that middle-level managers reported enhanced or constrained their efforts in being leadership competent.
Figure 8.1: Model of Middle-Level Managers' Self-Views of Leadership Competencies.
Source: Developed and confirmed by Philip Teo as a result of this study.
Implications

Results of Rasch analysis on the questionnaire and the interview form the basis of this theoretical framework that has implications. The differences in item locations between ideal and capability and behaviour reveal two different gaps. The first gap is the difference between ideal and capability. The essence of this gap is a lack of expertise. Consequently, this gap can be closed by learning. The second gap is the difference between capability and behaviour. Thus, it is not an issue of expertise. There must be other reasons why a manager behaves not in the way he thinks he should and is capable of. The first section of each implication suggests how the lack of expertise can be overcome and the second section suggests the reasons for the manager’s behaviour.

Implications for Senior Managers

The findings from this study imply that senior managers need to pay more attention to Communication (Decision-making) and Best Practice (Customer Focus). These two aspects of leadership competency were considered middle-level managers’ main weaknesses and need to be improved. For example, in the interviews, middle-level managers were thinking of how to make good decisions for the company or how to meet the customers’ needs. Middle-level managers who make poor decisions and do not know how to focus on customers were believed to be detrimental to the company’s profitability and productivity. As changes are inevitable in this 21st Century, business leaders, like senior managers, need to be made aware of the demand for new skills for middle-level managers.

Senior managers need to increase their support for their middle-level managers by giving them more opportunities for personal development and running programs so that middle-level managers will be more proficient in the leadership competency aspects like communication and people skills. For example, middle-level managers reported that they need to be able to talk to staff and communicate in other ways with staff about work problems, and middle-level managers need to communicate with staff on work problems and provide follow-up communication after implementation. This implies that senior managers need to know this and provide support for middle-level managerial training.
such as commitment to the program, follow-up on results and evaluation, and the development of communication and people skills.

Middle-level managers reported that they would like to be more competent in their leadership competency skills and this implies that senior managers could help them develop stronger leadership competencies as an 'asset' to their organisation.

Other implications for senior managers are that they should provide a role model for middle-level managers in terms of giving clear vision of the company and impart problem solving skills to them. They must also provide constant dialogue and innovation to middle-level managers.

The findings reveal that though the managers think he is capable, but behave differently could be attributed to the organisation's policy or the lack of empowerment given to them by senior manager. According to Spreitzer (1995) there were a number of antecedents of empowerment. Some of these antecedents are individual factors, such as an individual's self-esteem, whereas others are external to the individual, such as access to information about the organisation's mission (Spreitzer, 1995). Variables at the work unit level such as strong sociopolitical support from subordinates, work group, peers, and superior, access to information; a work climate focused on participation; and a work unit with little role ambiguity also emerged as antecedents to empowerment (Spreitzer, 1996). Interpersonal factors related to leadership such as managerial trust are also an impediment to the manager's behaviour. For example, the hardest items for Decision-Making are the behaviour perspective, competency in conveying decisions to staff and then working with staff to implement them successfully (item 54) and, for Communicating, the behaviour perspective competency in communicating with staff on work problems and, providing follow-up communication after implementation (item 63). Manager may be capable of making good decision but constrained by the lack of empowerment given to them by the senior manager.
Implications for middle-level managers

Middle-level managers in this study generally viewed leadership competencies as important to their work. One implication is clear. Middle-level managers need to develop leadership competencies in the areas of "soft or people skills". These include, in Changing and Leading, getting staff to listen to them and consult them for advice on work problems, and in Leading and Changing, getting, staff to provide suggestions for work changes and to work with them to implement the best changes. Other "soft skill" examples in Creativity involve getting staff to show them how they can be creative and more competitive in the business, communicating with staff on work problems and providing following-up communication after implementation, and in Best Practice, helping staff to implement a focus on customers and best practice to keep competitive. All these self-reported hard items imply that managers need to improve their "soft skills". This is in line with the Karplin report (1992) which stated that "soft skills" or "people skills" need to be strengthened for middle-level managers. Failure to improve their leadership competencies means middle-level managers could not contribute as much as they could to the company in a competitive market. Middle-level managers need to be aware of their shortcomings in these areas of Communication, Customer focus and Creativity. They can upgrade their knowledge and competency by attending courses through personal development, or by attending seminar and workshops. Alternatively, middle-level managers could request their firms to provide mentors to help and guide them. While it is acknowledged that many organisations have no problems in training staff to be "high tech" (task orientated people), it is the "high touch" (people orientated) that demand attention. The reason could be that "soft skills" are harder to teach and need more time to learn. Perhaps middle-level managers need to be given more empowerment in decision-making and be more active participants in the organisational life of their company.

Being active participants can help them to be more aware of leadership opportunities. For example, middle-level managers could learn how to handle and manage people in their organisation, if they were given the opportunities to settle conflict resolution and team building activities. These attributes are likely to be
developed more effectively through a process whereby social and workplace experiences are interwoven with the learning process.

The findings reveal that although some managers possess the skills to lead, they could not do so. This was shown by the hard item for Leading and Directing. The behaviour perspective, competency in getting staff to listen to them and consulting them for advice on work problems (item 6) and, for Leading and Changing, the behaviour perspective, competency in getting staff to provide suggestions for work changes and working with them to implement the best changes (item 18). Managers did not use their skills in this instance could be due to the lack of motivation in the workplace or morale is low in the organization. Disaffection of middle-level managers could be another source of problem that explains why managers behave differently from what is expected of them. Disaffection is a condition or feeling of being discontented or disloyal; a state in which one is no longer willing to show support or affection. For example, the reduction in retirement benefits and meager pay increases for middle-level managers could lead to disaffection. Perhaps the management theory that is built on psycho-theories and case histories from one or two centuries ago need to be updated. Motivation is changing and employees are now obsessed with work-life balance and they want a fulfilling personal life. There are many Management Gurus like Peter Drucker, Tom Peters and Michael Porter who have given us many business ideas on how to be competitive, and understanding of company survival, but very little is said about personal survival and motivation.

**Implications for management education**

The findings of this study imply that there is a need for management education in the four leadership competency aspects for middle-level managers. Through training and education, it is expected that middle-level managers have the opportunities of acquiring knowledge, developing leadership competencies, such as Communicating and Best Practice. The majority of middle-level managers in this study reported that they believed that leadership competency is important. Some reported that the four aspects of leadership competency; Leading, Communicating, Managing and Best Practice, all need attention. There is a strong implication for management education bodies to be sensitive
to this area of training needs. As all middle-level managers need technical knowledge, people skills, communication skills, and decision-making skills, the implication is that training on these aspects of leadership should be provided to them. The training probably should be in the work environment. They could also practice their skills by completing skill-building exercises. The skills they learn can be used in their personal and professional life, both as leaders and followers.

As middle-level managers indicated that they would like to develop better leadership competency skills, more management education is needed to find the best ways to help them to acquire these skills. Perhaps the voices and opinions of middle-level managers should be sought in developing courses that will cater to their needs so that they will be more effective leaders. The success of middle-level managers being leadership competent will not come about, unless there is support from the senior managers and those with vested interest in the company.

Though middle-level managers can be trained for certain competency skills, one should not lose sight of Peter Principle. According to Peter Principle: In a hierarchy every employee tends to rise to his level of incompetence. For example, some middle-level managers exhibit signs of incompetence but ignore by senior management. Management educators/consultants should recommend to their clients organization on this issue and take steps to prevent middle-level managers from having Peter Principle effect.

Implications for further research

The present 18 stem-items (54-item) in the questionnaire could be improved with better wording on some items. For example stem 1-3 did not fit the measurement model sufficiently well. It could be re-worded as staff looking to me for clear directions in performing their work (1-3), and talking to staff and providing clear guidelines on solving work problems (58-60). A new questionnaire format with bigger print in the wordings could be helpful. An indication for Gender on the questionnaire would help researchers on the question of gender differences to leadership. Gardiner (2002) suggested that we have been stereotyping women as being more concerned with others,
and 'warmer'. By contrast, men are perceived to be more independent and focused on achievements. Because of this stereotyping and belief, researchers have wondered whether these expectations might have spilled into the workplace, leading to gender differences (Gardiner, 2002).

Given that middle-level managers indicated that they would like to develop stronger leadership competencies, more research is needed to establish the best ways to help managers acquire these skills such as strategic thinking, and promoting empowerment. Companies may need to identify and generate competency lists to help them in focusing their human resource development effort. "The competencies should have an orientation toward the future—what skills do our managers need to demonstrate five years from now to make our company successful" (Topping, p.81, 2002).

The findings of the present study have contributed to the knowledge of leadership competency for middle-level managers and provided possibilities for the direction of further research in this area. The new model of Managerial Leadership Competency developed in the present study has enabled ideal, capability, and behaviour items representing the four aspects of leadership competencies, to be linked together with leadership measures to form a unidimensional scale from which valid and reliable inferences can be made. The new model is regarded as a beginning in this area and hence needs further testing and refinement.

The model of leadership competencies could be improved with testing in other countries and with the inclusion of aspects such as emotional intelligence, caring, interpersonal skills and cultural diversity (see the proposed new questionnaire at the end of this chapter) to better target middle-level managers with high leadership competencies measures. These items are included, as they are considered essential for any modern day leader or manager. For example, not focusing on emotional intelligence or interpersonal skills may decrease commitment from employees and increase problems due to disharmony or lack of teamwork.
The new items were designed using ordered-by-difficulty patterns for each aspect of leadership, where the items are to be answered in three perspectives (Ideally, this is what I think should be happening, This is what I think I am capable of doing, and This is what I actually do with my staff), and an ordered set of subject response categories (none or rarely, some of the time, most of the time, all the time).

Proposed new aspect: Emotional Intelligence

Emotional Intelligence in respect to mid-level managers involves coping under pressure, and building trust. The items for Emotional Intelligence could be developed in the same way as they were in the present study, and this is now set out.

It was expected that most middle level managers would find it easy to say that Ideally, they wanted to help staff to relax when under pressure in the workplace (Stem-item 1) every time and that there would be some variation in responses around this. It was expected that managers would find it harder to say that Ideally, they wanted to help staff to calm quickly, when angry, even under pressure (Stem-item 2) every time and that there would be some variation around. So it was expected that these three stem-items would form an ordered pattern of responses by difficulty on average, from easy to hard, when managers reported that Ideally, they help staff to relax when under pressure in the workplace. That is, there is a vertical ordering of stem-items by difficulty in the questionnaire. This vertical ordering of items from easy to hard is based on Guttman scaling, whereby the scale is cumulative when we read from top to bottom vertically (items). In other words, we expect to find the easy items from the top of the vertical column increasing to hard and harder items towards the bottom of the vertical column.

Item 1 was designed to be easier than item 2 which is easier than item 3, as the items were framed in such a way that the wordings and contents were progressively going from easy to hard respectively. Similarly, it was expected that, for each item, the perspectives would be ordered from easy to hard, horizontally, because that is consistent with their wording and meaning. The ideal perspectives are expected to be easy to hold at a high level. This is a natural attribute of human nature to aim for a high moral ground or
achievement level. One's capability perspectives are expected to be harder to hold at a high level because we don't all have the same natural talents to achieve at a high level. Behaviour perspectives are expected to be harder to achieve at a high level because they depend on our experience and cognition, and it is just harder to exert oneself to behave in a certain way than it is to just think about it.

It was expected that a horizontal ordered pattern of responses would be repeated for their view of ideally, this is what they should do with their staff (item 1), This is what they think they are capable of doing (item 2,) and separately, for their view of This is what they think they actually do with their staff (item 3). These patterns can be seen in the questionnaire. That is, there is a horizontal ordering of perspectives by difficulty for each stem-item.

**Expected ordering by difficulty pattern for the other sub-groups (Professional Development, Caring, and Cultural Diversity)**

The expected ordering by difficulty patterns for the other sub-groups of stem-items and perspectives follow a similar line to that reported above and are not reported here to avoid repetition and save space. A reader can easily work out the expected patterns of the order of the stem-items and the perspectives from the questionnaire. In the questionnaire, the stem-items are placed in order from easy to hard in each sub-group and the perspectives are placed in order from easy to hard across the top of the questionnaire.

The proposed new questionnaire that could be used to test this model is given in Table 8.1 and could be tested in Australia and overseas.
Figure 8.2 New Model of Middle-Level Managers' Self-views of Leadership competencies.

Source: Developed by Philip Teo at the conclusion of the thesis writing and includes proposed new aspects, Emotional Intelligence, Caring, Interpersonal Skills, and Professional Development.
Table 8.1

PROPOSED NEW QUESTIONNAIRE: LEADERSHIP IN MIDDLE-LEVEL MANAGERS
(Source: Developed by Philip Teo at the conclusion of the thesis writing)

Please rate the 18 stem items according to the following response format and place a number corresponding to
a) Ideally, this is what I think should happen,
   b) This is what I think I’m capable of having my staff do, and
   c) This is what I actually do with my staff,

On the appropriate line opposite each statement:
All the time  put 4
Most of the time put 3
Some of the time put 2
Rarely or none of the time put 1

Example Items 1-3
If you think your staff should listen to you on all occasions, put 4;
If you think that you are capable of getting your staff to listen to you most of the time, put 3; and
If your staff actually listen to you some of the time, put 2.

<table>
<thead>
<tr>
<th>Item no.</th>
<th>Item wording</th>
<th>Ideally,</th>
<th>This is what I think</th>
<th>This is what I actually do</th>
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<td>Sub-Group: Emotional Intelligence (6 items)</td>
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<tr>
<td>1-3</td>
<td>Help staff to relax when under pressure in the workplace</td>
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<tr>
<td>4-6</td>
<td>Help staff to calm quickly when angry even under pressure</td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Building Trust</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>7-9</td>
<td>Staff understand that building trust is important to work as a team</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>Staff understand that building trust involves honesty and integrity</td>
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<td></td>
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<tr>
<td></td>
<td>Sub-Group: Caring (12 items)</td>
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<tr>
<td>13-15</td>
<td>Occupational Health and safety</td>
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<tr>
<td>16-18</td>
<td>Make sure that staff understand occupation, health and safety regulation in the workplace</td>
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<tr>
<td></td>
<td>Motivation</td>
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<tr>
<td>19-21</td>
<td>Give staff with rewards to motivate them to achieve company’s objectives</td>
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<tr>
<td>22-24</td>
<td>Provide staff with challenges so that they are motivated to work harder to meet the company’s targets</td>
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<td>This is what I think I'm capable of</td>
<td>This is what I actually do with my staff</td>
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<td></td>
<td><strong>Sub-Group: Interpersonal skills</strong></td>
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<td>Able to communicate with staff in an easy manner</td>
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<tr>
<td>28-30</td>
<td>Able to communicate and convey clear message to staff in the workplace</td>
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<td><strong>People skill</strong></td>
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<td>Provide staff with training on people's skills in the workplace</td>
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<td>34-36</td>
<td>Provide suggestions on how to improve people's skills in the workplace.</td>
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<td><strong>Sub-Group: Cultural diversity</strong></td>
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<td><strong>Cultural awareness (18 items)</strong></td>
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<td>Help staff to be culturally aware that culture is a contributing factor to all people's personalities, attitudes, and behavior.</td>
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<td>Explain to staff to be culturally aware of cultural differences in terms of respect and value.</td>
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<td></td>
<td><strong>Cultural sensitivity</strong></td>
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<td>Help staff to be culturally sensitive to other culture in the workplace.</td>
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<tr>
<td>46-48</td>
<td>Provide suggestions to staff on culturally sensitive issue in the workplace.</td>
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<td><strong>Cultural knowledge</strong></td>
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<td>Help staff with cultural knowledge on working with people from diverse background,</td>
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<tr>
<td>52-54</td>
<td>Help staff to be aware of differences in people based on the cultural knowledge from different cultures and diversity.</td>
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REFERENCES


## APPENDIX A  
**FIT OF ITEMS TO THE RASCH MEASUREMENT MODEL**

Location on the continuum, fit to the model and probability of fit to the model for 54 items

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NOTE: (1) Location is the item difficulty in logits
(2) All values are recorded to 2 decimals places because the standard errors are about 0.08
## Threshold values of the 54 items fitting the model

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**APPENDIX B**

Threshold values of the 54 items fitting the model

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<td>80</td>
<td>-1.91</td>
<td>0.36</td>
<td>1.93</td>
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</tbody>
</table>

(1) The thresholds for each item are ordered from low to high corresponding to the ordering of the response categories.

(2) The thresholds are estimated to 2 decimal places because the standard errors are about 0.08.
APPENDIX C

Self-Reported Business Leadership Competencies of Middle-Level Managers
Interview Schedule Consent Form

The purpose of this interview is designed to find out the reasons why you answer the way
you do on the questionnaire which was given to you earlier. The information that you
give will help me to get a comparison of the implementation of the four variables of
leadership competencies and to get ideas on your agreeing to the concept of leadership
competencies. This interview will be based on the four variables (Leading, Managing,
Communicating and Best Practice) and will take about 20 minutes. This interview is also
to be tape-recorded. Please note that as you are one of the 30 participants selected for
interview, your name will be on the questionnaire and the interview schedule. However,
your name will be coded and rest assured that your responses and name will remain
confidential.

Individual interview results will not be given to the business organisation and will be
confidential to the researcher. Group results and trends will be provided to all interested
participants and to the business organisations by the researcher.

Philip Teo Choo Lip
Ph.D. student,
Churchlands Campus
Edith Cowan University
CHURCHLANDS WA 6018
Telephone: (08) 9493 0188

I understand the purpose of this study. I am willing to participate. I understand that I am
free to withdraw my participation at any time without any prejudice. I agree that the data
gathered for this project may be published provided my company and I are not
identifiable.

Thanking you for your co-operation and participation. Should you have any queries about
this interview, please telephone my supervisor on (08) 92738360.

PARTICIPANT’S SIGNATURE

PARTICIPANT NAME (PLEASE PRINT)

DATE:
14/12/2001

Mr. Philip Teo

Dear Philip

The CSESS Higher Degrees office has been advised by the Graduate School that your research proposal and ethics application have been approved. Congratulations on meeting this important milestone.

These approvals entitle you to access funds that are available to you through the University’s Postgraduate Funding Policy for Research support. A copy of this policy is attached for your guidance when completing future claims. Enclosed also is a claim form. It is important to note that any claim applied for, other than for the Incidental Consumables Allowance, must be accompanied by receipts.

Should you require further information or assistance, please contact Bill Noble on (08) or e-mail him at w.noble@ecu.edu.au.

May I take this opportunity to wish you well as you begin your next level of studies.

Yours sincerely,

Sarah Keam
Dear Business Manager

I am conducting a research project on Leadership in Middle Level Management in their interactions with business staff. This study aims to link Leadership in Middle Level Management to middle level managers self-views of ideally what they should do, what they think they are capable of doing and what they actually do, using a model of leadership. The research tests this model by calibrating all the item difficulties on the same scale with the measures of leadership, using the latest Rasch computer program.

You are asked to complete the attached questionnaire. It takes 15-20 minutes to complete. About 600 middle level managers in Australia will be asked to complete the questionnaire.

It is expected that this research could benefit businesses and senior staff. It will be used to improve our measurement of leadership. It may help us to understand middle level management better and improve our managers.

Participation is voluntary and you can pull out at any time without prejudice.

Your name is not required and the questionnaire is anonymous. The research results will be published without the names of staff or businesses. However, I need to interview at least 30 participants to back up the research. If you are willing to assist please let me know your name and your address on the questionnaire so that I can contact you.

You can obtain a copy of the results or ask any questions about the study by contacting Mr Philip Teo, 

Thank you for your cooperation and participation. It is appreciated.

Your consent to complete the questionnaire is given on the conditions mentioned above.

Please return the completed questionnaire to me.

Philip Teo (Mr)
PhD Student
School of Education
Churchlands Campus
Pearson Street
Churchlands 6018
July 2001
## APPENDIX E

### QUESTIONNAIRE ITEMS THAT DO NOT FIT THE RASCH MODEL

<table>
<thead>
<tr>
<th>Item nos</th>
<th>Item wording</th>
<th>Ideally, this is what I think should happen</th>
<th>This is what I think I’m capable of</th>
<th>This is what I actually do with my staff</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-3</td>
<td>Staff look to me for directions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-12</td>
<td>Staff look to me for directions on work changes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19-21</td>
<td>Staff understand the targets set by the company management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34-36</td>
<td>Work with staff to implement innovative practices and make the business more competitive</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>37-39</td>
<td>Make decisions in the best interests of my company rather than my staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46-48</td>
<td>Make decisions in the best interests of my company rather than my staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55-57</td>
<td>Available to talk to staff about work problems</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>67-69</td>
<td>Available to be a mentor to prospective good workers</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>73-75</td>
<td>Have a strong focus on customer needs and wants</td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>