

The Influence of Leader Behaviour, Psychological Empowerment, Job Satisfaction, and Organizational Commitment on Turnover Intention

by

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Master of Commerce (Industrial Psychology) at the
University of Stellenbosch*

The crest of the University of Stellenbosch is centered behind the text. It features a shield with various symbols, topped with a crown and a banner at the bottom that reads "Perfata subleant cultus recti".

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Declaration

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Abstract

In recent decades, organisations have continued to lose their skilled and experienced employees due to voluntary turnover. As a result, managers, researchers and practitioners have taken interest in understanding the factors that affect employees' turnover decisions. However, although several existing studies have identified numerous factors related to turnover behaviours among employees, most of the empirical research studies utilise explanatory models that do not sufficiently address the mediating processes that lead to turnover intention. This study examined the collective effects of perceived leader behaviour, psychological empowerment, satisfaction and commitment on turnover intention. In doing so, the present study tested an explanatory structural model that suggests how these variables jointly influence turnover intention. Therefore, an ex post facto correlation study was conducted using a sample of military personnel ($n = 318$) in which study participants completed five questionnaires that measured the endogenous latent variables (i.e., psychological empowerment, job satisfaction and organisational commitment) and the single exogenous latent variable (i.e., leader behaviour) in the structural model. Item analysis and Confirmatory Factor Analysis (CFA) were used to assess the measurement properties of the respective measures. The results showed adequate evidence that the manifest indicators used in the study were indeed valid and reliable measures of the latent variables they were linked to. The proposed structural model was tested using structural equation modelling (SEM) and the goodness-of-fit statistics showed that both the hypothesised measurement model ($\chi^2 = 182.97$; $df = 67$; p -value = 0.0000; RMSEA = 0.074) and the structural model ($\chi^2 = 182.91$; $df = 68$; p -value = 0.00000; RMSEA = 0.073) were found to fit the data reasonably well. The results supported a model where turnover intention was explained to result from a combination of organisation-related and job-related attitudes. In turn, these attitudes were affected by leadership behaviours. The results showed that turnover intention resulted more strongly and directly from low levels of organisational commitment than from job satisfaction per se. The results also suggested that turnover intention was the result of high levels of psychological empowerment. Leader behaviour had a strong direct effect on both psychological empowerment and organisational commitment, but not a unique effect on job satisfaction, while psychological empowerment had a strong direct effect on both job satisfaction and turnover intention than on organisational commitment. The results also indicated that job satisfaction had an insignificant effect on organisational commitment.

In addition, psychological empowerment mediated the effect of leader behaviour on turnover intention, while job satisfaction did not mediate the relationship between leader behaviour and turnover intention. Finally, the results suggested that psychological empowerment played mediated the effect of leader behaviour on job satisfaction and organisational commitment.

The study adds to the existing literature in two ways. First, the findings indicated that turnover intention results strongly from the combination of leader behaviour, psychological empowerment and organisational commitment, with psychological empowerment and organisational commitment playing a dominant role, with their direct- as well as mediating effects on turnover intention. Second, the present study partially replicated earlier studies of turnover intention in a new setting, i.e., within a military sample and within a non-Western context. In this way, the study confirmed the generalisability of earlier findings that relate to the development of turnover intention. A unique finding of the present research was the positive relationship found between psychological empowerment and turnover intention, suggesting that turnover process models may be more organisation-specific than previously thought (e.g., Alexander, 1998). The study limitations and recommendations provide avenues to be explored for possible future studies and recommendations for human resource management practice are discussed.

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Dedication

This thesis is dedicated to
my MOTHER (Mano Magasela),
SON (Monde),
DAUGHTER (Azande), and
late BROTHER (Sipho),
for their loving support and sacrifice during all the times that I spent away from home while
working on this project.

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CHAPTER ONE

INTRODUCTION, RESEARCH PROBLEM AND OBJECTIVES OF THE STUDY

1.1 INTRODUCTION TO AND MOTIVATION FOR THE STUDY

Turnover has become a significant challenge facing organisations today. The level of turnover can be seen as an important indicator of the effectiveness and efficiency of an organisation, both in the public and private sector (Park, Ofari-Dankwa, & Bishop, 1994). According to Abassi and Hollman (2000, cited in Ongori, 2007), employee turnover refers to the rotation of workers around the labour market; between organisations, jobs and occupations; and between states of employment and unemployment. Lambert (2001) defines turnover as the cessation of employment ties between an employee and an employer, which has three main types, including quits, layoffs, and discharges. Bluedorn (1978) suggests that these three types can be understood better by categorising them as voluntary and involuntary turnover, of which voluntary turnover has become the most frequently studied form of employee separation. Based on this approach, voluntary turnover occurs when an employee initiates the termination or cessation of the employee-organisation relationship. Various reasons for the focus on voluntary turnover exist. Firstly, voluntary turnover accounts for the majority of turnovers. Second, a single theory is unlikely to address the various antecedents of both voluntary and involuntary turnover. Third, the organisation's management can control voluntary turnover more easily (Price & Mueller, 1981).

Voluntary turnover certainly represents one of the most important and recognized issues of critical concern to both managers and organisations. Therefore, determining the causes of employee turnover seems to have attracted the attention of behavioural scientists and management practitioners for several decades (Bertelli, 2007; Feeley & Barnett, 1997). There are several important challenges that can be identified among the consequences of employees' voluntary turnover. These include, but are not limited to, the lack of employee continuity and organisational stability, the high costs associated with the recruitment of new staff (replacements), induction and training, and organisational productivity.

Importunate staffing problems also occur in many organisations as a result of turnover behaviours in their workforce. Furthermore, the loss of intellectual capital adds to the cost, since not only do organisations lose the human capital and relational capital of the departing employee, but also competitors are potentially gaining these assets (Ongori, 2007).

Staff turnover has adverse effects on the quality of work, administrative costs, and staff morale due to increased workload and resentment among remaining employees who must assume additional duties (Byrd, Cochran, Silverman, & Blount, 2000; Larrabee, Janney, Ostrow, Withrow, Hobbs, & Burant, 2003; Simons, 2005). According to Lambert (2001), high voluntary turnover can also become a public image nightmare as it conveys a negative impression of work conditions. In addition, a latent effect is that it could lead to a relatively large proportion of new employees hired, typically with less training and experience which can result into insufficient and overworked staff and even impact on the quality of service rendered by the organisation. In all certainty, turnover behaviour represents a critical concern because the money and time invested in recruiting, hiring, training and development of individuals who then leave the organisation is lost forever. Such costs are significant and increase as one moves up the organisational hierarchy (Richer, Blanchard, & Vallerand, 2002). Over the years this has resulted in practitioners, managers and researchers making concerted efforts to identify the antecedent factors that can be related to employee turnover.

However, the question facing the organisation is whether dealing with actual turnover is addressing the cause of the problem or the effect thereof. This view resulted in a paradigm shift towards the predictors of turnover behaviour. As a result, behavioural intentions have rapidly come into vogue in the field of turnover research (Steel & Ovalle, 1984), and turnover intention has been shown to be among the best predictors of turnover (Griffeth, Hom & Gaertner, 2000; Podsakoff, LePine & Lepine, 2007). As a corroboration to this view, several studies (e.g. Armitage & Connor, 2001; Benson, 2006; Hom & Griffeth, 1991; Igbara & Greenhaus, 1992; Jaros, 1997; Jaros, Jermier, Koehler, & Sincich, 1993; Kim & Hunter, 1983; Kelty, 2005; Lambert, 2001; Steel & Ovalie, 1984) have used turnover intentions as a precursor and indicative of actual turnover behaviour on the basis of evidence that intentions are the most immediate determinants of actual turnover behaviour. An employee's intention to leave the organisation includes mere thoughts of quitting the organisation and statements by the worker that he/she actually wants to leave the organisation. It is only after proceeding through these stages that the employee actually leaves the organisation (Jaros et al., 1993).

The use of turnover intention also has practical merit from a research perspective, as once individuals have implemented the turnover behaviours, there is little likelihood of gaining access to them to understand their prior situation (Siong, Mellor, Moore, & Firth, 2006), and it is less expensive to collect data on turnover intentions than actual turnover (Bluedorn, 1982). Furthermore, the validity of studying turnover intentions in the workplace rather than the actual turnover behaviour can be drawn from Sager's (1991) longitudinal study, in which turnover intention was found to discriminate effectively between leavers and stayers. In another study, Alexander, Lichtenstein, Oh, & Ullman, (1998) reported that turnover intentions were significant predictors of actual turnover, and that the majority of variables in their model impacted on turnover through turnover intentions. Turnover behaviour is seen as a multistage process that includes attitudinal, decisional, and behavioural components (Martin & Roodt, 2008; Lum, Kervin, Clark, Reid, & Sirola, 1998). The theory of planned behaviour (Ajzen, 2001; Ajzen, 1991; Armitage & Connor, 2001; Fishbein & Ajzen, 1975) suggest that behavioural intentions constitute the most immediate determinant of actual behavioural acts, in this case turnover intention and actual turnover.

Murrells, Robinson and Griffiths (2008) further suggest that the theory of planned behaviour postulates that attitudes towards behaviour, subjective norms and perceptions of behavioural control have a direct effect on intentions but an indirect effect, mediated through intentions, on actual behaviour (i.e. attitudes affect intentions which then impact on behaviour). They also assert that the theory identifies three independent determinants of intention: attitude towards behaviour, subjective norm, and perceived behavioural control. The theory begins with the determinants of these antecedents and proposes that behaviour is a function of salient information, or beliefs relevant to the behaviour. Since people act in accordance with their intentions and perceptions of control over behaviour, behaviours can be predicted from intentions with considerable accuracy when control is not overly constrained (Ajzen, 1988; Richer et al., 2002).

Tett and Meyer (1993) have successfully demonstrated that behavioural turnover intentions consistently show moderate to strong correlations with turnover, therefore substantiating Ajzen's theory. Based on this notion, Ladebo (2005) concludes that an individual who nurtures the thought of leaving his/her present employing organisation is more likely to do so if the right conditions (such as an alternative job) exist, or if the adverse condition that warrants the thought of intent persists.

Generally, employee attitudes are believed to have either direct or indirect relations to some crucial aspects of organisational behaviour (Ladebo, 2005). According to George and Jones (1999), employee work attitudes are collections of feelings, beliefs, and thoughts about how to behave that people hold about their job and organisation. Therefore, since attitudes include behavioural, as well as affective and cognitive components (Fishbein & Ajzen, 1972), they are important antecedents of employee participation and role behaviour in their work environments. In recent decades the environments in which organisations operate are largely characterised by constant dynamic changes. As a result, organisations are experiencing continuous development and modernisation of their technologies, and many of them are still labour-intensive and largely dependent on human capital. This unpredictable environmental dynamism forces organisations to invest a lot of resources on their employees in terms of induction and training, developing, maintaining and retaining their skills and experience in the organisation in order to be able to function optimally. Although one may argue that organisations are becoming leaner, nevertheless voluntary turnover continues to affect them, because they must be able to maintain a core of people who will serve as the source of organisational life and represent the 'heart, brain and muscle' of the organisation (Meyer & Allen, 1997). In addition, with globalization heightening competition, organisations must continue to develop tangible products and provide services which are based on strategies created by employees. These employees are extremely crucial to the organisation since their value is essentially intangible and not easily replicated (Ongori, 2007).

The reality of the matter is that as the operational environment of an organisation changes, there is an increase in skills-demand, and organisations cannot afford to lose their skilled and experienced employees. The military organisations are counted among the labour intensive organisations, in that they are mostly dependent on their human resources in order to function optimally and effectively. The technological demands and developments consequently put the military, like any other organisation (private/public sector organisations), under severe pressure in terms of skills requirements, and they are affected in the same way as these organisations. With the increasing competition and organisational demands emanating from all over their operational environments, responding to the challenges of turnover intentions among their employees becomes crucial.

The ability of an organisation to reach its goals depends in part on the skills, experience and effort of its workforce. Employees can therefore be said to be primarily responsible for providing a sustainable competitive advantage for their organisation, and the success of the organisation depends on managing and retaining these employees (Lee, 2000). If employee turnover behaviour is not managed properly, it would affect the organisation adversely in terms of personnel costs and in the long run it could affect its liquidity (Ongori, 2007; Dess & Shaw, 2001). Therefore, the retention of skilled and experienced personnel becomes a priority for any organisation (including the military), and identifying critical organisational, job and individual factors that are involved in the process of turnover will have utility implications for these organisations. In practical terms, the military organisations' demands may include both national and international obligations, such as peacekeeping, peace-support, and humanitarian operations.

In addition, within the South African context, turnover intentions may have even more serious ramifications as the South African military is in the implementation phase of its strategy that is aimed at rejuvenating its aging workforce. Therefore, the younger and experienced workforce that is prepared to stay in the organisation a little longer will demonstrate the success of this strategy and, as a result, will provide a justification for the amount of resources they have invested in this venture. The biggest challenge is how to minimize the turnover intentions of the skilled and experienced personnel within the organisation. In whatever approach that is adopted to deal with voluntary turnover, an organisation first has to understand how its employees develop the state of turnover intention. This approach necessitates the need to explore more of the causal process and antecedent factors that are involved in the development of the turnover intentions among employees. This is in line with the assertion of Mangelsdorff (1989) that one approach to the problem of retaining personnel in the military and any other organisation is to identify factors affecting the decision to remain in the service.

Various researchers have suggested a number of factors that often play a major role in the development of employee turnover intention and the actual turnover behaviours. Therefore, knowing and understanding the causes of turnover intention may help practitioners, managers and organisations to develop strategies to prevent actual turnover.

1.2. RESEARCH PROBLEM

Turnover intention represents an attitudinal orientation or a cognitive manifestation of the behavioural decision to quit (Ajzen, 2001; Ajzen, 1991; Ferres, Connell & Travaglione, 2004; Fishbein & Ajzen, 1975; Richeret al., 2002). Tett and Meyer (1993) view turnover intention as a conscious and deliberate wilfulness to leave the organisation. Turnover intention poses a serious threat to the effectiveness of the organisations, because it leads to voluntary turnover of experienced and high performing organisation members on whose long-term commitment, motivation, loyalty and efforts the success of the organisation depends (Ugboro 2006). Lambert, Hogan and Barton (2001), Lee and Mowday (1987, cited in Dewettinck and Van Amejide, 2007) as well as Steel and Ovalle (1984) suggest that the intention to stay with or leave the organisation is the final cognitive step in the decision-making process of voluntary turnover.

A number of empirical studies demonstrate evidence that turnover intention is the most important predictor of actual turnover (Ferres et al, 2004; Firth, Mellor, Moore, & Loquet, 2004; Koberg, Boss, Senjem & Goodman, 1999). Some of the published studies (e.g. Avolio, Zhu, Koh, & Bhatia, 2004; Bartolo & Furlonger, 2000; Benson, 2006; Bhatnagar, 2005; Lee, 2000; Vandenberghe & Tremblay, 2008) on turnover behaviours (turnover intention and actual turnover) seem to have focused on the influence of one or two factors at a time, as well as that of individual characteristics on turnover behaviour (e.g. Campbell & Campbell, 2003; McBey & Karakowsky, 2000). Very few of these studies have considered the collective influence of different variables that have been found to be related to turnover behaviours and its mediating processes. This study therefore aims to determine the collective influence of leader behaviour, empowerment, satisfaction and commitment on turnover intention. It will explicate how these variables relate to each other in their influence on turnover intention among members in the sample organisation.

1.3. OBJECTIVES OF THE STUDY

1.3.1. Main Objective

The main objective of this study is to develop and empirically test a structural model that elucidates the nature of the influence of leader behaviour, empowerment, satisfaction and commitment on turnover intentions among employees in organisations. A scientific research methodology will therefore be used in order to determine the validity of the suggested propositions regarding the influence of the selected variables on turnover intention.

1.3.2. Theoretical Objective

The theoretical objective of this study is to, by means of logical reasoning, conduct a comprehensive literature study of the constructs of leader behaviour, empowerment, satisfaction, and commitment in order to examine the inter-relationships among these constructs and their influence on turnover intention. The aim is to make use of a sound theoretical background and logical reasoning to develop a structural model that indicates the relationships between leader behaviour, empowerment, satisfaction and commitment, as well as their influence on turnover intentions among employees.

1.3.3. Empirical Objective

The empirical objective of this study is to make use of explanatory research methodology to test the specific hypotheses on the causal linkages between the variables of interest (e.g. leader behaviour, empowerment, satisfaction, and commitment) and their influence on turnover intention. The aim is to develop and empirically test a structural model that reflects the relationship between leader behaviour, empowerment, satisfaction, commitment, and turnover intentions.

The research study will be conducted using a sample of uniformed personnel of the South African National Defence Force. The following sub-objectives have also been set:

- To develop an explanatory structural model that explicates the manner in which leadership behaviour, psychological empowerment, job satisfaction, and organisational commitment affects turnover intention in organisations;
- To test the model's fit; and
- To evaluate the significance of the hypothesised paths in the model.

1.4. OVERVIEW OF THE STUDY

This chapter has examined the effects and importance of understanding employees' turnover behaviours in organisation, as well as the motivation for the study. The research problem as well as the research objectives of this study was also discussed. Furthermore, the study is structured as follows:

Chapter 2 provides a comprehensive review of literature on the constructs of turnover intention, leader behaviour, psychological empowerment, job satisfaction, and organisational commitment, and develops the hypothesised conceptual model.

Chapter 3 provides the information regarding the research design, the sample and sampling design, the measuring instruments that were used, and the statistical analysis.

Chapter 4 reveals the data analysis, results of the study, and tests the hypotheses.

Chapter 5 provides the final conclusions of the study, as well as the recommendations and suggestions for future research.

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

Over the years, many research studies have been conducted on turnover intention and actual turnover behaviours in the workplace. Through most of these studies, turnover intention has been identified as the most important predictor of actual turnover behaviour in organisations (Armitage & Connor, 2001; Benson, 2006; Elangovan, 2001; Hom & Griffeth, 1991; Igbara & Greenhaus, 1992; Jaros, 1997; Jaros et al., 1993; Kelty, 2005; Kim & Hunter, 1983; Lambert, 2001). Therefore, this chapter aims to begin by exploring the nature of voluntary turnover and turnover intention. It then considers the nature and effect of leader behaviour in the work context, and how the leader behaviour relates to factors such as perceived psychological empowerment, job satisfaction and organisational commitment among employees. In integrating these traditionally disparate areas of research, this section also discusses the nature and effect of employees' perceived psychological empowerment on their levels of job satisfaction and organisational commitment, as well as the effect of job satisfaction on commitment. These also include the discussion of the effects of these three factors (psychological empowerment, satisfaction, and commitment) on employees' turnover intentions.

2.2. VOLUNTARY TURNOVER AND TURNOVER INTENTION

2.2.1. Voluntary Turnover

Voluntary turnover is one of the well recognized issues of critical concern to both managers and organisations. The ordinary usage of the concept of 'voluntary turnover' usually connotes that the individuals who leave the organisation do so at their own initiative. As a result voluntary turnover is defined as the process by which an individual employee willingly and voluntarily terminates their membership to the organisation (Bluedon, 1978). When people decide to voluntarily leave an organisation, the overall effectiveness of the organisation may suffer for several reasons (Bluedon, 1982; Price, 2001; Price, 1977).

Firstly, the organisation loses the knowledge and skills that the departing employee possesses. Secondly, the organisation must expend time, money and resources to recruit and select replacements. Thirdly, these same investments in time and money, and resources must be made to train those replacements. In the ideal situation, the effort and resources to recruit and train new employees are well spent when the replacements' performance exceed the performance of departed employees. Nonetheless it is often feasible that the replacements are not immediately as effective as those who voluntarily left the organisation (McElroy, Morrow, & Rude, 2001). Therefore, understanding the reasons why employees voluntarily leave can give managers and organisations an edge in improving working relationships. In an effort to overcome the challenges and ameliorate the risks associated with voluntary departure of high performing and skilled employees, several studies have been conducted for decades to determine why employees voluntarily leave organisations (Bluedon, 1982). However, organisational researchers have been advised to employ turnover intent because focusing on the employee voluntary turnover decision itself alone might be too late to prevent employees from exiting the organisation (BeomCheol, Lee & Carlson, 2010). As a result managers, organisations, and researchers must rather investigate the factors that are the force behind the development of the intention to turnover/quit so that what ever strategies are employed can be able to reduce or curb the termination of membership by employees.

2.2.2. Turnover Intention

The intention to stay or leave the organisation is the final cognitive step in the decision-making process of voluntary turnover (Dewettinck & Van Ameijde, 2007; Lambert et al., 2001; Steel & Ovalle, 1984; Steel & Lounsbury, 2009). Therefore, by identifying the determinants of employees' intention to quit, turnover behaviours could be predicted more precisely and measures to prevent turnover could be taken in advance (Hwang & Kuo, 2006; Van Schalkwyk, Du Toit, Bothma, & Rothmann, 2010). A plethora of definitions have come about due to the renewed interest of researchers in turnover intention behaviours. Turnover intention refers to the willingness of employees to leave the organisation for another job and their intention to begin searching for a new job (Benson, 2006; Mobley, Horner, & Hollingsworth, 1978; Tett & Meyer, 1993). Lambert (2001) defines turnover intention as an employee's desire to relinquish organisational employment ties within a given time frame.

Turnover intention is the strength of an individual's conviction that he/she will stay with or leave the organisation in which he/she is currently employed (Elangovan, 2001; Ferres et al., 2004; Hom & Griffeth, 1991; Lee, 2000). Similarly, Guimaraes (1999) view turnover intention as the individual's perceived likelihood that they will be staying or leaving the employer organisation. Sager, Griffeth, and Hom (1998) suggest that turnover intentions are seen as a mental decision (connotation) intervening between an individual's attitudes (affect) regarding a job and his/her subsequent behaviour to either stay or leave. This means that turnover intention reflects the employees' affective reactions towards the organisation and organisational leaders (Magner, Welker, & Johnson, 1996). Turnover intention represents an attitudinal orientation or a cognitive manifestation of the behavioural decision to quit (Elangovan, 2001; Ferres et al., 2004; Fishbein & Ajzen, 1975). It is a conscious and deliberate wilfulness to leave the organisation, and poses a serious threat to the effectiveness of the organisations, because it leads to voluntary turnover of high performing organisational personnel on whose long-term commitment, motivation and loyalty the success of the organisation depends (Chiu, Lin, Tsai, & Hsiao, 2005; Tett & Meyer, 1993; Ugboro, 2006).

Since Fishbein and Ajzen's (1975) theory and several other studies have shown turnover intention to be the precursor to actual turnover behaviour, therefore, in order to deal with turnover in organisations, managers, practitioners, and researchers should also investigate the factors that are precursors to turnover intentions (Allen, Weeks & Moffit, 2005; Firth et al., 2004; Ferres et al., 2004; Lee, Lee, & Lum, 2008; Shoptaugh, Phelps, & Visio, 2004). Identifying the antecedent factors of turnover intention is important for understanding and consequently controlling turnover behaviour (Ferres, Connell, & Travaglione, 2004; Vandenberg & Nelson, 1999). According to Houkes, Janssen, De Jonge, and Bakker (2003), some literature on turnover intention suggests that pertaining to work-related factors, conditions of employment are important causes of turnover intention. Since turnover intentions have a direct impact on actual turnover certain job attitudes are believed to be causally antecedent to turnover intentions. Empirical work has documented the role of variables such as job satisfaction, perceptions of control, job stress, absenteeism, commitment, and supervisor support in predicting turnover intentions and turnover behaviours (Richeret et al., 2002; Sionget et al., 2006). Gutknecht (2005) and Firth et al. (2004) found that turnover intention is largely influenced by factors such as job dissatisfaction and lack of commitment to the organisation.

Lambert (2001) also reports that the factors that influence turnover intentions and actual turnover include alternative employment opportunities, job satisfaction, organisational commitment, work environment forces, and employee characteristics. Using path analysis, Siong et al., (2006) found that employees' commitment to the organisation, job satisfaction, job stress, supervisor support, self-esteem, and the perceived stressors in the job accounted for 52 percent of the variance in intention to quit. Several other studies have also identified specific job-related attitudes such as perceived leader behaviour (Bertelli, 2007; Dewettinck & Van Ameijde, 2007; Kelty, 2005; Lee, 2000; Siong et al., 2006), job satisfaction (Firth et al., 2004; Gutknecht, 2005; Holt, Rehg, Lin & Miller, 2007; Kelty, 2005; Siong et al., 2006), psychological empowerment (Benson, 2006; Kelty, 2005), and organisational commitment (Holt et al., 2007; Kelty, 2005; Ladebo, 2005; Lee, 2000; Lok & Crawford, 2004; Siong et al., 2006), to have direct impact.

2.3. LEADER BEHAVIOUR

Leadership as a managerial and academic subject of study has been an important topic in the social sciences for many decades (Den Hartog, Van Muijen, & Koopman, 1997; Horwitz, Horwitz, Daram, Brandt, Brunicardi, & Awad, 2008). It has attracted an extensive body of literature, which can be attributed to the fact that the influence of leadership is important in the military, politics, government, academia, as well as in every profit or non-profit organisation (Truckenbrodt, 2000). The attention that is given to the subject of leader behaviour demonstrates the importance of leadership in the success or failure of an organisation (Lok & Crawford, 2004). Johnson and Bledsoe (1973) postulate that an organisation depends on its leaders at different hierarchical levels to initiate action programs that are designed to achieve organisational goals, and therefore goal achievement appears to be related to the ability of the leaders to work with their subordinate staff. As a result, the continued search for good leaders and leadership behaviours has resulted in the development of a variety of definitions and theories of leadership.

According to Miner (1992) *leadership* refers to an interaction between two or more members of a group that involves a structuring or restructuring of the situation and the perceptions and expectations of the members.

It is also commonly understood as “the ability to influence a group towards the achievement of goals” (Appelbaum, Bartolomucci, Beaumier, Boulander, Corrigan, Dore, Girard, & Serroni, 2004, p.18). Bean (2003) summarized the above-mentioned definitions by suggesting that leadership is the ability to express a vision, influence others to achieve results, encourage team cooperation, and be an example. *Leadership* is also defined as the process in which an individual (leader) influences others (followers/subordinates) to willingly and enthusiastically direct their efforts and abilities towards attaining identified group or organisational goals (Doyle & Smith, 2001; Lussier, 2006; Werner, 2001). Yukl (1994) also define leadership as the process of influence on the subordinate, in which the subordinate is inspired to achieve the target, the group is maintained in cooperation, and the established mission is accomplished, and the support from external source is obtained.

It is evident that the definition of leadership is widely varied, however, it seems that the most commonly agreed upon element of the leadership construct is that it involves a process of influence that an individual asserts over others (followers) to attain specified goals (Horwitz et al., 2008). Therefore, following the view of leadership as a ‘process’, it can be inferred that it is during this process where the leaders’ behaviours influence and shape the followers’ attitudes. Hence, it is important for organisations to have effective leadership personnel who will always be determined to drive the organisational processes by means of their actions and behaviours towards the achievement of organisational goals. Leaders are expected to set and demonstrate organisation’s direction and values. Their behaviours within the workplace have a direct impact on the affective reactions of subordinates in a work team or organisation (Griffin, Patterson, & West, 2001). The fit between an individual employee’s values and those of the supervisor (and others) in the organisation is related to subordinate employees’ satisfaction, commitment, and turnover intentions (Menon & Kotze, 2007; Watrous, Huffman, & Pritchard, 2006). Good quality leader-member relationship is negatively related to both turnover intention and actual turnover (Mardanov, Heischmidt, & Henson, 2008).

Bean (2003) proposes that the basic leadership behaviours that influence employee attitudes include stretching, empowering, sharing, and coaching. *Stretching* refers to the leader’s ability to challenge a team’s habits and to take risks. It involves the capacity to create challenging situations, to compel, to push towards doing more, to go beyond.

Empowering involves the ability to help others achieve their individual potential in order to obtain more effective organisational behaviour. It requires the capacity to facilitate conditions that allow people to express themselves better, recognizing the value of their work and stimulating personal and professional growth as well as self-esteem. *Coaching* is the ability to be a guide and a trainer. It is based on the capacity to respect people, to listen attentively, willingly, and considerately. It requires the recognition of individual potential and taking responsibility for the development of these competencies as assets in order to harvest under-utilised potential. *Sharing* is the ability to exchange information and know-how. It entails the capacity to involve people with respect to objectives, including them in meetings in which ideas and information are exchanged, in order to achieve true collaboration, and permitting easy access to resources and acknowledging that they are to be enjoyed by all.

According to Tyagi (1985), the major types of leadership behaviours that influence employee work motivation, outcomes, and productivity include leader trust and support, goal emphasis, group interaction, psychological influence, and hierarchical influence. However, some of the generic behaviours that characterise outstanding leadership and have a strong effect on follower values, motives, and self-concepts such as self-worth and self-efficacy include (Spangenberg & Theron, 2002):

- *Vision*. Outstanding leaders articulate a vision or facilitate the development of a vision that expresses core values shared by leaders and followers. It comprises a set of values that is congruent with the values and emotions of followers.
- *Passion and Self-sacrifice*. Outstanding leaders make extraordinary self-sacrifices in the interest of their vision and the mission of the organisation, thereby demonstrating their commitment to the collective vision and earning credibility and the respect of the followers.
- *Confidence, Determination, and Perseverance*. Outstanding leaders display a high degree of confidence in themselves and in the attainment of the collective vision. By displaying determination and perseverance, change-oriented leaders demonstrate courage and conviction with regards to the vision and mission, which inspire, empower and motivate followers.
- *Selective Motive Arousal*. Outstanding leaders selectively utilise motivation to ensure successful accomplishment of the vision.

- *Risk-taking.* Outstanding leaders often take significant career risks by introducing change, challenging the status quo, and leading innovative projects.
- *Expectations of and Confidence in others.* Outstanding leaders expect from their followers strong commitment by way of determination, perseverance and self-sacrifice, as well as performance beyond the call of duty. While communicating these high expectations, they also express strong confidence in followers' ability to meet them. Leaders empower followers through this combination of high expectations and high confidence.
- *Developmental Orientation.* Outstanding leaders analyse skills and abilities of followers and provide coaching, training and developmental opportunities. These developmental efforts stress the importance of follower competence and are likely to stimulate follower achievement orientation and self-efficacy.
- *Role Modelling.* Outstanding leaders set a personal example of the beliefs and values that support the organisation's vision. The leader demonstrates to followers the kinds of traits, values, beliefs, and behaviours that are good and legitimate to develop.
- *Demonstration of integrity.* Outstanding leaders demonstrate integrity towards their followers in many ways, such as fairness, honesty, consistency of behaviour, courage in the face of adversity, and meeting obligations and carrying out responsibilities. Followers will not trust leaders who do not have integrity. Without trust in their leader, followers will neither identify with the vision and values of their leader nor put in extra effort towards achieving the leader's vision.
- *Frame alignment.* Outstanding leaders endeavour in a persuasive manner to align follower attitudes, values and perspectives with their own. They do this by articulating the vision clearly, using slogans, and providing a vivid image of a better future, and utilising core values and moral justifications.
- *Symbolic behaviour.* Outstanding leaders serve as symbolic figureheads and spokespersons for the entire group or organisation. Their positive self-presentation helps develop follower identification with what the organisation stands for and with the values inherent in the collective vision.

Other researchers (Johnson & Johnson, 2006; Loke, 2001; Miner, 1992) also suggest that the distinct leadership behaviours that influence organisational outcomes include behaviours such as:

- *Challenging the process/status quo*: being committed to search out challenging opportunities to change, grow, innovate and improve.
- *Inspiring a shared vision*: enlisting followers in a shared vision for an uplifting and enabling future by appealing to their values, interests, hopes and dreams.
- *Enabling others to act*: is the leadership behaviour that infuses others with energy and confidence, developing relationships based on mutual trust, and providing subordinates with discretion to make their own decisions. It is about fostering collaboration by promoting cooperative goals and building mutual trust, through empowering followers by providing choice, developing competence, assigning critical tasks and giving visible support.
- *Modelling the way*: role modelling, which is consistent with shared values and achieves small wins for promoting progress and commitment.
- *Encouraging the heart*: providing individual recognition for success of projects and regularly celebrating accomplishments.

Earlier theories of leadership primarily focused on follower goal and role clarification and the ways leaders rewarded or sanctioned follower behaviour (transactional leadership). However, in the recent arguments on leadership behaviour studies all that has changed. This paradigm shift to understand how leaders influence followers is aimed to transcend self-interest for the greater good of organisations in order to achieve optimal levels of performance (transformational leadership) (Antonakis, Avolio, & Sivasubramaniam, 2003). The related paradigms of transactional and transformational leadership have become widely studied theories of leadership behaviour (Horwitz et al., 2008). In his original theory, Bass then included both transformational and transactional leadership factors, which was adapted to also include non-transactional laissez-faire leadership.

Transactional leadership: Transactional leadership is an exchange process based on the fulfilment of contractual obligations and is typically represented as setting objectives and monitoring and controlling outcomes (Antonakis et al., 2003). According to Bass and Riggio (2006), and Antonakis et al., 2003, transactional leadership is further subdivided into three areas: a) *Contingent reward leadership (CR)* refers to leader behaviours that are focused on clarifying role and task requirements and providing followers with material or psychological rewards contingent on the fulfilment of contractual obligations; b) *Management-by-exception-active (MBE-A)* refers to the active vigilance of a leader whose goal is to ensure that standards are met; and c) *Management-by-exception-passive (MBE-P)* leaders only intervene after non-compliance has occurred or when mistakes have already happened.

Transformational leadership: Northouse (2007) defines transformational leadership as a process whereby an individual engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower when certain conditions arise. For the current study, transformational leadership will be defined as a relationship between a leader and followers based on a set of leader behaviours perceived by subordinates as exhibiting idealized influence, motivational inspiration, intellectual stimulation, and individual consideration (Bass, 1985; Flood, Ramamoorthy, McDemott, & Conway, 2008; Waldman, Javidan, & Varella, 2004). Bass and Riggio (2006) suggest that transformational leadership attempts to influence the beliefs and attitudes of followers to align with that of the leader, and then direct followers through these common beliefs towards the attainment of greater organisational success. Transformational leaders are proactive, raise followers' awareness for transcendent collective interests, and help followers achieve extraordinary goals (Antonakis et al., 2003).

Four types of transformational leadership have been identified: a) *Inspirational motivation (IM)* refers to the ways leaders energize their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that the vision is achievable; b) *Intellectual stimulation (IS)* refers to the leader's actions that appeal to followers' sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems; c) *Individualized consideration (IC)* refers to leader behaviour that contributes to follower satisfaction by advising, supporting, and paying attention to the individual needs of followers, and thus allowing them to develop and self-actualize; and d) *Idealized influence (II)* refers to charismatic actions of the leader that are centred on values, beliefs, and a sense of mission. Idealized influence is sometimes subdivided into two types: *Idealized influence-attributed (II-A)* in which the leader charisma is used to foster strong positive emotional bonds with followers; and *Idealized influence-behaviour (II-B)* in which the idealized behaviour of the leader becomes manifested in collective values and actions throughout the organisation (Antonakis et al., 2003; Bass & Riggio, 2006; Horwitz et al., 2008).

Various studies have related employees' perceived leader behaviour to a number of organisational outcomes. According to Mulki, Jaramillo, and Locander (2006), leadership style is related to employee attitudes and behaviours, such as role perceptions, job anxiety, job satisfaction, propensity to leave, and turnover. Kelty (2005) identifies job satisfaction and organisation commitment as the intervening variables affecting turnover intentions. Firth et al. (2004) add that monitoring workloads by management and leader-subordinate relationships might not only reduce stress, but also increase job satisfaction and commitment to the organisation. Furthermore, perceived leadership behaviour relates to employees' attitudes and organisational outcomes through its impact on employee motivation, as a result shows to be directly related to employee attitudes, which in turn are strongly related to employees' turnover intentions (Bertelli, 2007; Dewettinck & Van Ameijde, 2007). In organisational settings, the relationship between the leader and the subordinate follower is considered to be fundamental to understanding employee attitudes and behaviours (Lee, 2000).

Bartolo and Furlonger (2000) suggest that supervisors are trained to practice consideration leadership behaviour, which is relationship-focused behaviour, and refers to the degree to which the leader explains to the followers, the reasons for their leading actions and is concerned about their well-being. Both the supervisors' actions and lack of actions influence employees' attitudes and behaviours towards the organisation (Lok & Crawford, 2004; Mulki et al., 2006). Miner (1992) further asserts that the leadership behaviours that influence the employees' attitudes in the organisations include: the levels of performance goals desired by leaders and transmitted to subordinates; the leaders' levels of knowledge and skill; the extent to which the leader provides subordinates with planning resources, equipment, and training, and the extent to which the leader ensures that working relationships within the groups are stable.

Mulki et al. (2006) further suggest that leadership style can have a direct influence on employee work attitudes and behaviours. Leaders create a work environment where individuals are motivated, inspired, challenged, and feel accomplished. One can therefore argue that the employees' perceptions of their leader's behaviour will have an influence on the employees' attitudes as well as critical organisation's outcomes. Following this type of argument, it therefore follows that poor leader-subordinate relations promote employee quit intentions and turnover behaviours (Rivera & Tovar, 2007). In his study, Lee (2000) also reports a relationship between leader-member relations and job satisfaction, organisational commitment, and turnover intention. Furthermore, Dewettinck and Van Aemeijde (2007), and Lok and Crawford (2004) suggest that leadership attributes, such as subordinate empowerment and clear vision, are important elements for employee job satisfaction and commitment. According to Avolio, Gardner, Walumbwa, Luthans, and May (2004) leader behaviour has direct influence on employees' job satisfaction, psychological empowerment, and organisational commitment however; it has an indirect influence on employees' stay/quit intention.

2.3.1. Leader Behaviour and Psychological Empowerment

Deci, Connell and Ryan (1989) suggest that the behaviour of leaders in the organisation play a vital role in providing subordinate employees with empowering experiences, which contribute directly to the employees' feelings of self-worth and sense of self-determination.

Psychological empowerment in the workplace is a logical outcome of managerial efforts to create conditions of empowerment (Laschinger, Finegan, Shamian, & Wilk, 2001). It is not just telling employees that they are empowered, but it is also having them feel that they are being empowered and willing to demonstrate the associated behaviours, hence supervisor's social support can promote feelings of psychological empowerment among employees (Hancer & George, 2003). Research evidence suggest that individuals who perceive that they have high levels of support from their immediate supervisor report high levels of empowerment than individuals who perceive low levels of support (Peccei & Rosenthal, 2001; Spreitzer, 1996; Wallach & Mueller, 2006). The role of supervisory social support does not only lead to feelings of empowerment amongst employees, but also moderates the relationship between empowerment and job satisfaction (Bordin, Bartram, & Casimir, 2007).

Huang, Shi, Zhang, and Cheung (2006) show evidence that the quality of leader-member relationship is positively associated with psychological empowerment, which in turn positively relates to job satisfaction and consequently organisational commitment. They therefore suggest that participative leadership behaviour is likely to produce organisational commitment when such behaviour induces the feeling of psychological empowerment among employees. Larrabee et al. (2003) also posit that there is a relationship between transformational leadership and psychological empowerment. Some researchers have argued that transformational leaders create a sense of meaning for employees through the use of a strong vision, and by energizing and aligning employees to the task at hand. As a result this sense of meaning results in increased motivation and job satisfaction among the employees (Spreitzer, Kizilos, & Nason, 1997). Followers of transformational leaders are expected to identify with their leaders and believe that they can have an impact on the organisation (Avolio et al., 2004; Kotze, Menon, & Vos, 2007). Spangenberg and Theron (2002) assert that outstanding leaders analyse skills and abilities of followers and provide coaching, training and development opportunities. Such behaviours and practices are likely to impact on employees' attitudes. Bowen and Lawler (1995) state that leadership practices that disseminate power, information, knowledge, and rewards give employees an empowered state of mind. An empowered state of mind includes control over what happens on the job, awareness of the context in which the job is performed, and accountability for work output.

Conger and Kanungo (1988) further suggest that leadership behaviours that are identified as empowering include expressing confidence in subordinates accompanied by high performance expectations; fostering opportunities for subordinates to participate in decision-making; providing autonomy from bureaucratic constraint, and setting inspirational and or meaningful goals. Empowering leadership behaviour is linked to the construct psychological empowerment based on the four dimensions of psychological empowerment. Leadership behaviours contribute to employees' psychological empowerment to the extent to which it is able to affect an individual's perception of meaning, competence, self-determination and or impact. Therefore, providing emotional support, words of encouragement, positive persuasion, models of success and the experience of mastering a task with success can influence these psychological empowerment-related dimensions (Dewettinck & Van Amejide, 2007; Conger & Kanungo, 1988).

Fox (1998) suggest that psychological empowerment means sharing with employees important organisational ingredients such as information about the organisation's performance, knowledge that enables employees to understand and contribute to organisational performance, rewards based on the organisation's performance, and power to make decisions that influence organisational direction and performance. Leaders are perceived as highly effective if they put great effort towards the development of their subordinates' competence, and often have high-performing work units and satisfied and committed subordinate employees (Bass & Avolio, 1993). Other leadership dimensions that result in empowerment have been suggested, e.g. leading by example, participative decision-making, coaching, informing, and showing concern/interacting with the team (Dewettinck & Van Amejide, 2007). Huang et al. (2006) further state that leader approachability and participative leadership style are positively related to employee psychological empowerment, which leads to increased satisfaction and commitment among employees. Ford and Fottler (1995, cited in Koncazk, Stelly & Trusty, 2000), allude that empowerment requires managers to share information and knowledge that enables employees to contribute optimally to organisational performance.

Similarly, Kanter (1979) asserts that it is the managers' responsibility to create necessary conditions for organisational empowerment to occur. Although critical, changing the organisational context is insufficient for changing individual behaviour. Rather, a personal perception of empowerment is an important mediator between the context and behaviour, and personal perception is amenable to intervention. Therefore, managers and supervisors can help employees feel empowered by providing them with the necessary means, ability, and authority to achieve success, and by delegating authority and allowing participation in decisions (Koberg et al. 1999). Hancer and George (2003) infer that it is important for managers to examine individual factors and be prepared to take specific actions that may lead to higher levels of psychological empowerment. Giving employees the opportunity to make relevant decisions concerning the job may increase their willingness to take action and increased job satisfaction.

2.3.2. Leader Behaviour and Job Satisfaction

Chen, Beck, and Amos (2005) assert that leadership behaviour and job satisfaction are fundamental components influencing employees' attitudes and overall effectiveness of an organisation. Job satisfaction is mostly influenced by manager's behaviour. Bertelli (2007) and Ting (1997) acknowledge that undesirable aspects of a job, disruptive organisational politics, and bad management are among the factors that lead to low job satisfaction. McNeese-Smith (1997, cited in Loke, 2001), suggests that the characteristics of a manager that influence subordinate employees' job satisfaction include provision of recognition and thanks, meeting employee personal needs, helping or guiding the employees, using leadership skills to meet group needs and supporting the team. Conversely, job dissatisfaction was found to be due to managers not giving due recognition and support, not being able to follow through on problems and not helping but criticizing in a crisis. According to Tepper (2000), some studies suggest that the number one reason people quit their jobs is that they are treated poorly by their supervisors. However those who remain in their jobs, working for poor leaders, have lower job and life satisfaction, lower commitment, higher conflict between work and family, and psychological distress.

Both employees' job satisfaction and commitment are directly affected by leadership behaviours, which consequently affect turnover behaviours in organisations (Firth et al., 2004; Loke, 2001). This finding is also supported by Magner et al.'s (1996) assertion that turnover intentions reflect the employees' affective reactions towards the organisation and its leaders. It can therefore be argued that perceptions of poor leadership behaviour will result in reduced satisfaction and lack of organisational commitment among the employees.

2.3.3. Leader Behaviour and Organisational Commitment

There is no doubt about the fact that committed employees are a valuable factor managers use in order to achieve the organisations' goals. Therefore, employee commitment could be used as a competitive advantage in organisations. However, employees' organisational commitment is directly affected by leadership behaviours (Firth et al., 2004; Loke, 2001). Organisational commitment is influenced by the managers' use of their leadership behaviours such as being appreciative, supportive and visionary, having the ability to trust others, role modelling, and creating open communication (Avolio et al., 2004; Loke, 2001). According to Karrassch (2003), leader behaviour is positively related to affective commitment and, to a lesser extent, normative commitment, while continuance commitment is negatively related to it. Rivera and Tovar (2007) suggest that employees who perceive interdependence with their superiors reinforce affective commitment to the organisation, while conversely, poor leader-member exchange promotes turnover behaviours. Ayub (2008) also asserts that other factors such as proper feedback, clear goals and supervisory relationship, along with organisational citizenship behaviour and politics within the organisation are inversely related to organisational commitment and ultimately affect turnover intentions within the organisation. Price and Mueller (1986, cited in Iverson & Pullman, 2000) posit that the social support from the immediate supervisor can be associated with lower turnover behaviours. However, some studies suggest that the relationship between leader behaviours and organisational commitment is mediated by psychological empowerment (Konczak et al., 2000).

2.4. PSYCHOLOGICAL EMPOWERMENT

Organisational researchers have taken an interest in psychological empowerment within the workplace (Kraimer, Seibert, & Liden, 1999). This construct has been conceptualised in different forms in the literature.

Employee empowerment has been equated with delegation and decentralisation (Kanter, 1983), participative decision-making (Labianca, Gray, & Brass, 2000), employee involvement (Lashley, 2000), and the sharing of information (Randolph, 2000). Walton (1985) adds that the concept of empowerment is embraced under the guise of the movement away from 'control' towards a proactive and strategic 'commitment' style of management. Lee and Koh (2001) suggest that the common feature in the conceptions of empowerment is that it is treated as a set of management practices and manager behaviours. However, breaking away from this approach, some researchers have focus on the psychological state of subordinates resulting from these practices and behaviours (Huang et al., 2006). According to Kraimer et al. (1999), psychological empowerment differs from the structural concept of empowerment in that it focuses on intrinsic motivation rather than on the managerial practices used to increase individuals' levels of power. Contemporary research on psychological empowerment has increased focus on articulating the empowerment process and the psychological underpinnings of the construct in terms of self-efficacy and autonomy. This view suggests that empowerment techniques that provide emotional support for subordinates and create a supportive atmosphere can be more effective in strengthening self-efficacy beliefs (Bordin et al., 2007). This study takes an explicitly psychological view of employee empowerment, focusing on individuals' perceptions of their work roles. The stream that conceptualizes employee empowerment in motivational terms and therefore advances the notion of self-efficacy define 'psychological empowerment' as a process of enhancing feelings of self-efficacy among organisational members through the identification of conditions that foster powerlessness and through their removal by both formal organisational practices and informal techniques of providing efficacy information (Conger & Kanungo, 1988; Thomas & Velthouse, 1990).

After an extensive review of relevant literature, Thomas and Velthouse (1990) further argue that psychological empowerment is multifaceted and cannot be captured by a single concept. Following this view, Avey, Hughes, Norman and Luthans (2007), Dewettinck, Singh and Buyens (2003), Dimitriades and Kufidu (2005), Huang et al. (2006), Menon and Kotze (2007), and Spreitzer (1995) define *psychological empowerment* as a form of intrinsic motivation to perform tasks, manifested in four cognitive dimensions such as meaningfulness, competence, self-determination, and impact.

Spreitzer (1995) further suggests that this set of cognitions is created by the work environment or context that reflects employees' perceptions about themselves in relation to their work environment. *Meaning* refers to the fit between the requirements of the job tasks and one's own values, beliefs, and behaviours (Kraimer et al., 1999; Peccei & Rosenthal, 2001). If employees' hearts are not in their work, or if work activity conflicts with their value systems, they will not feel empowered (Thomas & Velthouse, 1990). *Competence* refers to an individual's belief in his or her capability to perform activities with skill. Without a sense of confidence in their abilities, individuals will feel inadequate, and they will likewise lack a sense of empowerment (Conger & Kanungo, 1988; Dewettinck & Van Amejide, 2007). *Self-determination* refers to individuals' sense that they have a choice in initiating and regulating actions. If employees feel that they are just following the orders from their supervisors, if they feel little autonomy, they will also lack a sense of empowerment (Dewettinck & Van Amejide, 2007; Wagner, 1995). *Impact* is the degree to which an individual can influence strategic, administrative or operating outcomes at work. Collectively, these four conditions engender an active orientation in which the person wishes and feels able to shape his or her work role and context (Dewettinck & Van Amejide, 2007; Spreitzer, 1995). Bhatnagar and Sandhu (2005) further add that these four dimensions combine additively to create an overall construct of psychological empowerment, and the lack of any single dimension will deflate (though not completely eliminate) the overall degree of perceived empowerment. Thomas and Velthouse (1990) postulate that the four cognitions (task assessments) of psychological empowerment are products of events, one's interpretive style, and one's global or generalized task assessments from past experiences of success and failure. Therefore, the cognitive model of empowerment proposes that one's judgements about a verifiable, external reality and subsequent behaviour are influenced by their cognitions.

According to Kanter (1979), psychological empowerment is the product of employee interaction with organisational structures of information, support, resources, and opportunity that enable the employee to develop further and to be more effective in the organisation. Information about the organisation's mission, performance, and reward system is an important antecedent to psychological empowerment. Employee access to information in the organisation helps create a sense of meaning and purpose for the individual, which may provide an employee with an understanding of how their work can contribute to the goals of the organisation and subsequently enable them to see the bigger picture (Spreitzer, 1996).

Using this approach, Potterfield (1999) views psychological empowerment as a subjective state of mind where an employee perceives that he/she is exercising efficacious control over meaningful work. Similarly, Menon (1999) define psychological empowerment as a cognitive state that is characterized by a sense of perceived control, perceptions of competence, and internalisation of goals and objectives of the organisation.

Some studies report that employees are less likely to leave the organisation if it means giving up empowerment and development benefits. Cappeli (2004, cited in Benson, 2006) states that organisations that offer development and empowerment programmes report lower turnover compared to similar organisations without such programmes. This suggests that participation in development and empowerment activities should also lead to reduced turnover intention. Ding and Lin (2006) also suggests that employees are likely to have strong turnover intentions when they are dissatisfied with their personal development in their career or job, and therefore designing suitable human resource development programs that satisfy employees' growth needs towards their job/career should improve their perception of the organisation and consequently strengthen their willingness to stay.

2.4.1. Psychological Empowerment and Job Satisfaction

Whether people feel empowered can have consequences for both the individuals and organisations. Perceptions of empowerment can enhance the value of work for individuals, increase job satisfaction, and contribute to work productivity and success (Koberg et al., 1999; Spreitzer, 1995). Job satisfaction is one of the important outcomes of psychological empowerment (Bordin et al., 2007; Seibert, Silver, & Randolph, 2004). Research evidence has accumulated to show that empowerment result in more satisfied employees (Bowen & Lawler, 1995). Critical psychological states such as experienced meaningfulness, feelings of responsibility, and knowledge of results influence job satisfaction (Carless, 2004). A positive relationship has been found to exist between psychological empowerment and job satisfaction (Avey et al., 2007; Holdsworth, & Cartwright, 2003; Kirkman & Rosen, 1999; Laschinger & Finegan, 2005; Seibert et al., 2004).

Research findings show that psychological empowerment is the primary predictor of job satisfaction (Seibert et al., 2004), and an individual's perception of empowerment is an important mediator between the organisation context and behaviour (Larrabee et al., 2003; Spreitzer, 1995; Thomas & Velthouse, 1990). An increase in job satisfaction is one of the key anticipated outcomes behind the perceived feeling of empowerment among the employees in the workplace, while low levels of empowerment in the workplace are strongly related to turnover intentions and reduction in job satisfaction (Appelbaum & Honeggar, 1998; Fox, 1998; Holdsworth & Cartwright, 2003; Ripley & Ripley, 1993; Thomas & Tymon, 1994). According to Bordin et al. (2007), Holdsworth and Cartwright (2003), and Spreitzer et al. (1997), all four dimensions of psychological empowerment play a major role in influencing job satisfaction. They suggest that the self-determination dimension of empowerment relates to satisfaction in that it is a psychological need and a key component of intrinsic motivation. The meaning dimension is important for job satisfaction because an individual can only derive satisfaction from their work when engaged in a meaningful job. In terms of the impact dimension, Liden, Wayne, and Sparrowe (2000) argue that when employees feel that their work can influence outcomes that affect their organisation, they tend to feel more involved and therefore gain a sense of satisfaction with their job. Conversely, lack of opportunity to have an impact on the organisation is negatively related to job satisfaction (Ashforth, 1990). Concerning the competence dimension of empowerment, Bordin et al. (2007) and Spreitzer et al. (1997) assert that an individual who feels more competent in their jobs are also likely to feel more satisfied with their jobs. Bordin et al. (2007) further suggest that the relationship between empowerment and job satisfaction is moderated by perceived supervisory social support.

2.4.2. Psychological Empowerment and Organisational Commitment

Several studies suggest that organisational commitment is another important outcome of psychological empowerment, because experiencing empowerment can result in an employee being more committed to their work and the organisation as a whole (Bhatnagar, 2005; Laschinger & Finegan, 2005; Liden et al., 2000; Menon, 2001). A significant positive relationship between psychological empowerment and organisational commitment has been found to exist (Bordin et al., 2007; Laschinger, Finegan, Shamian, & Casier, 2000; Wilson & Laschinger, 1994).

Psychological empowerment has been reported as increasing an employee's commitment to the organisation (Avolio et al., 2004). Employees who feel empowered are more likely to reciprocate by being more committed to their organisation. Employees tend to feel appreciative when they are allowed to encounter the benefits of empowerment and are therefore likely to reciprocate by being more committed to the organisation (Koberg et al., 1999; McDermott, Spence-Laschinger, & Shamian, 1996; Spreitzer, 1995). In another study, Dewettinck and Van Amejide (2007) also report that as a result of the reciprocation process, employees who appreciate decision latitude, challenge and responsibility as well as the feelings of meaning, impact, self-determination and mastery are more likely to reciprocate by feeling more committed to the organisation. Similarly, Kirkman and Rosen (1999) suggest that employees who experience an empowering work environment report higher levels of organisational commitment. Consequently, Bordin et al. (2007) conclude that the higher the perceived psychological empowerment among employees, the higher the organisational commitment.

2.4.3. Psychological Empowerment and Turnover Intention

In a meta-analysis performed by Spector (1986) results show a relationship between psychological empowerment and turnover intention. In addition, Wilkinson (1997) reports that psychological empowerment increases job satisfaction and reduces turnover intention, as employees feel more committed to organisational values and goals. On the contrary, Hayes (1994) failed to find a relationship between empowerment and intention to turnover. However, Koberg et al. (1999) suggest that employees who feel empowered have beneficial effects for both the organisations and individuals. Their study provides evidence showing that feelings of empowerment are associated with increased job satisfaction and decreased intentions to leave the organisation.

2.5. JOB SATISFACTION

Job satisfaction is one of the most widely studied and measured constructs in the organisational behaviour and management literature, and it plays a very important role in the employee's decision to stay in/quit the organisation (Rivera & Tovar, 2007). Sanchez, Bray, Vincus, and Bann (2004), and Oshagbemi (1999) suggest that the construct of job satisfaction is also important because of its relevance to the physical and mental wellbeing of employees.

Various researchers and practitioners use different approaches in defining the construct of job satisfaction. According to Muchinsky (2003), job satisfaction is the degree of pleasure an employee derives from his or her job. Lee, (2000) views job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences. In relation to this view, Naudé, Desai, and Murphy (2003) add that the more satisfied the employees, the more positive their feelings about general aspects of the organisation. Ladebo (2005) define job satisfaction as the positive affect an employee has towards certain aspects of the job. Tett and Meyer (1993) posit that job satisfaction can be understood to be one's affective attachment to the job viewed either in its entirety (global satisfaction) or with regards to particular aspects (facets). Buitendach and Rothmann (2009), and Oshagbemi (1999) suggest that in general, job satisfaction refers to an individual's positive emotional reactions to a particular job. It is an affective reaction to a job that results from the person's comparison of actual outcomes with those that are desired, anticipated or deserved. Similarly, Igbaria and Guimaraes (1999) define job satisfaction as the primary affective reactions of individuals to various facets of the job and job experience. Martin (2008) also seems to support this view and suggests that job satisfaction is an overall positive affection that derives from the appraisal of all aspects of a relationship with the organisation where the employee works.

Various factors have been identified as causal to job satisfaction. Ladebo (2005) and Spector (1997) suggest that job satisfaction is facet specific, for instance, facets of satisfaction may include pay, co-workers, supervision, promotion opportunities and the work itself. Work-related variables, such as interpersonal treatment, job importance/challenge, working conditions, peer relations, leadership style, and material rewards and advancement are positively associated with employee satisfaction (Donovan, Drasgow, & Munson, 1998; Gunther & Furnham, 1996; Rodgers-Jenkinson & Chapman, 1990). Kleinman (1997) add that as a result people will be satisfied with their jobs when they enjoy their work, have a realistic opportunity to advance in their organisation, like the people they work with, like and respect their supervisors, and believe that their pay is fair. Some researchers suggest that the construct of job satisfaction may also be subject to the influence of some employee characteristics, work-related, and or dispositional factors.

According to Saal and Knight (1995), personal characteristics such as age, educational level, marital status, gender and tenure are among the factors that are believed to have significant influence on job satisfaction. As a result, an individual employee may be satisfied with some aspects/facets of the job, but not satisfied with others. Furthermore, job satisfaction has been linked to various organisational outcomes and behaviours. Connolly and Viswesvaran (2000) report that job satisfaction has been shown to be significantly related to both organisational commitment and employee turnover behaviours. Job dissatisfaction has been repeatedly identified as a single most important reason why employees leave their jobs; and further suggest that job dissatisfaction has an indirect effect on turnover through its direct effect on the formation of intention to quit (Bertelli, 2007; Muchinsky, 2003; Lee, 2000; Youngblood, Mobley, & Meglino, 1983). Chiu et al. (2005) also found that job satisfaction has a direct effect on turnover intention, as well as indirect effect through organisational commitment. Lussier (2006) posits that job satisfaction is also important because it affects employee absenteeism and turnover intention. Martin (1990), in Loke (2001), and Sanchez et al. (2004) suggest that job dissatisfaction leads to absenteeism, problems of grievances, low morale, and high turnover intention as well as turnover behaviours. Ladebo (2005) adds that dissatisfied employees are apt to exhibit counter-productive and job search behaviours as well as quit intentions. According to Firth et al. (2004) and Lee (2000), lack of job satisfaction is among the major factors that contribute to employees' lack of commitment as well as high turnover intentions in the organisations.

2.5.1. Job Satisfaction and Organisational Commitment

Studies exploring the causal relationship between job satisfaction and organisational commitment have been sparse and their results contradictory (Elangovan, 2001). According to Lok and Crawford (2001), and Lee (2000), job satisfaction is linked to both organisational commitment and turnover intentions. More and more evidence suggest that employees who are satisfied with their jobs are likely to be better ambassadors for the organisation and show more organisational commitment (Agho, Price, & Mueller, 1992). Satisfied employees are likely to exhibit discretionary behaviours within the organisation and show more commitment to the employing organisation (Ladebo, 2005; Blau & Lunz, 1998; Sagie, 1998; Knoop, 1995), while dissatisfied employees are apt to exhibit counterproductive and job search behaviours and turnover intentions (Blau & Lunz, 1998; Chen, Hui, & Seago, 1998; Duffy, Shaw, & Ganster, 1998; Udo, Guimãrães, & Igarra, 1997).

Shore and Martin (1989), cited in Freund (2005), and Simmons (2005), expound that while commitment is a reflection of a more stable and general employee attitude, job satisfaction is a reflection of a more fragile and changeable employee attitude, and these two constructs are associated differently with turnover intentions. Some studies indicate that although both job satisfaction and organisational commitment influence turnover intentions, commitment correlates more strongly to turnover intentions than does satisfaction (Mathieu & Zajac, 1990; Steel & Ovalie, 1984). Shore, Newton, and Thornton (1990) reveal that organisational commitment is a stronger predictor of turnover intention, as compared to job satisfaction, among university employees, while Rahim and Afza (1993) report similar results among accountants. On the other hand other studies have also found evidence that job satisfaction correlates more strongly with turnover intention than does commitment (Martin & Roodt, 2008; Moynihan, Boswell, & Boudreau, 2003; Tett & Meyer, 1993). Mueller, Boyer, Price, and Iverson (1994) report job satisfaction as a stronger predictor of turnover intentions among dental hygienists, while Rosin and Korabik (1991) find satisfaction to have stronger correlation with turnover intention among women managers. Moynihan et al. (2003) conclude further and state that the conflicting results of these studies suggest that the relative contributions of these attitudes to turnover behaviours may depend on the employee population under study.

Curry, Wakefield, Price, and Mueller (1986) and Freund (2005) propose that organisational commitment mediates the influence of job satisfaction on turnover behaviour, which places job satisfaction as causally to commitment. Various authors (Bertelli, 2007; Lee, 2000; Muchinsky, 2003) also report that job satisfaction had a direct influence on organisational commitment. Other studies (Elangovan, 2001; Gaan, 2007; Laschinger & Finegan, 2005) report a positive relationship between job satisfaction and commitment, suggesting that high levels of satisfaction among employees can be related to high levels of commitment to the organisation. However, although most studies have assumed that satisfaction is the determinant of commitment, the reverse causal ordering may be true (Bateman & Strasser, 1984; Curry et al., 1986). In a meta-analysis of 48 studies, organisational commitment was found to be among the important predictors of nurses' job satisfaction (Blegen, 1993). This assertion corroborates Bateman and Strasser's (1984) findings that showed organisational commitment to be a causal antecedent to job satisfaction.

In contrast, Currivan (1999), and Curry et al. (1986) found no causal relationship in any direction between job satisfaction and organisational commitment. It is apparent that there is no unanimous stance on the direction of influence and relationship between job satisfaction and organisational commitment. It is clear that some researchers (e.g. Bertelli, 2007; Blau & Lunz, 1998; Curry et al., 1986; Freund, 2005; Knoop, 1995; Lee, 2000; Muchinsky, 2003; Sagie, 1998) suggest that job satisfaction influences organisational commitment, while others (e.g. Bateman & Strasser, 1984; Blegen, 1993) indicate that organisational commitment influences job satisfaction. On the contrary, several other studies (e.g. Farkas & Tetrick, 1989; Lance, 1991; Mathieu, 1991; Martin & Roodt, 2008; Mottaz, 1988; Price & Mueller, 1981) have concluded that a reciprocal relationship between job satisfaction and organisational exists (Currivan, 1999). Although research studies on the direction of the causal relationship between job satisfaction and organisational commitment seems to be contradictory, there is general agreement among researchers that a strong positive relationship exist between the two constructs (Lok & Crawford, 2001; Mathieu & Zajac, 1990; Simmons, 2005). However, Mathieu and Zajac (1990), and Williams and Hazer (1986) argue that overall there is more research evidence suggesting that job satisfaction influences organisational commitment rather than the opposite.

2.5.2. Job Satisfaction and Turnover Intention

Job satisfaction has long been suggested as a salient precursor of behavioural intentions in the workplace. The relationship between job satisfaction and turnover behaviours has been long established (Elangovan, 2001; Ferres et al., 2004). Martin and Roodt (2008), Larrabee et al. (2003), Mobley et al. (1978) report a substantial correlation between job satisfaction and turnover intentions. When the job satisfaction level is low, the employee will develop a behavioural intention to quit (Martin & Roodt, 2008; Luna-Arocas & Camps, 2008; Spector, 1997). Siong et al. (2006) suggest in their study that job satisfaction has both direct and indirect influence on turnover intention, and that managers can reduce turnover intentions by determining which intrinsic and extrinsic factors contribute most strongly to job satisfaction among employees, and take steps to enhance them.

Several studies show a negative relationship between job satisfaction and turnover intentions. Gaan (2007) and Bertelli (2007) demonstrate that job satisfaction is negatively and significantly related to turnover intentions. Murrells et al. (2008), and Irvine and Evans' (1995) meta-analysis report a negative relationship between job satisfaction and turnover intentions. These findings suggest that when employee job satisfaction levels decrease, their turnover intention increases. The findings in Jui-Chu, Lee, Yang and Chang (2009) provide further evidence, which demonstrates that employees who intend to quit report lower job satisfaction than those who intend to stay. Job dissatisfaction prompts turnover cognitions and the desire to escape the job environment (Hulin, 1991; Moynihan et al., 2003). Similarly, the findings of Clugston (2000) and Udo et al., (1997) also provide evidence that job satisfaction has a direct and negative correlation with turnover intentions.

2.6. ORGANISATIONAL COMMITMENT

Organisational commitment and other organisationally related employee attitudes have been of interest to the field of organisational behaviour for several decades. Of particular importance, commitment in the organisation is a subject of interest to behavioural scientists as well as practitioners and managers (Hackett, Bycio, & Hausdorf, 1994). Cuskelly and Boag (2001) suggest that understanding such attitudes is important because they are often influential in key aspects of organisational behaviour. An individual's organisational commitment is seen as an important area of study because it has both attitudinal and behavioural consequences (Kalleberg & Reeve, 1992). Clayton and Hutchinson (2002) suggest that an individual's attitude towards the organisation is inferred by their loyalty to the organisation and identification with its values, whereas the behavioural component of commitment reflects a person's willingness to expend effort on the organisation, as well as his/her intention to remain in the organisation.

Although various studies on the construct of organisational commitment have come with a variety of definitions, there is a widespread agreement in the literature that organisational commitment is an attitude (Solinger, Van Olffen, & Roe, 2008). However, some researchers (e.g. Allen & Meyer, 1990) refer to commitment as a psychological state, while others refer to it as a bond or linking of the individual to the employing organisation (Mathieu, & Zajac, 1990).

Most definitions of organisational commitment describe the construct in terms of the extent to which employees identify with and are involved with an organisation (Lee, 2000; Loke, 2001). Porter, Steers, Mowday, and Boulian (1974) define organisational commitment as the relative strength of an individual's identification and involvement with a particular organisation. Adding to this view, Dee, Henkin, and Singleton (2006), Clayton and Hutchinson (2002), and Cuskelly and Boag (2001) also define organisational commitment as the relative strength of identification with and involvement in an organisation, acceptance of organisational goals, and willingness to exert effort to remain in that organisation. Similarly, Loke (2001) suggests that organisational commitment can be viewed as an employee attitude and as a set of behavioural intentions; the willingness to exert considerable effort on behalf of the organisation and a strong desire to maintain membership of the organisation. DeCotiis and Summers (1987, p.448), in Lee (2000), define organisational commitment as "the extent to which an individual accepts and internalises the goals and values of an organisation and views his/her organisational role in terms of its contribution to those goals and values". Muchinsky (2003) adds that the concept of organisational commitment refers to the extent to which an employee feels a sense of allegiance to his or her employer organisation.

Meyer (1997), in Muchinsky (2003), states that organisational commitment reflects the employee's relationship with the organisation and that it has implications in his or her decision to continue membership in the organisation. Slattery and Selvarajan (2005), Simmons (2005), and Mathieu and Zajac (1990) support this view by identifying organisational commitment as a good predictor of intention to turnover. It therefore follows that employees who are highly committed to their organisation are less likely to quit than employees who are relatively uncommitted (Allen & Meyer, 1990; Chiu et al, 2005). Some scientists explicitly define organisational commitment as a psychological construct. O'Reilly and Chatman (1986), in Meyer and Herscovitch (2001), define organisational commitment as the psychological attachment felt by the person for the organisation, and it reflects the degree to which the individual internalises or adopts characteristics or perspectives of the organisation. Almost similarly, Allen and Meyer (1990) declare organisational commitment as a psychological state that binds individual to the organisation. Meyer and Allen (1991) revise this assertion further and define organisational commitment as a psychological state that characterizes the employee's relationship with the organisation and has implications for the decision to continue membership in the organisation.

A growing body of evidence has shown that organisational commitment is a complex psychological state consisting of several components, each having distinct relations to behaviours of vital interest to the organisations (Gade, Tiggel, & Schumm, 2003; Maynard, Joseph, & Maynard, 2006). Organisational commitment also reflects one's evaluation of the organisation as a whole, and encompasses three dimensions: (a) a strong belief in and acceptance of the organisation's goals and values; (b) willingness to exert considerable effort on behalf of the organisation; and (c) a strong desire to maintain membership in the organisation (Benson & Brown, 2007; Igarria & Guimaraes, 1999; Porter, Crampon & Smith, 1976; Porter et al., 1974).

Ever since the well known discovery of the three-factor model of (affective, continuance, and normative) organisational commitment by Allen and Meyer (1990), many follow-up studies have been conducted to test the three-factor model (Allen, 2003; Culpepper, 2000; Dawley, Stephens & Stephens, 2005; Gade, 2003; Meyer, Allen, & Smith, 1993; Tremble, Payne, Finch, Bullis, 2003). An employee's relationship with the organisation can be better understood by simultaneously considering all three components (Meyer & Allen, 1991; Moynihan et al., 2003; Solinger et al., 2008). Each of the three components of commitment ties the employee to their organisation but the nature of the psychological-bonding is different (Ayub, 2008; Vandenberghe & Tremblay, 2008). Meyer and Allen (1991), and Allen and Meyer (1990) suggest that the *affective* component of organisational commitment refers to employees' emotional attachment to, identification with, and involvement in, the employing organisation. This emotional response has also been described as a linking of the identity of the individual with the identity of the organisation and as an attachment to the organisation for its own sake, apart from its purely instrumental worth (Dawley et al., 2005). Therefore, employees with strong affective commitment remain in the organisation because they want to (Allen & Meyer, 1990; Meyer & Allen, 1991). The *continuance* component refers to the extent to which employees feel committed to their organisations by virtue of the costs that they feel are associated with leaving the organisation. As a result, employees with strong continuance commitment remain in the organisation because they need to (Allen & Meyer, 1990; Meyer & Allen, 1991). Dawley et al. (2005) add that this dimension regards commitment as emanating from a calculative process in which the employee accumulates interests such as pensions, seniority, social status, and access to social networks that bind him/her to the organisation. These interests would be at risk if the individual left the organisation.

The *normative* component refers to employees' feelings of obligation to remain with the organisation. Therefore, individuals with a high degree of normative commitment feel that they ought to continue their association with the organisation (Allen & Meyer, 1990; Meyer & Allen, 1991).

According to Ayub (2008), affective commitment (AC) ties people through their emotional attachment, involvement, and identification with the organisation; continuance commitment (CC) depends on employees' awareness of the costs of leaving the organisation; and normative commitment (NC) rests on employees' obligatory feelings towards co-workers or management. However, common to these three components of organisational commitment is the notion of a 'psychological state' that links or bond the individual employee to the organisation (Allen & Meyer, 1990; Solinger et al., 2008). Martin (2008) suggests that to encourage employee commitment and involvement, the organisation must treat employees as responsible, autonomous and proactive adults and as assets in which to invest, not as costs that must be controlled. Dunham, Grube, and Castañeda (1994) highlight that there are too few investigations of all three dimensions in one study that have been conducted. Nevertheless, recent meta-analytic evidence continues to suggest that commitment predicts a wide range of job attitudes, turnover intention, and citizenship behaviours (Brammer, Millington, & Rayton, 2005; Meyer, Stanley, Herscovitch, & Topolnytsky, 2002). Therefore, because every employee has some degree of affective commitment, continuance commitment, and normative commitment to the organisation, it makes sense to consider how the components jointly influence these behaviours (Allen, 2003).

2.6.1. Organisational Commitment and Turnover Intention

According to Dee et al. (2006), a substantial body of evidence suggests that organisational commitment is an important determinant and strong predictor of organisational behaviours. Numerous studies (Clayton & Hutchinson, 2002; Gregson, 1992; Lee, 2000; Muchinsky, 2003; Mathieu & Zajac, 1990) also report a significant relationship between organisational commitment and turnover intention. Ostroff (1992) asserts that committed employees are associated with better organisational performance, have low turnover intentions, and have low absenteeism.

Elangovan (2001) suggests that commitment has a strong negative effect on turnover intention, which suggests that the lower the commitment, the higher the propensity for the employee to leave the organisation. Similarly, Luna-Arocas and Camps (2008), Gaan (2007), and Hackett et al. (1994) also report a negative and significant relationship between organisational commitment and turnover intentions among employees.

In their meta-analysis studies, Meyer et al. (2002), Clugston (2000), and Meyer and Allen (1996) report that the correlation between all three dimensions of organisational commitment and turnover behaviours (e.g. withdrawal cognition, turnover intention and actual turnover) were all negative. Similarly, Chen et al. (1998), and Sommers (1995) also report the negative relationships between different dimensions of commitment and turnover intentions. Interestingly, both empirical studies found a stronger relationship between affective commitment and turnover intentions than with other dimensions. According to Allen (2003), strongly committed employees are significantly less likely than those with weaker commitment to express their turnover intentions. Lee et al. (2008) and Ostroff (1992) further add that committed employees are associated with low turnover behaviours. Employees who no longer believe in the organisation and its goals are most likely to want to leave the organisation. Therefore, an organisation has to create among its workforce a sense of commitment to the organisation and its goals prior to the stage of intention to leave (Freund, 2005). By reinforcing the relations between the worker and the organisation in this way, a worker who has been considering job alternatives may once again come to believe in the organisation (Cohen, 2000).

Job excellence can be attained by building commitment to the organisation and identification with its goals and values, furthermore, organisational commitment is a meaningful psychological state, since a worker in a state of high organisational commitment invests personal resources (Allen & Meyer, 1996; Freund, 2005). Freund (2005) further infers that such workers are less inclined to search for job alternatives outside the organisation and prefer to invest in the employing organisation, which in turn leads to more professional and more efficient work performance, as well as better customer service. Based on these assertions, one may argue that it is in every organisation's interests to develop high organisational commitment among their workforce.

2.7. SUMMARY

Various factors have been identified as antecedent to turnover intention among employees in organisations. Among the many factors that have been identified through research, this chapter has reviewed the literature on, first and foremost, voluntary turnover and turnover intention itself and its proposed causes, then leader behaviour, empowerment, satisfaction, and commitment. The primary focus has been on the influence of each of these factors (leader behaviour, empowerment, satisfaction, and commitment) on each other, and most importantly how they causally relate to turnover intention and turnover behaviour. Understanding the relationships between these factors and their relationship with turnover intention has been overwhelmingly recognized as a key approach that can be helpful for managers, practitioners, and organisations when designing strategies, policies, and interventions.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. INTRODUCTION

The review of literature from previous studies, as illustrated above, was gathered and discussed. It demonstrated that turnover intention and turnover in organisations emanates from different variables such as leadership behaviour, psychological empowerment, job satisfaction, and organisational commitment. The present study intends to test an explanatory structural model of turnover intention, which will elucidate the manner in which leadership behaviour, psychological empowerment, job satisfaction, and organisational commitment affect turnover intention in organisations. The theoretical background, as discussed in the earlier chapters, was used as the foundation in the development of the conceptual structural model as well as the formulation of the hypotheses. In addition, this chapter will provide a detailed outline of the research design, sampling design, measuring instruments, data collection, and data analysis.

3.2. A PROPOSED STRUCTURAL MODEL

The theoretical argument from the literature study culminated in a structural model that hypothesizes the relationships between and among leadership behaviour, psychological empowerment, job satisfaction, organisational commitment and turnover intention as indicated (**Figure 3.1**). The rationale for the proposed model is that studying the effect of individual factors independently to explain turnover intention does not provide a clear picture that explicates turnover intention in organisations. Therefore, focusing on a combination of and interplay amongst different variables involved, explain turnover intentions in a more comprehensive manner.

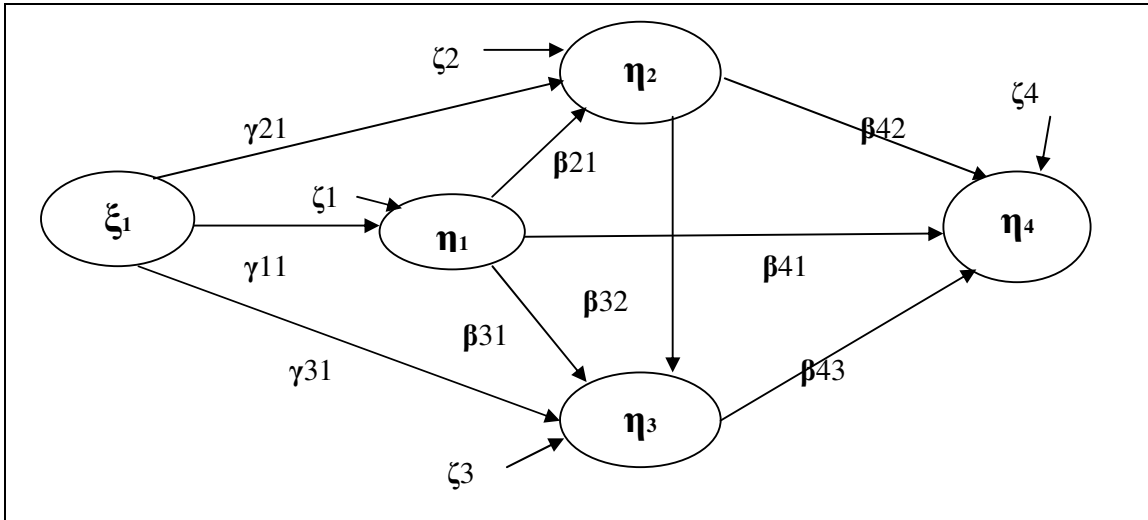


Figure 3.1: Hypothesised Structural Model of Turnover Intention in Organisations

Figure 3.1 (above) illustrates the causal paths between the variables of interest and their influence on turnover intention in the organisations. The following symbols are found in the structural model can be described as:

ξ_1 represents the variable Leadership Behaviour [*LB*];

η_1 represents the variable Psychological Empowerment [*PE*];

η_2 represents the variable Job Satisfaction [*JS*];

η_3 represents the variable Organisational Commitment [*OC*]; and

η_4 represents the variable Turnover Intention [*TI*]

The proposed structural model, which serves as the basis of this study, can be expressed as a set of structural equations (below) representing the research questions that will be investigated:

$$\eta_1 = \gamma_{11} \xi_1 + \zeta_1 \text{ ----- (1)}$$

$$\eta_2 = \gamma_{21} \xi_1 + \beta_{21} \eta_1 + \zeta_2 \text{ ----- (2)}$$

$$\eta_3 = \gamma_{31} \xi_1 + \beta_{31} \eta_1 + \beta_{32} \eta_2 + \zeta_3 \text{ ----- (3)}$$

$$\eta_4 = \beta_{41} \eta_1 + \beta_{42} \eta_2 + \beta_{43} \eta_3 + \zeta_4 \text{ ----- (4)}$$

$$\begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \end{pmatrix} = \begin{pmatrix} 0 & 0 & 0 & 0 \\ \beta_{21} & 0 & 0 & 0 \\ \beta_{31} & \beta_{32} & 0 & 0 \\ \beta_{41} & \beta_{42} & \beta_{43} & 0 \end{pmatrix} \begin{pmatrix} \eta_1 \\ \eta_2 \\ \eta_3 \\ \eta_4 \end{pmatrix} + \begin{pmatrix} \Upsilon_{11} & 0 & 0 \\ \Upsilon_{21} & 0 & 0 \\ \Upsilon_{31} & 0 & 0 \\ 0 & 0 & 0 \end{pmatrix} \begin{pmatrix} \xi_1 \end{pmatrix} + \begin{pmatrix} \zeta_1 \\ \zeta_2 \\ \zeta_3 \\ \zeta_4 \end{pmatrix} \text{----- (5)}$$

$$\eta = \beta\eta + \Upsilon\xi + \zeta \text{----- (6)}$$

3.3. HYPOTHESES

In accordance with the aim of this study, and based on the literature review and the proposed model, the following research hypotheses were formulated:

Hypothesis 1a:

The structural model expressed as an equation exactly fits the data. Therefore, there is no significant discrepancy between the reproduced covariance matrix implied by the model (Σ (Θ)); see Figure 3.1) and the observed population covariance (Σ).

$$H_{01a}: \Sigma = \Sigma (\Theta)$$

$$H_{a1a}: \Sigma \neq \Sigma (\Theta)$$

The exact fit hypothesis could alternatively be formulated as:

$$H_{01a}: \text{RMSEA} = 0$$

$$H_{a1a}: \text{RMSEA} > 0$$

Hypothesis 1b:

The structural model expressed as equation fits the data in the parameter closely. The reproduced covariance matrix implied by the model (Σ (Θ)) closely approximates the observed population covariance matrix (Σ).

$$H_{01b}: \text{RMSEA} \leq 0.05$$

$$H_{a1b}: \text{RMSEA} > 0.05$$

Hypothesis 2:

A significant positive relationship exists between *leader behaviour* (LB) and *psychological empowerment* (PE).

$$H_{02}: \gamma_{11} = 0$$

$$H_{a2}: \gamma_{11} > 0$$

Hypothesis 3:

A significant positive relationship exists between *leader behaviour* (LB) and *employee job satisfaction* (JS).

$$H_{03}: \gamma_{21} = 0$$

$$H_{a3}: \gamma_{21} > 0$$

Hypothesis 4:

A significant positive relationship exists between *leader behaviour* (LB) and *employee organisational commitment* (OC).

$$H_{04}: \gamma_{31} = 0$$

$$H_{a4}: \gamma_{31} > 0$$

Hypothesis 5:

A significant positive relationship exists between *psychological empowerment* (PE) and *job satisfaction* (JS).

$$H_{05}: \beta_{21} = 0$$

$$H_{a5}: \beta_{21} > 0$$

Hypothesis 6:

A significant positive relationship exists between *psychological empowerment* (PE) and *organisational commitment* (OC).

$$H_{06}: \beta_{31} = 0$$

$$H_{a6}: \beta_{31} > 0$$

Hypothesis 7:

A significant positive relationship exists between *job satisfaction* (JS) and *organisational commitment* (OC).

$$H_{o7}: \beta_{32} = 0$$

$$H_{a7}: \beta_{32} > 0$$

Hypotheses 8:

A significant negative relationship exists between *psychological empowerment* (PE) and *turnover intention* (TI).

$$H_{o8}: \beta_{41} = 0$$

$$H_{a8}: \beta_{41} > 0$$

Hypothesis 9:

A significant negative relationship exists between *job satisfaction* (JS) and *employee turnover intention* (TI).

$$H_{o9}: \beta_{42} = 0$$

$$H_{a9}: \beta_{42} > 0$$

Hypothesis 10:

A significant negative relationship exists between *organisational commitment* (OC) and *turnover intention* (TI).

$$H_{o10}: \beta_{43} = 0$$

$$H_{a10}: \beta_{43} > 0$$

3.4. RESEARCH DESIGN

An *ex post facto* correlation design was used in this study to determine the causal relationships between and among leader behaviour, employee/follower's perceived empowerment, satisfaction, and commitment, as well their influence on employee's turnover intention. The correlation design enables the researcher to observe and determine the causal relationships in the identified (dependent and independent) variables across individuals to establish the extent to which they co-vary, without any direct control over the independent variables.

However, this type of research design may have some limitations that must be taken into consideration (Babbie & Mouton, 2006; Babbie & Mouton, 2001). Firstly, the internal validity is low. Secondly, one cannot with any degree of certainty make causal inferences from the results, since correlation does not mean causality. Thirdly, the investigator cannot manipulate the independent variable. This study, as is true of many research studies in the social sciences, does not lend itself to experimentation. Specific hypotheses were formulated clearly in order to avoid the inherent danger of opportunistic over-interpretation of empirical results. Therefore a field study was designed and carried out to investigate the relationship between and among leader behaviour, employee/follower's perceived empowerment, satisfaction, and commitment, as well their influence on employee's turnover intention in the organisation.

3.5. SAMPLE DESCRIPTION

The units of analysis in a research study are always sampled out from the population. Sampling refers to taking a sub-set or segment of the population and using it as representative of that population (Bryman & Bell, 2003). The sample that was used to conduct this study was selected from the South African military, specifically from the uniformed employees of the South African National Defence Force (SANDF). The methodological ideal would be to include the whole target population (N), i.e. all uniformed personnel of the SANDF, in the investigation however, this is often practically unrealistic. Therefore, one of the most feasible approaches was to investigate a representative sample of units of analysis (n) from the selected organisation (the SANDF), while keeping the objective to minimize the gap between the target and sampling population. The extent to which observations can or may be generalised to the target population is a function of the number of subjects in the chosen sample and the representativeness of the sample (SIP, 1998). Given the nature of the current study, the issue of sample size should primarily be considered from the perspective of structural equation modelling (SEM). Kelloway (1998) suggests that SEM is very much a large sample technique, and that tests of model fit are based on the assumption of large samples. Consequently, determining the correct sample size is critical for power analysis purposes, especially the determination of both Type I and Type II errors. A detailed discussion concerning power analysis will follow at a later stage in Chapter 4.

However, the MacCallum, Browne, and Sugawara's (1996) tables shows that a sample size of 221 subjects is required to ensure a 0.80 probability of correctly rejecting an incorrect model with 59 degrees of freedom when actual model fit is close ($\epsilon_a = 0.05$), if the probability of a Type I error in testing the null hypothesis of exact fit ($\epsilon_a = 0.0$) is fixed at 0.05. Furthermore, a sample size of 190 subjects is required to ensure a 0,80 probability of correctly rejecting an incorrect model with 59 degrees of freedom when the actual model fit is mediocre ($\epsilon_a = 0.08$), if the probability of a Type I error in testing the null hypothesis of close fit is fixed at 0.05 (MacCallum et al., 1996).

For this study, a total of 330 questionnaires were issued and completed by participants of diverse demographic characteristics including age (Table 3.1), gender (Table 3.2), race (Table 3.3), marital status (Table 3.4), highest educational qualifications (Table 3.5), arm of service (Table 3.6), rank level (Table 3.7), and tenure (Table 3.8), after they had consented to participate in the study. However, only 318 (96.36%) of the completed questionnaires were usable, which represents a very good response rate. A response rate of 50 percent or more is adequate for analysis and reporting (Babbie & Mouton, 2001). The remaining 12 (3.64%) questionnaires were excluded as they were either returned without completion or completed unsatisfactorily. The sample was considered reasonably representative to the extent to which it provided (through statistics) an accurate portrayal of the characteristics of the sampling population.

This study used stratified systematic sampling of SANDF members in the different military units, and attempted to be evenly representative of the different arms of services, race, gender, and rank level of the population under study. There are two methods of sample selection from the list namely, random and systematic sampling (Babbie, 2004). Both these methods ensure a degree of representativeness, and permit an estimate of the error present. Stratification provides a possible modification of the use of these two methods (Babbie & Mouton, 2006). Babbie (2004), and Babbie and Mouton (2006) define stratification as the grouping of the units comprising a population into homogeneous groups (strata) before sampling. Therefore stratified systematic sampling allowed the researcher to obtain a greater degree of representativeness by decreasing the probable sampling error.

Another main concern in sampling is the size of the sample (Terreblanche & Durrheim, 1999). The sample size must be adequate to allow inferences to be made about the population from the research findings. However, the absolute rather than the relative sample size is what increases validation and therefore the sample must be as big as possible (Bryman & Bell, 2003).

Table 3.1: Sample Age

		Frequency	Percent	Valid %	Cumulative %
Valid	18-25	145	45.6	45.6	45.6
	26-35	77	24.2	24.2	69.8
	36-45	82	25.8	25.8	95.6
	Older than 45	14	4.4	4.4	100.0
	Total	318	100.0	100.0	

Table 3.2: Sample Gender

		Frequency	Percent	Valid %	Cumulative %
Valid	Female	138	43.4	43.4	43.4
	Male	180	56.6	56.6	100.0
	Total	318	100.0	100.0	

Table 3.3: Sample Race

		Frequency	Percent	Valid %	Cumulative %
Valid	African	224	70.4	70.4	70.4
	Asian	14	4.4	4.4	74.8
	Coloured	41	12.9	12.9	87.7
	White	39	12.3	12.3	100.0
	Total	318	100.0	100.0	

Table 3.4: Sample Marital Status

		Frequency	Percent	Valid %	Cumulative %
Valid	Single	186	58.5	58.5	58.5
	Living-together	19	6.0	6.0	64.5
	Married	96	30.2	30.2	94.7
	Separated	4	1.3	1.3	95.9
	Divorced	11	3.5	3.5	99.4
	Widowed	2	.6	.6	100.0
	Total	318	100.0	100.0	

Table 3.5: Sample Educational Qualifications

		Frequency	Percent	Valid %	Cumulative %
Valid	Lower-than-Grade 10	1	.3	.3	.3
	Grade 10	7	2.2	2.2	2.5
	Grade 12	158	49.7	49.7	52.2
	Post-Matric Certificate	49	15.4	15.4	67.6
	Diploma	60	18.9	18.9	86.5
	Degree	43	13.5	13.5	100.0
	Total	318	100.0	100.0	

Table 3.6: Sample Arm Of Service

		Frequency	Percent	Valid %	Cumulative %
Valid	SA Air Force	82	25.8	25.8	25.8
	SA Army	154	48.4	48.4	74.2
	SA Military Health Service	55	17.3	17.3	91.5
	SA Navy	27	8.5	8.5	100.0
	Total	318	100.0	100.0	

Table 3.7: Sample Rank Levels

		Frequency	Percent	Valid %	Cumulative %
Valid	Pte/Smn - Cpl/ L Smn	165	51.9	51.9	51.9
	Sgt/PO - SSgt/CPO	38	11.9	11.9	63.8
	Warrant-Officer	16	5.0	5.0	68.9
	CO/Mid - Lt/S Lt	37	11.6	11.6	80.5
	Capt/Lt (SAN) - Maj/Lt Cdr	51	16.0	16.0	96.5
	Lt Col/Cdr - Col/Capt (SAN)	11	3.5	3.5	100.0
	Total	318	100.0	100.0	

Table 3.8: Sample Tenure

		Frequency	Percent	Valid %	Cumulative %
Valid	2 - 5 Yrs	168	52.8	52.8	52.8
	6 - 10 Yrs	33	10.4	10.4	63.2
	11 - 15 Yrs	53	16.7	16.7	79.9
	16 - 20 Yrs	42	13.2	13.2	93.1
	More-than 20 Yrs	22	6.9	6.9	100.0
	Total	318	100.0	100.0	

3.6. MEASURING INSTRUMENTS

The research questionnaire of this study consisted of six sections (sections A to F) that were designed to obtain the required information (see Appendix A and Appendix B for the measuring instruments and accompanying letter and consent form). Attached to the research instrument, was the covering letter that was addressed to the potential participants and provided them with all the relevant information on the study, including their rights before they could decide to participate in the study.

Section A measured the demographic characteristics of the respondents. The information that was requested in this section pertained to age, gender, race, marital status, highest educational qualification, arm of service, rank level, as well as the number of years in service (tenure). Although the information pertaining to section A was not utilised in this study, it was included for possible future research purposes.

Section B measured the respondent's perception of their supervisors' transformational leadership behaviours, using an adapted version of the Multifactor Leadership Questionnaire – Form 5X (MLQ-5X) that was developed by Bass and Avolio (1995). The original MLQ-5X that was developed by Bass and Avolio consists of forty-five items, and the adapted version from Engelbrecht, Van Aswegen, and Theron (2005) consists of thirty-two items. However, the twelve items of the transactional leadership dimension were excluded for this study. As a result only the twenty transformational leadership dimension items were utilised. All the items of the transformational leadership scale were positively worded, and therefore none of the twenty items needed to be reflected. The items measure the frequency with which the participants perceived their supervisors to display a range of transformational leadership behaviours, and are measured on a six-point Likert-type scale (1 = Almost Never, 6 = Almost Always). The transformational leadership scale consists of four sub-scales that measured the transformational leadership behaviours, namely Idealized Influence (eight items), Inspirational Motivation (four items), Intellectual Stimulation (four items), and Individualised Consideration (four items). Evidence from Antonakis et al (2003) suggests the MLQ to be a reliable and valid measure of leadership behaviours, e.g. Idealised Influence ($\alpha = .88$), Inspirational Motivation ($\alpha = .87$), Intellectual Stimulation ($\alpha = .87$), and Individualised Consideration ($\alpha = .90$).

Section C measured the respondent's perceived psychological empowerment. Psychological empowerment was measured with a twelve-item Psychological Empowerment Scale (PES) that was developed and validated by Spreitzer (1995). It consists of four dimensions including meaningfulness, competence, self-determination, and impact. Each dimension consists of three items that are rated on a five-point Likert-type scale. All the twelve items were positively-worded and required no reflection. The response options ranged from 1 (strongly disagree) to 4 (strongly agree), with high scores indicating high levels of feelings of empowerment. Numerous validation studies have shown the reliability of these four sub-scales ranging from .83 to .91 Cronbach's alphas (Laschinger et al., 2001; Spreitzer, 1996; Spreitzer, 1995).

Section D of the instrument measured the participants' levels of job satisfaction. Job satisfaction was measured with a modified version of the Job Descriptive Index (JDI) taken from Gregson (1990). The original 72-item (JDI) adjective checklist type questionnaire was developed by Smith, Kendall, and Hullin (1969) to measure job satisfaction. Gregson converted the original JDI adjective checklist format into a versatile and popular 30-item Likert-type questionnaire scored from 1 (strongly disagree) to 5 (strongly agree), with high scores indicating high levels of satisfaction (Russell, Spitzmuller, Lin, Stanton, Smith, & Ironson, 2004; Stanton, Sinar, Balzer, Julian, Thoresen, Aziz, Fisher, & Smith, 2001; Buckley, Carraher, & Cote, 1992; Gregson, 1990). There is very little difference between the Likert-type questions and the original traditional *yes/no* format of the Job Descriptive Index (Johnson, Smith, & Tucker, 1982). The JDI treats job satisfaction as a multidimensional construct and allow for the independent measurement of the different dimensions (Russell et al., 2004; Balzer, Kihm, Smith, Irwin, Bachiochi, Robie, Sinar, & Parra, 1997; Gillet & Scwab, 1975). It measures five facets of job satisfaction (i.e. *work*, *pay*, *promotions*, *supervision*, and *co-workers*), which consist of six items each. However, for this study, only the Satisfaction with Work subscale (6 items) of the 30-item JDI was utilised. Of the six items in this scale, two items were negatively-worded, and as a result needed to be reflected. Satisfaction with work itself has been found to be an important determinant of overall job satisfaction (Griffeth & Gaertner, 2001). A satisfactory internal consistency reliability of the JDI has been established, with alpha coefficient values ranging between $\alpha = .68$ and $\alpha = .96$ for the original 72-item JDI *yes/no* format, as well as $\alpha = .65$ and $\alpha = .98$ for the JDI Likert format (Buckley et al., 1992).

Section E measured the participants' levels of organisational commitment. Organisational commitment was measured by means of the Organisational Commitment Questionnaire (OCQ) (Allen & Meyer, 1990). The OCQ is a commonly used and well-validated measure (Mayer & Schoorman, 1998). This instrument consists of three sub-scales [*Affective Commitment* (AC), *Continuance Commitment* (CC) and *Normative Commitment* (NC)]. However, the *Continuance Commitment* sub-scale was excluded for this study. Each dimension of the OCQ consists of eight items, to measure the respondent's level of commitment to the organisation, which were rated on a five-point Likert-type scale.

The response options ranged from 1 (Strongly Disagree) to 5 (Strongly Agree), with high scores indicating high levels of commitment to the organisation. The OCQ consisted of five negatively-worded items (AC = 4; NC = 1), which were later reflected. Allen and Meyer (1990) report good reliability (coefficient alpha) for each OCQ sub-scale, for example AC = .87, CC = .75, and NC = .79.

Section F of the instrument measured the respondents' intention to quit the organisation. Due to the non-existence of a well developed and validated scale for measuring the employees' intention to quit their organisations, an additional five-item scale (Turnover Intention Scale) was developed to measure the respondent's turnover intention. Most of the previous studies on turnover intention have tended to utilise one or two items to measure quit intentions among employees. The Turnover Intention Scale (TIS) for this study was developed from the combination of modified items that were adapted from previous studies (Ding & Lin, 2006; Lee, 2000; Landau & Hammer, 1986). TIS items were rated on a five-point Likert-type scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree), with low scores indicating high intentions to leave the organisation, and all items were positively-worded and required no reflection at a later stage.

3.7. DATA COLLECTION

The data for this research study was gathered by means of a self-report questionnaire survey. As pointed out by Mitchell and Jolley (2001), self-report questionnaires are often viewed as having the advantage of being easily distributed to a large number of people often at low cost. Furthermore, surveys are able to collect a lot of information on a large sample in a relatively short period of time. The questionnaires were distributed to and completed by the participants in a classroom-type setting at different military units of the SANDF, in the presence of but without any interference by the investigator. Although the covering letter contained all the necessary information about the study, as well as the participants' rights, prior to the completion of the questionnaire, the researcher elaborated further and gave the participants the opportunity to choose whether to participate or not. In order to ensure anonymity and confidentiality at all times and thereby encouraging candid responses, identifying personal details were not requested in the questionnaire.

As much as there are advantages of self-administered questionnaires, some disadvantages have also been identified. Such disadvantages include *non-response bias*, as well as *communication errors*. Non-response bias refers to the failure by the respondent to return the self-administered questionnaire (low return rate), therefore resulting to lowered external validity (Mitchell & Jolley, 2001). In the current study, questionnaires were coded with case numbers to enable the researcher to identify any missing questionnaire. All the 330 questionnaires were returned (representing a 100 % return rate).

Furthermore, communication errors may also occur when misunderstood questions are either omitted or answered incorrectly. In the current study, this problem was minimized by the presence of the researcher within a classroom-type setting during the completion of the questionnaires, therefore enabling the respondents to ask questions where they did not understand. However this did not prevent respondents from leaving some sections uncompleted. As a result, out of the 330 questionnaires that were issued, 12 questionnaires were unusable because they were not completed at all, or not completed satisfactorily. Therefore, 318 questionnaires were completed properly and subsequently used in this study.

3.8. DATA ANALYSIS

Various statistical techniques were utilised to analyze the gathered data and to test the proposed structural model (*Figure 1*, and attached CD for outputs and syntax). These techniques included Item Analysis, Dimensionality Analysis and Structural Equation Modelling (SEM). SEM is a multivariate statistical technique used to confirm the significant relations among latent variables (Ding & Lin, 2006; Chiu et al., 2005).

This study followed a two-step procedure proposed by Anderson and Gerbing (1988): firstly, by developing a good measurement model, using confirmatory factor analysis (CFA), with high goodness-of-fit, and secondly, by analyzing the structural model. Both the Statistical Package for Social Sciences Version 18 (SPSS 18) and LISREL 8 (Joreskog & Sorbom, 1993) were used as the tools to analyze the data. *Item analysis* was performed on all the sub-scales of the measuring instrument by means of the SPSS 18. This procedure was performed to identify and eliminate the items that did not contribute to the internal consistency of each sub-scale. Item analysis allows for the deletion of items whose removal brings about substantial increase in Cronbach's alpha and the overall scale reliability.

According to Anastasi and Urbina (1997), high validity and reliability of a measurement scale is established in advance by means of item analysis, which improves the measuring instrument through selection, removal, or revision of problematic items. *Dimensionality analysis* was also performed on each scale of the measuring instrument, using principal axis factoring. The aim of this procedure was to confirm the unidimensionality of each sub-scale and to remove the items that showed insufficient factor loadings. The *eigenvalue-greater-than-unity* rule was applied.

Similarly, MacCallum and Austin (2000) view SEM as a technique used for specifying and estimating models of linear relationships among variables. Variables in a model may include both measured variables and latent variables. According to MacCallum and Austin (2000), a structural equation model, then, is a hypothesised pattern of directional and non-directional linear relationships among a set of measured variables and latent variables, and in the most common form of SEM the purpose of the model is to account for variation and co-variation of the measured variables. Following data collection, the SEM was used to conduct the data analysis. The detailed overview of the results of these techniques is presented in the next chapter (Chapter 4).

In order to test the hypothesised model as presented in *Figure 1*, path analysis was performed using LISREL 8.80 (Joreskog & Sorbom, 1993) to obtain path coefficients and test of model fit. A major challenge confronting theory developers and researchers is determining what constitutes acceptable model fit (Bone, Sharma, & Shimp, 1989). Therefore, to analyze the fit of the research model in *Figure 1*, numerous goodness of fit indices (GOF), as suggested in the SEM, were performed. These included the chi-square (χ^2), the standard Chi-Square statistic divided by the degree of freedom (χ^2/df), Root Mean Square Residual (RMR), Standardised Root Mean Squared Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Norm Fit Index (NFI), Comparative Fit Index (CFI), and the Goodness-of-Fit Index (GFI) (Yu, Chiu, Lin, Wang, & Chen, 2007; Hu & Bentler, 1999; Bentler & Bonnet, 1980; Joreskog & Sorbom, 1993; Cudeck & Browne, 1983).

3.9. SUMMARY

In this chapter, the proposed structural model as well as the relevant hypotheses were presented. A detailed overview of the research methodology, research design, sampling design, measuring instruments, and data collection procedure were also provided. Finally, a description of data analysis procedures and processes were explained. The next chapter will present a detailed overview of the results of the study.

CHAPTER FOUR

RESULTS OF THE STUDY

4.1. INTRODUCTION

In chapter 3 the research methodology of the study was discussed in detail. The current chapter provides a detailed overview of the analysis and procedures that were performed on the data and the results thereof. The results of all the statistical analysis will be presented in seven main sections. Firstly, data cleaning procedures that were applied in this study are presented. Secondly, the procedures and results of the assessment of the psychometric properties of all the scales used in this study are presented and discussed. Thirdly, the procedures, results and interpretation of the confirmatory factor analysis of the measurement model are presented and discussed in comprehensively. Fourthly, the results of the evaluation of the structural model's goodness-of-fit, as well as detailed discussion thereof are presented. Fifthly, the results and comprehensive discussion of the evaluation of the hypothesised structural model relationships between the latent variables will follow. Sixth, the structural model's modification indices and expected changes will be presented. Lastly, the results of the statistical power associated with testing the model will be presented (also refer to the CD attached for analysis outputs and syntax).

4.2. DATA CLEANING PROCEDURES

Preceding the item and dimensionality analyses, as well as the evaluation of the measurement and structural models, data cleaning was performed. Here, the aim was to evaluate the impact of missing data, and test for the assumptions underlying most multivariate techniques. By examining the data before the application of any multivariate technique, the researcher gains critical insights into the characteristics of the data (Hair, Anderson, Tatham, & Black, 2010). One of the recurring problems in multivariate technique is the missing data and its effect on further analysis and interpretation of results.

4.2.1. Missing Values

Missing data is one of the pervasive problems in data analysis, and its effects are known and should be directly accommodated in the research plan. Missing data refers to a class of problems made difficult by the absence of some portions of a familiar data structure (Efron, 1994). No-matter how carefully the researchers plan their data collection when using social science survey methodologies, they often grapple with the problem of how best to handle missing values. Missing values may result from lost surveys, respondent refusal to answer survey questions, skipped questions, illegible responses, procedural mistakes, computer malfunctions, or other reasons (Buhi, Goodson, & Neilands, 2008). They further suggest that when eligible participants do not take part in the study, the missing data represents survey non-response. Both practical and substantive considerations necessitate an examination of missing data processes. The practical impact of missing data is the reduction of the sample size available for analysis, whereas from a substantive perspective, any statistical results based on data with a non-random missing data process could be biased. This bias occurs when the missing data process causes certain data to be missing and these missing data lead to erroneous results (Hair et al., 2010). As pointed out by Buhi et al. (2008) and Harel and Zhou (2006), missing values can be classified into three types, including data that are missing at random (MAR), data that are missing completely at random (MCAR), and data that are not missing at random (NMAR).

When data are MAR, incomplete data arise not from the missing values themselves, but missingness is a function of some other observed variables for which the study has data (Schafer & Graham, 2002). MAR data are also termed ignorable, because when this pattern occurs, the researcher can ignore the reason(s) data are missing and employ a missing data technique to manage the problem (Allison, 2002). On the other hand, MCAR occurs when the probability of missingness is unrelated to both the observed variables (i.e. those for which the study has data) and the variables with missing values (those for which the study has no or incomplete data). An example of MCAR data occurs when a participant fails to return for a follow-up due to reasons unrelated to the study.

Similar to MAR, MCAR data are ignorable, therefore the researcher can ignore the reason(s) the data are missing. NMAR data are made missing by systematic influences, and may present complex issues for researchers who decide to use certain missing data techniques, as NMAR is the most problematic pattern of missingness. NMAR as a missing data mechanism means that the probability of missingness is related to values that are themselves missing (Streiner, 2002). Different techniques can be used to handle missing data.

Three popular methods of handling missing data are discussed next, namely, deletion, direct estimation, and imputation (Buhi et al., 2008; Hair, Anderson, Tatham, & Black, 1998; Hair, Anderson, Tatham, & Black, 1995; Harel & Zhou, 2006). Deletion involves both *listwise* and *pairwise* deletion techniques that discard cases during an analysis if they contain missing data. *Listwise* deletion, also referred to as complete case analysis, involves excluding from analysis all cases with missing values for any variable; whilst *pairwise* deletion, also referred to as available case analysis, uses all available data for each variable to compute means and variances. Deletion methods are easy to employ and do not require a lot of statistical expertise, and thus are frequently used. Direct estimation approaches such as full information maximum likelihood (FIML) and fully Bayesian analysis use all available information in the data, including the observed values from cases with data on some, but not all, variables to construct parameter estimates and standard errors. However, several methods for managing missing data fall under the category of imputation (which involves both single and multiple imputations). Imputation refers to a process of replacing the missing values with a substitute that allows data analysis to be conducted without being misleading (Allison, 2002; Spangenberg & Theron, 2004). The substitute values replaced for a case are derived from one or more other cases that have similar response patterns over a set of matching variables (Joreskog & Sorborm, 1996). The basic idea in data imputation procedure is to substitute some reasonable guess (imputation) for each missing value and then proceed to do the analysis as if there were no data missing (Allison, 2002; Buhi et al., 2008).

In this study missing values did not present a problem in the analysis. A total of 330 questionnaires were issued and returned, twelve (12) of which had to be excluded, because they were not completed satisfactorily. All questionnaires (318) that were subsequently used in the analysis were fully completed by all participants. However, in order to deal with any possible error relating to missing data, both *listwise* deletion method, as well as imputation technique, were used since they are considered more appropriate for SEM (Hair et al., 1995).

4.3. DESCRIPTIVE STATISTICS

All statistical analysis begins by examining the basic descriptive-level information about data (DeCoster & Claypool, 2004). Once the data was confirmed to be complete, it was imperative to also assess other characteristics and patterns in the data set, that could affect the analysis and results if not considered. These characteristic patterns could only be determined by means of evaluating the descriptive statistics of the present data set. The most common statistical analysis performed on the data set involves the determination of descriptive characteristics like measures of central tendency, and measures of dispersion (Pidwirny, 2006). The descriptive statistics (*mean, standard deviation, skewness, and kurtosis*) for the data set of this study are presented in Table 4.1 and Table 4.2 below. Table 4.1 presents the descriptive statistics for the data item parcels, while Table 4.2 presents the descriptive statistics for the data individual items.

4.3.1. Measures of Central Tendency

Researchers often require a summary value that determines the centre in a data sample's distribution; as a result measures of central tendency provide information about the most typical or average values of a variable (DeCoster & Claypool, 2004). There are three measures of central tendency (mean, median, and mode), but the most commonly used of these measures is the mean (Pidwirny, 2006; Wessa, 2008). Both Table 4.1 and Table 4.2 indicate that the means of all the measures are generally centrally distributed as almost all the values are average or close to average. This distribution of means is also in line with earlier research studies.

Table 4.1: Descriptive Statistics for Individual Items

	N	Mean	Std		Skewness	Kurtosis			
			Statistic	Statistic		Statistic	Statistic	Std.	Std.
								Error	Error
II_2	318	3.49057	1.728835	-.028	.137	-1.334	.273		
II_3	318	3.59119	1.785726	-.155	.137	-1.319	.273		
II_4	318	4.18868	1.661096	-.639	.137	-.853	.273		
II_6	318	3.95912	1.602904	-.377	.137	-.992	.273		
II_7	318	3.66352	1.571630	-.260	.137	-1.012	.273		
II_8	318	3.72013	1.651012	-.206	.137	-1.176	.273		
IM_1	318	3.77987	1.704134	-.284	.137	-1.221	.273		
IM_2	318	4.13836	1.580552	-.471	.137	-.927	.273		
IM_3	318	3.91509	1.668702	-.344	.137	-1.102	.273		
IM_4	318	3.98742	1.690528	-.394	.137	-1.092	.273		
IS_1	318	3.46541	1.491426	-.131	.137	-.907	.273		
IS_2	318	3.65094	1.660693	-.219	.137	-1.169	.273		
IS_3	318	3.50943	1.739748	-.088	.137	-1.313	.273		
IS_4	318	3.55975	1.804625	-.060	.137	-1.411	.273		
IC_1	318	3.40566	1.711595	-.032	.137	-1.287	.273		
IC_3	318	3.09434	1.686063	.157	.137	-1.230	.273		
IC_4	318	3.35849	1.841625	.109	.137	-1.453	.273		
Mean_1	318	3.41195	.804237	-1.468	.137	1.809	.273		
Mean_2	318	3.28931	.828102	-1.087	.137	.646	.273		
Mean_3	318	3.32075	.827910	-1.195	.137	.930	.273		
Compet_1	318	3.58805	.652669	-1.734	.137	3.280	.273		
Compet_2	318	3.52830	.648330	-1.399	.137	2.209	.273		
Compet_3	318	3.36792	.736504	-1.086	.137	.977	.273		
Determ_1	318	3.22956	.732831	-.581	.137	-.281	.273		
Determ_2	318	3.08491	.934288	-.684	.137	-.536	.273		
Determ_3	318	2.95283	.956948	-.471	.137	-.826	.273		
Impact_1	318	2.98742	.912496	-.602	.137	-.448	.273		
Impact_2	318	2.54088	1.027951	-.076	.137	-1.126	.273		
Impact_3	318	2.62264	1.051838	-.180	.137	-1.163	.273		
Work_1	318	3.04717	.863367	-.742	.137	.016	.273		
Work_2r	318	3.16981	.914017	-1.041	.137	.353	.273		
Work_3	318	3.20440	.789749	-.999	.137	.935	.273		
Work_5	318	2.88994	.907640	-.596	.137	-.337	.273		
Work_6	318	2.85849	.791580	-.626	.137	.260	.273		
AC_1	318	2.48113	1.096865	-.031	.137	-1.312	.273		
AC_5r	318	2.72327	.911974	-.353	.137	-.632	.273		
AC_6r	318	2.60692	.966089	-.179	.137	-.920	.273		
AC_7	318	2.72327	.922293	-.394	.137	-.627	.273		
AC_8r	318	2.75786	.852451	-.436	.137	-.323	.273		
NC_3	318	2.45283	.944505	-.021	.137	-.908	.273		
NC_4	318	2.35535	.980642	.127	.137	-1.001	.273		
NC_5	318	2.38994	.962462	-.016	.137	-1.000	.273		
NC_6	318	2.94969	.907722	-.741	.137	-.098	.273		
NC_8	318	2.58491	.861382	-.161	.137	-.601	.273		
Intent_1	318	2.5440	1.04607	.049	.137	-1.196	.273		
Intent_2	318	2.8270	1.03791	-.415	.137	-1.011	.273		
Intent_3	318	2.7767	.98113	-.266	.137	-.981	.273		
Intent_4	318	2.5755	1.01982	.099	.137	-1.160	.273		
Valid N (listwise)	318								

Table 4.2: Descriptive Statistics for Item Parcels

	N	Mean	Std.	Skewness	Std.	Kurtosis	Std.
			Deviation				
	Statistic	Statistic	Statistic	Statistic	Error	Statistic	Error
LEAD_1	318	3.7689	1.32884	-.211	.137	-.954	.273
LEAD_2	318	3.9552	1.38297	-.417	.137	-.853	.273
LEAD_3	318	3.5464	1.31015	-.101	.137	-.971	.273
LEAD_4	318	3.2862	1.48655	.103	.137	-1.178	.273
EMPOW_1	318	3.3407	.77664	-1.316	.137	1.445	.273
EMPOW_2	318	3.4948	.59009	-1.455	.137	2.568	.273
EMPOW_3	318	3.0891	.73238	-.444	.137	-.614	.273
EMPOW_4	318	2.7170	.90036	-.246	.137	-.895	.273
SATIS_1	318	3.0367	.65530	-.811	.137	.872	.273
SATIS_2	318	3.0299	.74716	-.885	.137	.463	.273
COMIT_1	318	2.6585	.70936	-.274	.137	-.228	.273
COMIT_2	318	2.5465	.68072	-.188	.137	-.044	.273
QUIT_1	318	2.6604	.94121	-.117	.137	-1.012	.273
QUIT_2	318	2.7013	.95253	-.189	.137	-.971	.273
Valid N (listwise)	318						

4.3.2. Measures of Dispersion

Measures of dispersion provide information about the distribution of the values of a variable. They indicate how widely values are dispersed around their measures of central tendency (Pidwirny, 2006). Table 4.1 and Table 4.2 present three of the measures of dispersion: the *standard deviation*, the *skewness*, and the *kurtosis*.

Standard Deviation. The *standard deviation* measures the spread of a set of observations, and the larger the standard deviation is, the more spread out the observations are (Pidwirny, 2006). It therefore allows the researcher to see how widely the data are dispersed around the mean. The standard deviation has the desirable property that, when the data are normally distributed, 68.3 percent of the observations lie within ± 1 standard deviation from the mean, 95.4 percent within ± 2 standard deviations from the mean, and 99.7 percent within ± 3 standard deviations from the mean (Pidwirny, 2006; Wessa, 2008).

Both Table 4.1 and Table 4.2 indicate that the standard deviation values of all the scale were generally smaller than but close to ± 1 , except for the leader behaviour scale which presented values that are greater than +1 but smaller than +2. However, this did not pose a critical situation since there were no extreme values, and more than 95.4 percent of the data fell within the standard value of ± 2 .

Skewness and Kurtosis. The *skewness* statistic measures the degree and direction of asymmetry. A symmetric distribution, such as a normal distribution, has a *skewness* of 0, and a distribution that is skewed to the left, e.g. when the mean is less than the median, has a negative *skewness* (DeCoster & Claypool, 2004; Pidwirny, 2006). *Skewness* values that are presented in Table 4.1 and Table 4.2 seem to suggest a slightly negatively skewed distribution. The *kurtosis* is a measure of the heaviness of the tails of a distribution. A normal distribution has a *kurtosis* of 0. Extremely non-normal distributions may have high positive or negative kurtosis values, while nearly normal distributions will have *kurtosis* values close to 0. *Kurtosis* is positive if the tails are heavier than for a normal distribution and negative if the tails are lighter than for a normal distribution (DeCoster & Claypool, 2004; Pidwirny, 2006). Values of *skewness* and *kurtosis* have little inherent meaning, other than that large values indicate greater asymmetry, and the rule of thumb is that the absolute value of the ratio of *skewness* to its standard error and of *kurtosis* to its standard error should be less than 2 (Pidwirny, 2006; Wessa, 2008). The *kurtosis* values that are presented in Table 4.1 and Table 4.2 are slightly negative but not too high to suggest an extremely non-normal distribution. Although most *kurtosis* values displayed are negative, they however seem to suggest that the current data was nearly normal because the values are close to 0, with only two kurtosis values that are larger than 2.

4.4. ASSESSING THE PSYCHOMETRIC PROPERTIES OF SCALES

In order to come to valid and credible conclusions on the ability of the structural model to explain the pattern of covariance in the hypothesised model, evidence is needed that the manifest indicators are indeed valid and reliable measures of the latent variables they are linked to (Diamantopoulos & Siguaw, 2000).

Unless confidence in the operational measures can be created that they validly represent the latent variables they have been tasked to reflect, any assessment of the substantive relations of interest will be questionable in as far as the meaning of poor or good structural model fit is concerned. In order to establish confidence on the operational measures, factor analysis had to be performed. There are two types of factor analysis, namely *exploratory* and *confirmatory* factor analysis. Therefore, prior to testing the hypotheses, both Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) of the items and measures were carried out to assess and ratify the models of the individual scale measurements. EFA attempts to discover the nature of the constructs influencing a set of responses, while CFA tests whether a specified set of constructs is influencing responses in a predicted way (DeCoster, 1998). The primary objectives of an EFA are to determine (a) the number of common factors influencing a set of measures, and (b) the strength of the relationship between each factor and each observed measure (DeCoster, 1998). With the EFA, firstly, item analysis was performed in order to identify and eliminate items that did not contribute to an internally consistent description of the sub-scale in question. Therefore, when assessing the internal consistency reliability of measures, the fundamental question that the researcher would be interested in was whether items successfully reflected the underlying latent construct(s). Secondly, dimensionality analysis was performed to confirm the uni-dimensionality of each sub-scale and to remove items with inadequate factor loadings or to split heterogeneous sub-scales into two or more homogeneous subsets of items (Anastasi & Urbina, 1997). As a result, when assessing the dimensionality of instruments, the researcher's interest was on the underlying domains or dimensions of the construct that the items reflected. Both these procedures were performed using the SPSS 18 computer software (SPSS, 2010).

CFA and SEM, on the other hand, are important in theory testing and in efforts to develop psychometrically sound measures (Bone, Sharma, & Shimp, 1989). CFA was computed in order to test the goodness of fit of the models, firstly of the overall measurement model, and thereafter the hypothesised structural model. The goodness-of-fit of the overall measurement model was targeted because to assess measurement model fit through a separate analysis for each construct instead of one analysis for the entire model would be an inappropriate use of the goodness-of-fit indices, which are designed for testing the entire model (Hair et al., 2010). The LISREL 8.8 computer software was used to compare the fit of the nested models (Jöreskog & Sörbom, 2006).

LISREL, the widely used computer package for confirmatory factor analysis and structural equation modelling, provides asymptotically efficient estimates of model parameters and reports goodness-of-fit indices to assess model fit (Jöreskog, Sörbom, du Toit, & du Toit, 2000).

4.4.1. Item Analysis

One way of estimating the internal consistency reliability of an instrument is through item analysis, in which the Cronbach' alpha (α) coefficient is the most common statistic (Nunnally, 1978). Item analysis (also known as reliability analysis) reflects the internal consistency reliability of the scores provided by the indicators measuring a given factor, and refers to the extent to which the items in the scale are measuring the same underlying attribute (Chiu et al., 2005; Ding & Lin, 2006; Nunnally, 1978). The α coefficient provides an indication of the correlation that exists among items in a given scale, and its values range from 0 to 1. Values that are close to one indicate high reliability of the scale, while values that are close to 0 indicate low reliability of the scale.

Item analysis was performed on the items of each scale of the set of measuring instruments, namely MLQ-5X, PES, JDI, OCS, and TIS), using the SPSS Reliability Procedure (SPSS, 2010). This statistical technique was performed in order to identify and eliminate possible items that were not contributing to an internally consistent description of the subscale in question. High internal consistency reliability can be built into tests in advance via item analysis, thus improving tests through the selection, substitution or revision of items (Anastasi & Urbina, 1997). As a result items which, through their removal, would result in a significant increase in α coefficient value and overall scale reliability were flagged, monitored and considered for deletion. However, these items were not deleted immediately based on the results of the item analysis procedures; dimensionality analysis had to be performed to confirm the factor loadings of all the items, especially those that had been flagged and indicated (through item analyses) to be possible poor items. The results of item analysis for the MLQ-5X, PES, JDI, OCS and TIS are reported in the next section below.

Leadership Behaviour Scale (MLQ-5X). All items in each of the four transformational leadership dimensions [*idealized influence* (II), *inspirational motivation* (IM), *intellectual stimulation* (IS), and *individualized consideration* (IC)] of the MLQ-5X were item-analysed. Some items were identified as not contributing satisfactorily to the homogeneity of the sub-scales. Items 1 (II_1), 4 (II_4) and 5 (II_5) of *Idealized Influence* sub-scale, and item 2 (IC_2) of *Individualized Consideration* sub-scale showed indications of weakness when the *item-total statistics* (Squared Multiple Correlation (SMC); α coefficient if item deleted) were examined. The *item-total statistics* of *Idealized Influence* showed a possible increase of α coefficient value (from $\alpha = .86$ to $\alpha = .88$) if items II_1, II_4 and II_5 were deleted, while the *item-total statistics* of *Individualized Consideration* showed a possible increase in internal consistency reliability (from $\alpha = .79$ to $\alpha = .81$) if item IC_2 was deleted. All four possible poor items (II_1; II_4; II_5; IC_2) were then flagged and closely monitored when dimensionality analysis was performed, to confirm or disconfirm their possible weaknesses and subsequent deletion. Table 4.3 provides the summary of the internal consistency reliability that was obtained from the four sub-scales of the MLQ-5X transformational leadership dimensions scores, after the poor items were deleted.

Table 4.3: Cronbach's Alpha Coefficients for MLQ-5X

Construct	Number of Items	α Coefficient
Idealized Influence (II)	6	.88
Inspirational Motivation (IM)	4	.85
Intellectual Stimulation (IS)	4	.79
Individual Consideration (IC)	3	.81

Psychological Empowerment Scale. The item analysis of the items in all four dimensions of the Psychological Empowerment Scale showed high internal consistency reliability. Table 4.4 below indicates α coefficient values that were obtained from the item analysis of the psychological empowerment sub-scales. After all the subscales were item-analysed, none of the items indicated any possible weakness.

Table 4.4: Cronbach's Alpha Coefficients for Psychological Empowerment

Construct	Number of Items	α Coefficient
Meaning	3	.94
Competence	3	.83
Self-Determination	3	.78
Impact	3	.88

Job Satisfaction Scale. The six items of the *Satisfaction with Work* sub-scale of the JDI was item-analysed. The item analysis produced a high reliability ($\alpha = .73$). However, not all items contributed satisfactorily in the reliability score. Upon closer evaluation, item 4 (Work_4) was identified as an item that lowered the homogeneity of the scale; by showing problematic *item-total statistics* in terms of the SMC as well as the possible increase in the α coefficient value if this item was deleted. The α coefficient value of *Satisfaction with Work* would increase from $\alpha = .73$ to $\alpha = .78$ if item 4 was to be deleted. As a result item 4 (Work_4) was flagged and marked as a possible poor item. Table 4.5 shows α coefficient value of *Satisfaction with Work*, after the poor item (Work_4) was deleted.

Table 4.5: Cronbach's Alpha Coefficient for Satisfaction with Work

Construct	Number of Items	α Coefficient
Satisfaction with Work	5	.78

Organisational Commitment Scale. All items in each of the two organisational commitment scales (Affective Commitment; Normative Commitment) were item-analysed. The item analysis indicated high reliability scores for both *Affective* and *Normative Commitment* scales (AC, $\alpha = .74$; NC, $\alpha = .75$). Upon closer analysis of the *item-total statistics* (SMC; *Cronbach's alpha* if item deleted), there was a possible increase in α coefficient value ($\alpha = .80$) if items 2, 3 and 4 of *Affective* dimension were deleted. There was also a possible increase in α coefficient value ($\alpha = .78$) if items 1, 2, and 7 of the *Normative* dimension were to be deleted. As a result, these items were flagged and marked as possible poor items for closer monitoring when dimensionality analysis was performed. Table 4.6 shows α coefficient values of Organisational commitment sub-scales after the poor items were deleted.

Table 4.6: Cronbach's Alpha Coefficients for Organisational Commitment

Construct	Number of Items	α Coefficient
Affective Commitment	5	.80
Normative Commitment	5	.78

Turnover Intention Scale (TIS). The final scale (Turnover Intention Scale) comprises of five items, and was also item-analysed. Initially, the TIS also showed high internal consistency reliability ($\alpha = .89$). However, item 5 (Intent_5) of the TIS was identified as an item that lowered the homogeneity of the scale. This item showed problematic *item-total statistics*, in terms of the SMC as well as the possible increase in *Cronbach's alpha if item deleted*. The α coefficient would increase from $\alpha = .89$ to $\alpha = .91$, if item 5 was to be deleted. As a result item 5 (Intent_5) was also flagged and closely monitored, when dimensionality analysis was performed. The value shown in Table 4.7 is α coefficient of the TIS after the deletion of item 5 (Intent_5).

Table 4.7: Cronbach's Alpha Coefficient for Turnover Intention

Construct	Number of Items	α Coefficient
Turnover Intention	4	.91

4.4.2. Dimensionality Analysis

After the item analysis was completed, the sub-scales had to be factor analysed in order to confirm their uni-dimensionality and remove items that produced inadequate factor loadings. The ultimate goal in factor analysis is usually the identification of underlying constructs that summarize a set of variables (Ford, MacCallum, & Tait, 1986). Factor analysis provides for testing models of relationships between latent variables, which are common factors, and measured variables, which are indicators of common factors. The factor analysis model allows for correlational (non-directional) relationships among latent variables but does not include directional influences as in general SEM (MacCallum & Austin, 2000).

SPSS 18 (SPSS, 2010) was utilised to perform dimensionality analysis via Exploratory Factor Analysis (EFA). Uni-dimensionality for each sub-scale of the instrument was assessed by means of the *Principal-Axis factoring* with *Varimax rotation*, and only one factor was extracted in terms of the Kaiser criterion (Tabachnick & Fidell, 2001) (i.e. *Eigenvalues* greater than unity). The goal was to ensure uni-dimensionality on each sub-scale. However, prior to performing the EFA, the suitability of the data for factor analysis was assessed by means of the Kaiser-Meyer-Olkin (KMO) index of sampling adequacy. Possible KMO index values range between 0 and 1, with 0.60 indicating minimum factorability (Tabachnick & Fidell, 2001). The minimum requirement of the KMO index was obtained in all sub-scales, and thereafter, factor analysis was performed.

Next, the factor loadings of items on to underlying factors were assessed. In order to ensure uni-dimensionality of items in a scale, the researcher requires a specific value to determine whether the factor loading of an individual item in a factor/scale is significant or not. However, the meaning of the factor loading magnitudes varies by research context (Norman & Streiner, 1994), and therefore factor loadings must be interpreted in the light of theory, not by arbitrary cut-off levels (Hair et al., 1998). Despite the opposing views held by different researchers, some have recommended that values of .45 (20% shared variance) is *fair*, .55 (30% shared variance) is *good*, .63 (40% shared variance) is *very good*, and .71 (50% shared variance) is *excellent* (Comrey & Lee, 1992; Pett, Lackey, & Sullivan, 2003), while others refer to factor loadings above .60 as “high” and those below .40 “low” (Cliff & Hamburger, 1967; Ford et al., 1986; Hair et al., 1998; Norman & Streiner, 1994). Subsequently, an absolute factor loading boundary of .50 was adopted in the current study. This means that if an item was unable to account for at least 25% of overlapping variance, the item was flagged and treated as a poor item. The results of dimensionality analysis below (Table 4.8 to Table 4.18) are reported per sub-scale.

Leadership Behaviour Sale (MLQ-5X). All four sub-scales of the transformational leadership dimension of the MLQ 5X were factor-analysed, and produced single factors in their respective analysis. However, item 5 (II_5) of the *Idealized Influence* sub-scale (Table 4.8) failed to load on this factor, while item 1 (II_1) loadings were weaker when compared to other items in this factor. Item 2 (IC_2) of the *Individualized Consideration* sub-scale (Table 4.9) also failed to reach the set standard (.50 or greater) for this study.

Although the inter-item correlation statistics of item 4 (II_4) to other items of *Idealized Influence* sub-scale were lower, the factor loading of this item (Table 4.8) did not justify deletion, and as a result this item was retained. Ultimately, three of the flagged items (II_1; II_5; IC_2) failed the uni-dimensionality test and were subsequently deleted. After the removal of all three poor items, the dimensionality and reliability analysis procedures were repeated. The deletion of the identified poor items resulted in an improved and satisfactory internal consistency reliability and factor loadings in all the sub-scales. This is clearly demonstrated by Table 4.10, in which a simple structure without any cross-loadings was obtained. The concept of simple structure (also known as factor simplicity or complexity of the variables) was first introduced by Thurstone (1977) and later summarised by Bentler (1977) as a principle for identifying a component or factor in terms of variables that do not measure it. When a variable has loadings that are different from zero in only one component and zero in the others, this variable is said to be a variable of complexity (Lorenzo-Seva & Virgili, 2003). Therefore the concepts of factor simplicity and simple structure coincide when all variables in the simple solution are variables of complexity, as shown in Table 4.8.

Table 4.8: Factor Loading of the Idealized Influence Sub-scale

Factor Matrix ^a	
Item	Factor Loading
II_1	.570
II_2	.758
II_3	.788
II_4	.630
II_5	.270
II_6	.812
II_7	.741
II_8	.768

Extraction Method: Principal Axis Factoring. a. 1 factor extracted. 4 iterations required.

Table 4.9: Factor Loading of the Individualized Consideration Sub-scale

Factor Matrix	
Item	Factor Loading
IC_1	.747
IC_2	.481
IC_3	.670
IC_4	.887

Extraction Method: Principal Axis Factoring. a. 1 factor extracted. 11 iterations required.

Table 4.10: Factor Loadings of Transformational Leadership

Item	Factor Loadings			
	1	2	3	4
II_2	.75			
II_3	.81			
II_4	.61			
II_6	.81			
II_7	.73			
II_8	.79			
IM_1		.72		
IM_2		.71		
IM_3		.80		
IM_4		.84		
IS_1			.55	
IS_2			.64	
IS_3			.77	
IS_4			.80	
IC_1				.74
IC_3				.63
IC_4				.94

Psychological Empowerment Scale. The four sub-scales of the Psychological Empowerment Scale were factor-analysed, and all items loaded very high in their respective factors, which is high satisfactory (Table 4.11). A simple structure was also obtained in Table 4.11, without any cross-loadings.

Table 4.11: Factor Loadings of Psychological Empowerment Sub-scales

Item	Factor Loading
Meaning_1	.89
Meaning_2	.93
Meaning_3	.95
Competence_1	.87
Competence_2	.83
Competence_3	.69
Self-Determination_1	.60
Self-Determination_2	.86
Self-Determination_3	.75
Impact_1	.73
Impact_2	.91
Impact_3	.90

Job Satisfaction Scale (JDI). When the *Satisfaction with Work* sub-scale of the JDI was factor-analysed, most of the items loaded satisfactorily, however item 4 (Work_4) that had been flagged during the item-analysis, for monitoring and possible deletion, was confirmed to be a poor item. This scale produced two factors in which item Work_4 was the only item that loaded better on a different factor (Table 4.12). As a result item Work_4 was subsequently removed from the scale of measurement. The item as well as dimensionality analysis were repeated. After item Work_4 was deleted from the *Satisfaction with Work* subscale, all the remaining items produced a single factor with satisfactory factor loadings (Table 4.13).

Table 4.12: Factor Loadings of Satisfaction with Work Scale

Item	Factor Matrix ^a	
	Factor	
	1	2
Work_1	.780	-.030
Work_2	.585	.221
Work_3	.637	-.122
Work_4	.208	.673
Work_5	.626	-.247
Work_6	.615	-.022

Extraction Method: Principal Axis Factoring. a. Attempted to extract 2 factors. More than 25 iterations required. (Convergence=.005). Extraction was terminated.

Table 4.13: Factor Loadings of Satisfaction with Work Scale after Poor Item Deleted

Item	Factor Matrix ^a
	Factor Loading
Work_1	.79
Work_2r	.54
Work_3	.64
Work_5	.63
Work_6	.62

Extraction Method: Principal Axis Factoring. a. 1 factor extracted. 8 iterations required.

Organisational Commitment Scale. The two sub-scales of the organisational commitment scale (Affective Commitment; Normative Commitment) were factor-analysed (Tables 4.14 – 4.16). The *Affective* sub-scale produced two factors but all the items loaded better in one factor. As predicted during the item analysis, item 2 (Affective_2), item 3 (Affective_3), and item 4 (Affective_4), factor loadings were insufficient and lower than the standard for this study (.50 or greater) as indicated in Table 4.14. These three items (Affective_2; Affective_3; Affective_4) were subsequently deleted, and thereafter both item and dimensionality analyses were repeated, which produced satisfactory factor loadings (Table 4.16).

Table 4.14: Factor Loadings of the Affective Commitment Sub-scale

Factor Matrix ^a		
	Factor	
Affective_1	.73	.22
Affective_2	.34	.25
Affective_3	.28	.15
Affective_4	.22	-.12
Affective_5	.65	-.21
Affective_6	.54	-.25
Affective_7	.71	.30
Affective_8	.78	-.27

Extraction Method: Principal Axis Factoring. a. 2 factors extracted. 13 iterations required.

The dimensionality analysis was also performed on the *Normative Commitment* dimension. The analysis once again produced two factors, with all the items loading better on one factor. However, as predicted during the item analysis, item 1 (Normative_1), item 2 (Normative_2), and item 7 (Normative_7) factor loadings were unsatisfactorily low (lower than .50) as indicated in Table 4.15. The dimensionality analysis was then repeated on this sub-scale, without the flagged items, and a single factor with satisfactory factor loadings was obtained. As a result, these three items were deleted, and thereafter both item and dimensionality analyses were repeated (see Table 4.16).

Table 4.15: Factor Loadings of the Normative Commitment Sub-scale

Factor Matrix ^a		
Item	Factor	
Normative_1	.312	.139
Normative_2	.304	.285
Normative_3	.563	-.090
Normative_4	.646	.082
Normative_5	.636	.191
Normative_6	.660	.148
Normative_7	.314	-.158
Normative_8	.769	-.393

Extraction Method: Principal Axis Factoring. a. Attempted to extract 2 factors. More than 25 iterations required (Convergence=.003). Extraction was terminated.

Table 4.16: Factor Loadings of the Two-Factor Organisational Commitment Scale

Item	Factor Loadings	
Affective_1	.69	
Affective_5	.68	
Affective_6	.56	
Affective_7	.65	
Affective_8	.77	
Normative_3		.59
Normative_4		.67
Normative_5		.63
Normative_6		.65
Normative_8		.70

Turnover Intention Scale. (Tables 17 and 18) The five items of the Turnover Intention Scale were factor-analysed. They also produced a single factor, in which all the items loaded satisfactorily. However, although greater than the required .50, the factor loading of item 5 (Intent_5) was very low when compared to the other items in this scale (Table 4.17). As a result, this item (Intent_5) was deleted and both the item and dimensionality analysis were repeated, through which better factor loadings were achieved (Table 4.18).

Table 4.17: Factor Loadings of the Turnover Intention Scale Before Poor Item Deleted

Factor Matrix^a	
Item	Factor Loading
Intent_1	.820
Intent_2	.890
Intent_3	.884
Intent_4	.811
Intent_5	.543

Extraction Method: Principal Axis Factoring. a. 1 factor extracted. 5 iterations required.

Table 4.18: Factor Loadings of the Turnover Intention Scale After Poor Item Deleted

Factor Matrix^a	
Item	Factor Loading
Intent_1	.82
Intent_2	.90
Intent_3	.89
Intent_4	.80

Extraction Method: Principal Axis Factoring. a. 1 factor extracted. 6 iterations required.

In sum, item analysis procedures resulted in the achievement of highly satisfactory α coefficients for all the measures, however before these highly satisfactory reliability scores were obtained, certain items were identified as possible weak items that were not contributing in the internal consistency of the measures. Such items included three items from the MLQ (II_1; II_5; IC_2), one item from the JDI (Work_4), six items from the OCQ (Affective_2; Affective_3; Affective_4; Normative_1; Normative_2; Normative_7), and one item from TI (Intent_5). All these items were flagged and marked for further monitoring and possible deletion.

Dimensionality analysis was then performed, among other reasons in order to confirm or disconfirm the possible weakness of the identified items. The dimensionality analysis indeed identified all the eleven flagged items as poor items, and they were subsequently deleted and both item and dimensionality analyses repeated on the remaining items. The deletion of these resulted in much improved psychometric properties in all the measures. Although this procedure resulted in the attainment of simple structures for MLQ, PEQ, and OCQ, it also resulted in the reduction of items in four of the five measures (refer to Table 4.10; Table 4.11, Table 4.13, Table 4.16; Table 4.18). The outcome of the item and dimensionality analyses procedures therefore suggested further analysis (i.e. confirmatory factor analysis) of the proposed model of this study.

4.5. CONFIRMATORY FACTOR ANALYSIS OF MEASUREMENT MODEL

Confirmatory factor analysis (CFA) was used as the statistical analysis technique to test the proposed measurement model fit. CFA is a confirmatory technique, which is theory driven, therefore the planning of the analysis is driven by the theoretical relationships among the observed and unobserved variables (Schreiber, Stage, King, Nora, & Barlow, 2006). When a CFA was conducted, a hypothesised model was used to estimate a population covariance matrix that was compared with the observed covariance matrix. The primary objective of a CFA is to determine the ability of a predefined factor model to fit an observed set of data (DeCoster, 1998). Technically, the aim would be to minimize the difference between the estimated and observed matrices. Furthermore, the measurement model of SEM is the CFA and depicts the pattern of observed variables for those latent constructs in the hypothesised model. A major component of a CFA is the test of the reliability of the observed variables. SEM extends the possibility of relationships among latent variables and encompasses two components, namely a measurement model as well as the structural model (Schreiber et al., 2006).

4.5.1. Parameter Estimation

Once the measurement model is specified, researchers must choose the estimation method (Hair et al., 1995). The purpose of parameter estimation is to find numerical values for the freed parameters of the model that would minimize the difference between the observed and estimated sample variance/covariance matrices (Diamantopoulos & Siguaw, 2000).

LISREL offers a number of different estimation methods. Early attempts at structural equation model estimation were performed with ordinary least squares (OLS) regression, which was later supplanted by the maximum likelihood estimation (MLE) (Hair et al., 1995; Olsson, Foss, & Breivik, 2004; Olsson, Foss, Troye, & Howell, 2000). The MLE is more efficient and unbiased when the assumption of multivariate normality is met, and it is a flexible approach to parameter estimation in which the most likely parameter values to achieve the best model are found (Cortina, Chen, & Dunlap, 2001; Diamantopoulos & Siguaw, 2000). The potential sensitivity of MLE to nonnormality created the need for alternative estimation techniques such as weighted least squares (WLS), generalized least squares (GLS), and asymptotically distribution free (ADF). Although these alternative estimation techniques received some attention, the MLE continues to be the most widely used approach and has been set as the default in most SEM programs (Hair et al., 1995). The MLE has proven fairly robust to violations of the normality assumption, and has, in past research, produced reliable results under many circumstances (Olsson et al., 2004; Olsson et al., 2000). However, an appropriate estimation method to use depends on the nature of the variables to be analysed and the distributional properties of the data. Therefore, it was necessary to examine the distribution of data before applying the MLE as the preferred estimation technique. Consequently, the univariate and multivariate normality of the combined data was evaluated via PRELIS.

4.5.2. Testing the Assumptions of Multivariate Analysis

One way of determining whether data are distributed normally is to examine skewness and kurtosis indicators (Jöreskog & Sörbom, 1996). Table 4.19 and Table 4.20 show the results of the tests of univariate and multivariate normality that were performed on the data set before normalisation.

As was expected, the data was not distributed normally. Table 4.19 indicates that twelve (12) of the indicator variables failed the test of univariate normality ($p = < 0,05$). Table 4.20 indicates that the null hypothesis that the data follows a multivariate normal distribution, as required in the MLE method, also had to be rejected ($\chi^2 = 482, 869; p = < 0,05$). Therefore the data could not be assumed to follow a multivariate normal distribution.

Table 4.19: Test of Univariate Normality for Continuous Variables Before Normalisation

Variable	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
LEAD_1	-1.548	0.122	-6.976	0.000	51.056	0.000
LEAD_2	-2.974	0.003	-5.550	0.000	39.648	0.000
LEAD_3	-0.749	0.454	-7.253	0.000	53.163	0.000
LEAD_4	0.758	0.448	-12.370	0.000	153.580	0.000
EMPOW_1	-7.687	0.000	3.475	0.001	71.163	0.000
EMPOW_2	-8.227	0.000	4.807	0.000	90.794	0.000
EMPOW_3	-3.157	0.002	-3.178	0.001	20.066	0.000
EMPOW_4	-1.799	0.072	-6.097	0.000	40.415	0.000
SATIS_1	-5.344	0.000	2.491	0.013	34.764	0.000
SATIS_2	-5.728	0.000	1.564	0.118	35.262	0.000
COMIT_1	-1.999	0.046	-0.834	0.405	4.692	0.096
COMIT_2	-1.379	0.168	-0.046	0.963	1.903	0.386
QUIT_1	-0.862	0.388	-7.985	0.000	64.502	0.000
QUIT_2	-1.390	0.165	-7.256	0.000	54.580	0.000

Relative Multivariate Kurtosis = 1.191

Table 4.20: Test of Multivariate Normality for Continuous Variables Before Normalisation

Value	Skewness		Value	Kurtosis		Skewness and Kurtosis	
	Z-Score	P-Value		Z-Score	P-Value	Chi-Square	P-Value
27.491	18.864	0.000	266.854	11.270	0.000	482.869	0.000

Subsequently, an attempt was made to normalise the data using PRELIS (Table 4.21 and Table 4.22). Although the normalisation procedure succeeded in rectifying the univariate normality problem in most indicator variables, the normalised data still could not pass the test of multivariate normality. Table 4.21 shows that about six indicator variables still failed the univariate normality. Table 4.22 shows that the null hypothesis that the data follows a multivariate normal distribution once again had to be rejected ($\chi^2 = 264, 168; p = < 0,05$). As a result, the assumption that the data followed a multivariate normal distribution had to be rejected. Therefore, alternative SEM estimation techniques that are not dependent on multivariate normal data had to be considered. The best alternative statistical estimation method to use when using non-normal data is the Robust Maximum Likelihood (RML) estimation method (Mels, 2003). This parameter estimation method was then performed on the current data.

Table 4.21: Test of Univariate Normality for Continuous Variables After Normalisation

Variable	Skewness		Kurtosis		Skewness and Kurtosis	
	Z-Score	P-Value	Z-Score	P-Value	Chi-Square	P-Value
LEAD_1	-0.073	0.942	-0.655	0.512	0.435	0.805
LEAD_2	-0.275	0.783	-1.124	0.261	1.340	0.512
LEAD_3	0.092	0.927	-0.578	0.563	0.343	0.843
LEAD_4	0.452	0.651	-1.674	0.094	3.006	0.222
EMPOW_1	-3.771	0.000	-4.205	0.000	31.904	0.000
EMPOW_2	-3.595	0.000	-3.269	0.001	23.607	0.000
EMPOW_3	-1.754	0.079	-2.625	0.009	9.969	0.007
EMPOW_4	-0.761	0.447	-3.371	0.001	11.944	0.003
SATIS_1	-0.722	0.470	-1.212	0.226	1.989	0.370
SATIS_2	-1.097	0.273	-2.012	0.044	5.252	0.072
COMIT_1	-0.189	0.850	-1.013	0.311	1.061	0.588
COMIT_2	0.049	0.961	-0.767	0.443	0.590	0.744
QUIT_1	-0.703	0.482	-4.559	0.000	21.281	0.000
QUIT_2	-0.889	0.374	-5.295	0.000	28.830	0.000

Relative Multivariate Kurtosis = 1.144

Table 4.22: Test of Multivariate Normality for Continuous Variables After Normalisation

Test of Multivariate Normality for Continuous Variables							
Value	Skewness		Kurtosis			Skewness and Kurtosis	
	Z-Score	P-Value	Value	Z-Score	P-Value	Chi-Square	P-Value
21.315	13.250	0.000	256.150	9.413	0.000	264.168	0.000

4.5.3. Evaluating the Measurement Model Overall Goodness-Of-Fit (GOF)

For practical purposes, the assessment of a model's overall fit needs to be accompanied by a detailed assessment of the measurement and structural parts of the model (Diamantopoulos & Siguaw, 2000). CFA enables the researcher to evaluate a proposed measurement theory, and no valid conclusion can be reached without valid measurements (Hair, 2006; Schreiber et al., 2006). Therefore, in evaluating the measurement part of the model, the focus is on the relationships between the latent variables and their indicators or manifest variables. The aim is to determine the validity and reliability of the measures used to represent the constructs of interest (Diamantopoulos & Siguaw, 2000; Schreiber et al., 2006). The validity of the final results of the structural model is dependent on capturing and establishing the reliability of the underlying constructs.

The power of the SEM is seen most fully when multiple indicators for each latent variable are first tested through CFA to establish the conceptual soundness of latent variables used in the final structural model. Without empirical evidence that such is the case, the relationships that the researcher find significant in the structural model may be misleading (Schreiber et al., 2006). Data was imputed into PRELIS to compute a covariance matrix which was subsequently used in the LISREL analysis. The complete output of LISREL indices used in the assessment of the absolute and comparative fit of the model is presented in Table 4.23 above. An admissible final solution of parameter estimates for the measurement model was obtained after eight (8) iterations. Empirically, the model fit is evaluated with several indices that provide different information. The fit indices are intended to inform the researcher how closely the data fits the model (Dion, 2008).

Table 4.23: Goodness-of-Fit Statistics for the Measurement Model

Degrees of Freedom	=	67
Minimum Fit Function Chi-Square	=	201.47 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square	=	206.79 (P = 0.00)
Satorra-Bentler Scaled Chi-Square	=	182.97 (P = 0.00)
Chi-Square Corrected for Non-Normality	=	161.74 (P = 0.00)
Estimated Non-centrality Parameter (NCP)	=	115.97
90 Percent Confidence Interval for NCP	=	(79.52 ; 160.07)
Minimum Fit Function Value	=	0.64
Population Discrepancy Function Value (F0)	=	0.37
90 Percent Confidence Interval for F0	=	(0.25 ; 0.50)
Root Mean Square Error of Approximation (RMSEA)	=	0.074
90 Percent Confidence Interval for RMSEA	=	(0.061 ; 0.087)
P-Value for Test of Close Fit (RMSEA < 0.05)	=	0.0013
Expected Cross-Validation Index (ECVI)	=	0.82
90 Percent Confidence Interval for ECVI	=	(0.70 ; 0.96)
ECVI for Saturated Model	=	0.66
ECVI for Independence Model	=	14.22
Chi-Square for Independence Model with 91 Df	=	4481.04
Independence AIC	=	4509.04
Model AIC	=	258.97
Saturated AIC	=	210.00
Independence CAIC	=	4575.71
Model CAIC	=	439.92
Saturated CAIC	=	710.02
Normed Fit Index (NFI)	=	0.96
Non-Normed Fit Index (NNFI)	=	0.96
Parsimony Normed Fit Index (PNFI)	=	0.71
Comparative Fit Index (CFI)	=	0.97
Incremental Fit Index (IFI)	=	0.97
Relative Fit Index (RFI)	=	0.94
Critical N (CN)	=	168.76
Root Mean Square Residual (RMR)	=	0.048
Standardised RMR	=	0.054
Goodness of Fit Index (GFI)	=	0.91
Adjusted Goodness of Fit Index (AGFI)	=	0.87
Parsimony Goodness of Fit Index (PGFI)	=	0.58

The measure most frequently used is the likelihood chi-square value test statistic (χ^2). The χ^2 value is a traditional and generally recognized fit index for evaluating overall model fit in covariance structure models and provides a test of perfect fit in which the null hypothesis is that the model fits the population data perfectly (Hu & Bentler, 1999; Smith & McMillan, 2001).

The implied null hypothesis of SEM is that the observed sample and SEM estimated covariance matrices are equal, meaning that the model fits perfectly (Hair et al., 2010; Hair et al., 1995). The χ^2 value increases as differences (residuals) are found when comparing the two matrices. The chi-square therefore assesses the statistical probability that the observed sample and SEM estimated covariance matrices are actually equal in a given population, and this probability is the traditional p -value associated with parametric statistical tests (Dion, 2008). With the χ^2 goodness-of-fit test in SEM, if the p -value associated with the chi-square is smaller (statistically significant) than the critical threshold 0.05, it indicates that the two covariance matrices are statistically different and indicates problems with the fit (Hair et al., 2010). A statistically significant chi-square ($p < .05$) causes rejection of the null hypothesis, implying imperfect model fit and possible rejection of the model (Diamantopoulos & Siguaw, 2000; Jaccard & Wan, 1996). Therefore, a non-significant χ^2 statistic indicates that the model shows a good fit with the data and that the difference between the original covariance matrix and the covariance matrix that is reconstructed on the postulated model is insignificantly small (Barret, 2007; De Bruin & Bernard-Phera, 2002; Hair et al., 1995; Kelloway, 1998). Furthermore, the χ^2 is often referred to as either a 'badness of fit' (Kline, 2005) or lack of fit (Mulaik, James, Van Alstine, Bennet, Lind, & Stilwell, 1989) measure, due to the fact that a small χ^2 value corresponds to good fit and a large χ^2 to bad fit, and the zero χ^2 correspond to perfect fit (Barret, 2007; Jöreskog & Sörbom, 1993).

Table 4.23 shows a highly significant p -value ($p = 0.00$) associated with the chi-square test statistic for the combined measurement model. This suggested a significant discrepancy between the covariance matrix implied by the combined measurement model and the observed covariance matrix, thus rejecting the exact fit null hypothesis. It further caused the dilemma that just at a point where the distributional assumptions of the test statistic became tenable the statistical power of the test became extremely high (Spangenberg & Theron, 2002). It therefore becomes unlikely to obtain the desired insignificant χ^2 statistic in a large sample even when the model fits the empirical data quite well (Hu & Bentler, 1995).

However, it is generally accepted that the χ^2 test should be interpreted with caution and supplemented with other goodness of fit indices due to the limitations in its use (Bentler & Bonnet, 1980; Bollen, 1989; Bollen & Long, 1993; Jöreskog & Sörbom, 1993; Kenny & McCoach, 2003; Loehlin, 1992; McIntosh, 2006). Firstly, chi-square test assumes multivariate normality and severe deviations from normality may result in model rejections even when the model is properly specified. Secondly, because the chi-square statistic is a statistical significance test, it is sensitive to sample size which often results in the rejection of model when the large samples are used and lacks power to discriminate between good-fitting and poor-fitting models when small samples are used. In an attempt to reduce the effect of these limitations, Wheaton, Muthen, Alwin, and Summers (1977) introduced the relative/normed chi-square (χ^2/df), in which ratios between 2 and 5, and or less stringently, ratios that are smaller than 5 are regarded as indicative of good fit (Kelloway, 1998). The evaluation of fit on the basis of the normed chi-square (χ^2/df) statistic in Table 4.23 suggest that the model fits data very well ($\chi^2/df = 2,74$). However, the interpretation of the χ^2/df ratio seems problematic because no generally agreed upon guidelines seem to exist (Spangenberg & Theron, 2002; Tabachnick & Fidell, 2007). Due to the restrictiveness of the model chi-square tests, researchers have sought additional and alternative indices to assess model fit. These alternative indices have been grouped into two categories, i.e. “absolute fit indices” and “incremental fit indices”.

4.5.3.1. Absolute Fit Indices

Absolute fit indices determine how well an a priori model fits the sample data and demonstrate which proposed model has the most superior fit (Kenny & McCoach, 2003; McDonald & Ho, 2002). They employ, as part of their computation, the sample covariance matrix and the estimated population matrix as derived from the model being tested (Smith & McMillan, 2001). The tests of absolute fit are concerned with the ability of the fitted model to reproduce the observed covariance matrix (Kelloway, 1998; Spangenberg & Theron, 2002); and such indices include the root mean square error of approximation (RMSEA), goodness-of-fit index (GFI), adjusted goodness-of-fit index (AGFI), root mean square residual (RMR), and standardised root mean square residual (SRMR) (Browne & Cudeck, 1993; Hu & Bentler, 1998; Kenny & McCoach, 2003; La-Du & Tanaka, 1995; McDonald & Ho, 2002).

However, both the chi-square test (χ^2) and the relative chi-square (χ^2/df) have been added in this category (Hair et al., 2010; Hair et al., 1995).

Root Mean Square Error of Approximation (RMSEA). The RMSEA expresses the difference between the observed and estimated covariance matrices in terms of the degrees of freedom of the model (Dion, 2008; Spangenberg & Theron, 2002; Steiger, 1990). It is one of the most widely used measures that attempts to correct the tendency of the χ^2 test statistic to reject models with a large sample or a large number of observed variables (Hair et al., 2010). Thus, the RMSEA better represents how well a model fits a population, not just the sample used for estimation. The values of the RMSEA range from 0 to 0.1, with values lower than 0.01 indicating a perfect model fit (though rarely achieved), values lower than .05 a very good model fit, and values higher than 0.1 a poor or no fit (Kelloway, 1998), however what constitutes a good RMSEA value is still debatable. Although earlier research sometimes pointed to a cut-off value of .05 or .08, more recent research points to the fact that drawing an absolute cut-off for the RMSEA is inadvisable (Diamantopoulos & Siguaw, 2000; Feinian, Curran, Bollen, Kirby, & Paxton, 2008; Hair et al., 2010; MacCallum, Browne & Sugawara (1996). Therefore, the RMSEA (.074) shown in Table 4.23 suggests that a reasonably good model fit was achieved. The RMSEA's greatest strength is its ability to outline a (90%) confidence interval around its calculated value, which indicates the level of its precision (Smith & McMillan, 2001). The 90% confidence interval for the RMSEA shown in Table 4.23 (.061; .087) indicates that the fit of the measurement model could be regarded as reasonably good, since the returned values fall within the 90% confidence interval. In addition, it is not significantly different from the normative .05, and is also smaller than the upper bound value of 0.10 (Kelloway, 1998).

Root Mean Square Residual (RMR) and Standardised Root Mean Residual (SRMR). The RMR is the simplest fit index provided by LISREL, which reflects the square root of the mean squared difference between the observed and estimated covariance matrices (Dion, 2008; Kelloway, 1998). The RMR (.048) value in Table 4.23 indicates that the measurement model fits the data very well. However, the problem with interpreting the RMR is its sensitivity to the scale of measurement and the difficulty to determine what a low value actually is (Diamantopoulos & Siguaw, 2000; Kelloway, 1998).

Therefore, LISREL also provides the SRMR, which has a lower bound of 0 and upper bound of 1. Lower values (e.g. < 0.05) for SRMR are regarded as indicating a better fit to the data and higher values represent worse fits, which puts the RMR, SRMR, and RMSEA into a category of indices that are sometimes known as ‘badness-of-fit’ measures in which high values are indicative of poor fit (Diamantopoulos & Siguaw, 2000; Hair et al., 2010; Kelloway, 1998; Spangenberg & Theron, 2002;). The SRMR (.054) value in Table 4.23 also indicates a reasonably well fitting measurement model.

Goodness-of-Fit-Index (GFI) and Adjusted Goodness-of-Fit-Index (AGFI). Both the GFI and AGFI indices were introduced as alternatives to the χ^2 statistics and its limitations (Hu & Bentler, 1995; Smith & McMillan, 2001). They both essentially compare the ability of a model to reproduce the variance/covariance matrix to the ability of no model at all to do so (Smith & McMillan, 2001). The GFI was introduced as an early attempt to produce a fit statistic that was less sensitive to sample size (Hair et al., 2010). Its measures are based on a ratio of the sum of the squared discrepancies to the observed variances, and the GFI values range from 0 to 1, with higher values indicating a better fit (Kelloway, 1998). Therefore the GFI (.91) value in Table 4.23 indicates that the measurement model fits the data reasonably well. Both the GFI and AGFI provided the solution to the χ^2 test statistics and its limitations by being more specific indices of fit than the χ^2 statistics, and that they take degrees of freedom into account and eliminate some of the problems inherent in the χ^2 test statistic alone (Smith & McMillan, 2001). The AGFI takes into account differing degrees of model complexity, by adjusting the GFI by a ratio of the degrees of freedom used in a model to the degrees of freedom available (Tanaka & Huba, 1985). Similar to the GFI, the AGFI also ranges from 0 to 1 with values 0.9 or higher indicating a good fit to the data (Kelloway, 1998; Smith & McMillan, 2001), however, AGFI values are typically lower than GFI values in proportion to model complexity (Hair et al., 2010). Therefore, the AGFI (.87) value in Table 4.23 indicates reasonable but not good model fit.

4.5.3.2. Incremental Fit Indices

Incremental fit indices, also known as comparative or relative fit indices, are a group of indices that do not use the chi-square in its raw form but compare the chi-square value to a baseline model (Hooper, Coughlan, & Mullen, 2008). For these models the null hypothesis is that all variables are uncorrelated (McDonald & Ho, 2002). Tests of comparative fit indicate the success with which the model under scrutiny explains the observed covariance/correlation matrix compared to some baseline model (Spangenberg & Theron, 2002; Kelloway, 1998). According to Hu and Bentler (1998), there are three types of incremental indices. A type-1 incremental fit index compares the fit function of a baseline model to the specified model. Type-2 incremental fit indexes impose additional constraints, including the assumption that the fit function of the estimated model follows a chi-square distribution with the degrees of freedom of the estimated model. Type-3 fit indexes assume a non-central chi-square distribution. Incremental fit indices include the normed fit index (NFI), non-normed fit index (NNFI), and comparative fit index (CFI) (Hu & Bentler, 1998; McDonald & Ho, 2002; Miles & Shevlin, 2007). Similar to the absolute fit indices, incremental fit indices have no absolute guidelines for determining cut-off values, however early research suggest values of .90 or greater for acceptable model fit (Bentler, 1992; Bentler, 1990; Bentler & Bonett, 1980; Bollen, 1989; Browne & Cudeck, 1992; Hair et al., 1995; Hu & Bentler, 1999; Shelvin & Miles, 1998). Recent research suggests a more stringent value of .95 or higher to be the acceptable model fit (Hair et al., 2010; Yu, Chiu, Lin, Wang, & Chen, 2007).

Normed Fit Index (NFI) and Non-Normed Fit Index (NNFI). The NFI is a ratio of the difference in the χ^2 value for the fitted model and a null model divided by the χ^2 value for the null model. This index assesses model fit by comparing the tested model with a more restricted null model in which all observed variables are assumed to be uncorrelated (Dion, 2008; Smith & McMillan, 2001). The NFI values range from 0 to 1, and a model with perfect fit would produce a NFI value of 1 (Hair et al., 2010). The NFI (.96) value in Table 4.23 indicates a well fitting model. However, given the shortcomings of the NFI, Bentler and Bonnet (1980) introduced the NNFI as an alternative.

Similar to the NFI, the NNFI is also used in an absolute sense, where 1 is indicative of a perfect fit and 0 a complete lack of fit (Bentler & Bonnet, 1980). The NNFI involves the χ^2/df ratio rather than just the simple χ^2 value found in other indices, and unlike the NFI, the NNFI values can exceed the 0 to 1 range (Smith & McMillan, 2001). Furthermore, both the NFI and NNFI are valuable because they are less affected by problems inherent in the use of the absolute fit indices and χ^2 analyses (Bentler, 1993; Hu & Bentler, 1998). As a result it was important to also look at the NNFI in the assessment of the measurement model fit. The NNFI value (.96) in Table 4.23 also indicates that the measurement model fits the data very well.

Comparative Fit Index (CFI). Due to the arguments that found the NFI to be an underestimate when small samples are used, the CFI was created as another alternative to the NFI (Bentler, 1993). The CFI is therefore seen as an incremental fit index that is an improved version of the NFI (Bentler, 1990; Bentler & Bonnet, 1980; Hu & Bentler, 1999). The CFI eliminates the small sample bias found in the NFI, has a smaller sampling variance than the NNFI, and remains normed in the 0 to 1 range (Bentler, 1990; Palomares, Ferreras, Travaini, & Delibes, 1998). It is heralded as a better test of fit than the NFI/NNFI because it also does not exceed the 0 to 1 range (Smith & McMillan, 2001). Furthermore, CFI values that are .90 or higher are indicative of better model fit (Hair et al., 2010; Smith, Davy, & Rosenberg, 2010). Therefore, the CFI (.97) value in Table 4.23 indicates that a reasonably good model fit was achieved.

4.5.3.3. Using Multiple Indices

It is not realistic to include every index found in the LISREL program's output when evaluating model fit, as it will burden both the reader and the reviewer (Hooper et al., 2008). However, when assessing the goodness-of-fit of a model, it was imperative to evaluate multiple fit indices from both categories, in order to avoid making inaccurate assumptions of a model's fit to the data (Smith & McMillan, 2001). Given the ever-growing nature of SEM analyses, it is likely that new methods of assessing model fit will continue to be explored and developed.

Consequently, given the plethora of fit indices, it sometimes becomes a temptation for researchers to choose those fit indices that indicate the best fit, and going for what is most frequently used is not necessarily a good practice as some of these statistics are often relied upon purely for historical reasons rather than for their sophistication (Hair et al., 2010). Therefore, in this study, a good place to start when evaluating structural equation models was to include indices such as both the chi-square tests, GFI and AGFI, NFI and NNFI, CFI, RMSEA, RMR, and the SRMR (Hooper et al., 2008; Smith & McMillan, 2001).

4.5.4. Evaluating the Measurement Model Residuals

Residuals refer to the differences between corresponding cells in the observed and fitted covariance/correlation matrices (Jöreskog & Sörbom, 1993). Residuals, the standardised residuals in particular, provide diagnostic information on sources of lack of fit in structural equation models (Dion, 2008; Jöreskog & Sörbom, 1993; Kelloway, 1998). The standardised residual refer to the residual that is divided by its standard error (Jöreskog & Sörbom, 1993). Standardised residuals can be interpreted as z-scores (i.e. number of standard deviations above or below the mean). Standardised residuals are considered to be large if they exceed +2.58 or -2.58 (Diamantopoulos & Siguaw, 2000). The standardised residuals of obtained on the fitted measurement model are depicted in Table 4.24 below.

Table 4.24: Standardised Residuals of the Measurement Model

	LEAD_1	LEAD_2	LEAD_3	LEAD_4	EMPOW_1	EMPOW_2
LEAD_1	- -					
LEAD_2	- -	- -				
LEAD_3	- -	- -	- -			
LEAD_4	- -	- -	- -	- -		
EMPOW_1	-3.19	-1.30	-1.17	-0.94	- -	
EMPOW_2	-2.48	-1.63	-1.88	-1.28	1.88	- -
EMPOW_3	-0.17	0.24	1.81	1.50	-4.16	4.59
EMPOW_4	2.61	3.17	4.95	4.53	- -	-7.50
SATIS_1	-0.64	-0.02	0.78	-0.05	3.03	-1.00
SATIS_2	0.14	0.70	0.00	0.03	5.38	-1.66
COMMIT_1	0.17	0.28	0.80	0.16	1.44	-2.27
COMMIT_2	-0.79	-1.15	0.05	0.03	-1.10	-2.89
QUIT_1	-0.14	-0.57	-0.18	1.12	-0.10	-2.01
QUIT_2	-1.18	-0.79	0.81	1.00	-0.06	-1.77
	Standardised Residuals					
	EMPOW_3	EMPOW_4	SATIS_1	SATIS_2	COMMIT_1	COMMIT_2
EMPOW_3	- -					
EMPOW_4	19.83	- -				
SATIS_1	-2.66	-0.59	- -			
SATIS_2	-3.03	0.15	- -	- -		
COMMIT_1	-0.44	2.48	0.94	0.05	- -	
COMMIT_2	-0.81	1.85	-1.26	-1.64	- -	- -
QUIT_1	-0.36	1.85	0.40	-0.61	- -	4.22
QUIT_2	-0.95	2.89	0.61	-1.38	- -	- -
	Standardised Residuals					
	QUIT_1	QUIT_2				
QUIT_1	- -					
QUIT_2	- -	- -				

The specific covariance terms that were poorly estimated as judged by Diamantopoulos and Siguaw's (2000) criterion are listed below in Table 4.25. A large positive residual indicates that the model underestimates the covariance between two variables, whereas a large negative residual indicates that the model overestimates the covariance between variables. Underestimation indicates that the model needs to be modified by adding additional explanatory paths, which could better account for the covariance between the variables. On the other hand, if the model overestimates the covariance between the variables, the model should be modified by trimming paths that are associated with the particular covariance term.

The ten large positive residuals ($> 2,58$) and the six large negative residuals ($< -2,58$) in Table 4.25 indicate sixteen observed covariance terms in the observed sample covariance matrix (out of about 90 covariance terms) being poorly estimated by the derived model parameter estimates. Therefore, considering the total of covariance terms, sixteen is a small number, and the parameter estimates of the measurement model still reported reasonably satisfactory results that were suitable for inclusion in the structural model. As a result, it seemed that the theoretical model fitted the data acceptably well and therefore could be used to test the hypothesised structural relations between leader behaviour, employees' perceived psychological empowerment, work satisfaction, commitment, and intention to quit.

Table 4.25: Summary Statistics for Measurement Model Standardised Residuals

Smallest Standardised Residual =	-7.50
Median Standardised Residual =	0.00
Largest Standardised Residual =	19.83
Largest Negative Standardised Residuals	
Residual for EMPOW_1 and LEAD_1	-3.19
Residual for EMPOW_3 and EMPOW_1	-4.16
Residual for EMPOW_4 and EMPOW_2	-7.50
Residual for SATIS_1 and EMPOW_3	-2.66
Residual for SATIS_2 and EMPOW_3	-3.03
Residual for COMMIT_2 and EMPOW_2	-2.89
Largest Positive Standardised Residuals	
Residual for EMPOW_3 and EMPOW_2	4.59
Residual for EMPOW_4 and LEAD_1	2.61
Residual for EMPOW_4 and LEAD_2	3.17
Residual for EMPOW_4 and LEAD_3	4.95
Residual for EMPOW_4 and LEAD_4	4.53
Residual for EMPOW_4 and EMPOW_3	19.83
Residual for SATIS_1 and EMPOW_1	3.03
Residual for SATIS_2 and EMPOW_1	5.38
Residual for QUIT_1 and COMMIT_2	4.22
Residual for QUIT_2 and EMPOW_4	2.89

All the standardised residuals can be examined collectively in a stem-and-leaf plot as well as a Q-plot (Jöreskog & Sörbom, 1993). A good model fit would be characterised by a stem-and-leaf plot in which the residuals are distributed approximately symmetrically under- or over-estimated. From the stem-and-leaf plot indicated in Figure 4.1, the distribution of standardised residuals appears to be positively skewed, which seems to be partly caused by the problem of outliers found on the current data. This type of skeweness suggests a stronger tendency for the model to overestimate.

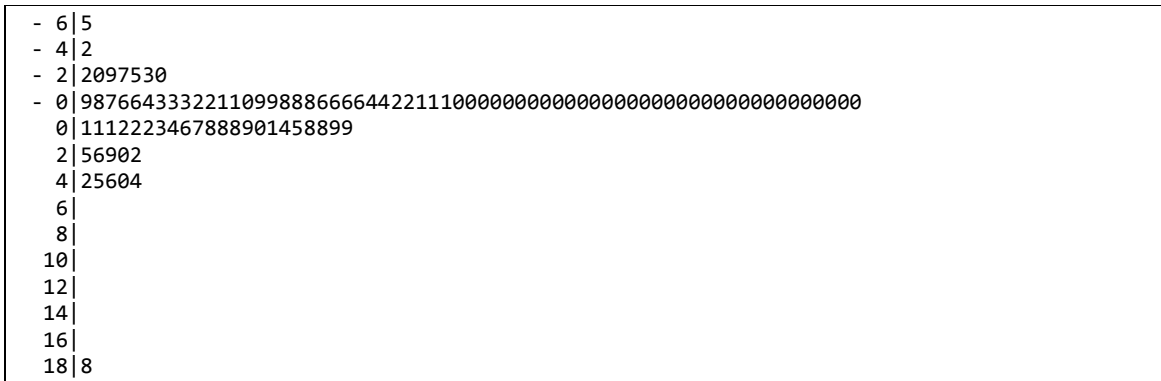


Figure 4.1: Stem-and-Leaf Plot of Standardised Residuals

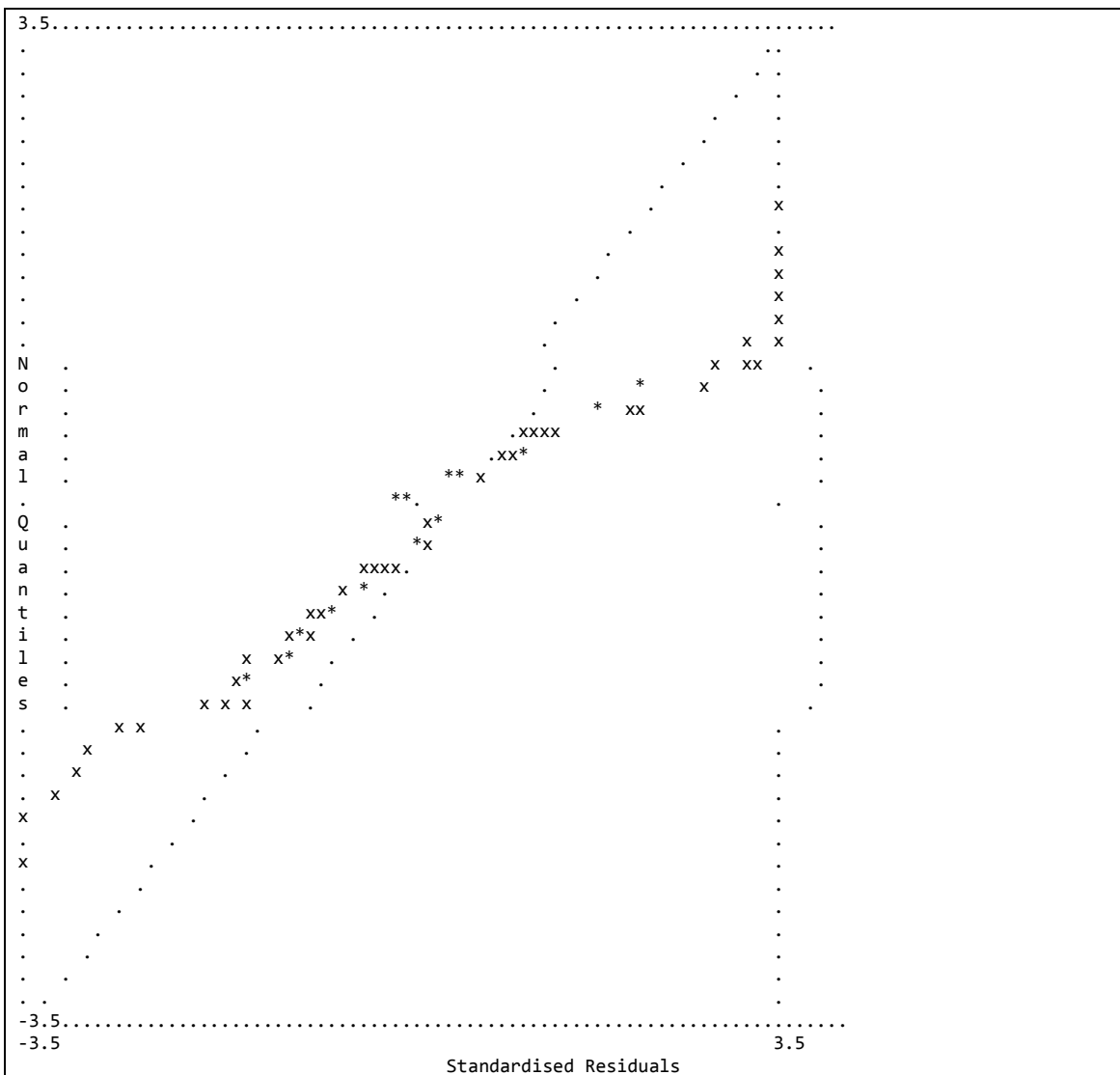


Figure 4.2: Q-plot of Measurement Model Standardised Residuals

The Q-plot of the current study is depicted in Figure 4.2. When interpreting the Q-plot, it is also imperative to determine whether the data points fall on the 45-degree reference line or not. If the data points fall on the 45-degree reference line, it indicates a good model fit (Jöreskog & Sörbom, 1993). If the data points divert from the 45-degree reference line, it indicates that the model fit is less satisfactory. Therefore, the data points of the Q-plot shown in Figure 4.2 indicate a less than perfect model fit because the standardised residuals for all pairs of observed variables tend to deviate from the 45-degree reference line in both the lower and upper region of the X-axis. As a result of the residuals and appearance of the Q-plot, it is therefore important to also assess the model modification indices.

4.5.5. Evaluating the Measurement Model Modification Indices

Model modification indices are aimed at answering the question whether any of the currently fixed parameters, when freed in the model would significantly improve the parsimonious fit of the model. Modification indices (MI) indicate the extent to which the χ^2 test statistic will decrease if a currently fixed parameter is freed and the model re-estimated (Jöreskog & Sörbom, 1993; Schreiber et al., 2006). Large modification index values (> 6,6349) are indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0,01$) (Diamantopoulos & Siguaaw, 2000; Jöreskog & Sörbom, 1993). However, Kelloway (1998) argues that parameters with high MI values should only be freed if it makes substantive sense to do so.

Table 4.26: Lambda-X Modification Indices for Measurement Model

	LEAD_BEH	EMPWRMNT	JOB_SAT	ORG_COMT	QUIT_INT
	-----	-----	-----	-----	-----
LEAD_1	- -	5.58	2.51	0.55	0.19
LEAD_2	- -	0.08	0.10	0.24	0.94
LEAD_3	- -	2.39	1.43	0.96	0.24
LEAD_4	- -	1.47	0.23	0.29	1.54
EMPOW_1	4.57	- -	14.83	0.56	0.00
EMPOW_2	5.39	- -	2.53	11.16	5.40
EMPOW_3	0.61	- -	9.55	1.06	1.17
EMPOW_4	13.90	- -	0.03	11.30	10.98
SATIS_1	0.18	0.63	- -	21.06	3.84
SATIS_2	0.11	0.84	- -	1.08	1.78
COMMIT_1	0.92	6.19	9.21	- -	5.23
COMMIT_2	0.71	6.31	9.90	- -	9.97
QUIT_1	0.01	0.03	0.00	0.04	- -
QUIT_2	0.01	0.03	0.00	0.02	- -

In the process of model evaluation and modification,

“...if the χ^2 is large relative to the degrees of freedom, the researcher examines the modification indices and relaxes the parameter with the largest modification index if this parameter can be interpreted substantively. If it does not make sense to relax the parameter with the largest modification index, the researcher considers the second largest modification index, etc. if the signs of certain parameters are specified a priori, positive or negative, the expected parameter changes associated with the modification indices for these parameters can be used to exclude models with parameters having the wrong sign” (Jöreskog & Sörbom, 1993, p. 127).

As a result, the evaluation of modification indices in Table 4.26 indicates that the Empow_1 (Meaning) and Empow_3 (Self-determination) measures which are both indicator variables of Psychological Empowerment also load on Job Satisfaction. The Empow_2 (Competence) measure, which is an indicator variable of Psychological Empowerment, also seems to load on Organisational Commitment. The Empow_4 (Impact) measure which is an indicator variable of Psychological Empowerment also load on Leader Behaviour, Organisational Commitment, and Quit Intention. Satis_1 which is an indicator variable of Job Satisfaction also load on Organisational Commitment. Commit_1 (Affective Commitment), which is an indicator variable of Organisational Commitment also seems to load on Job Satisfaction. Finally, Commit_2 (Normative Commitment) which is an indicator variable of Organisational Commitment also load on both Job Satisfaction and Quit Intention. These modification indices suggest that ten additional paths would improve the fit of the measurement model. This possibility was not ventured into because an acceptable fit was already obtained, and the possible improvement was not so significant to justify the modification of the current measurement model (Kelloway, 1998). However, modification of this measurement model based on these indices could be considered for future cross-validation of the model.

4.5.6. Interpretation of the Measurement Model

Through the evaluation of the magnitude and the significance of the slope of the regression of the observed variables on their respective latent variables, an indication of the validity of measures is obtained. If the measure is designed to provide a valid reflection of a specific latent variable, the slope of the regression in the fitted measurement model has to be substantial and significant. The regression coefficients/indicator loadings of the manifest variables are significant ($p < 0,05$) if the t-values, as indicated in the matrices, exceed 1,96 in absolute terms (Diamantopoulos & Siguaaw, 2000). Therefore, significant indicator loadings (t-values in excess of 1.96) provide validity evidence in favour of the indicators used to represent the constructs of interest.

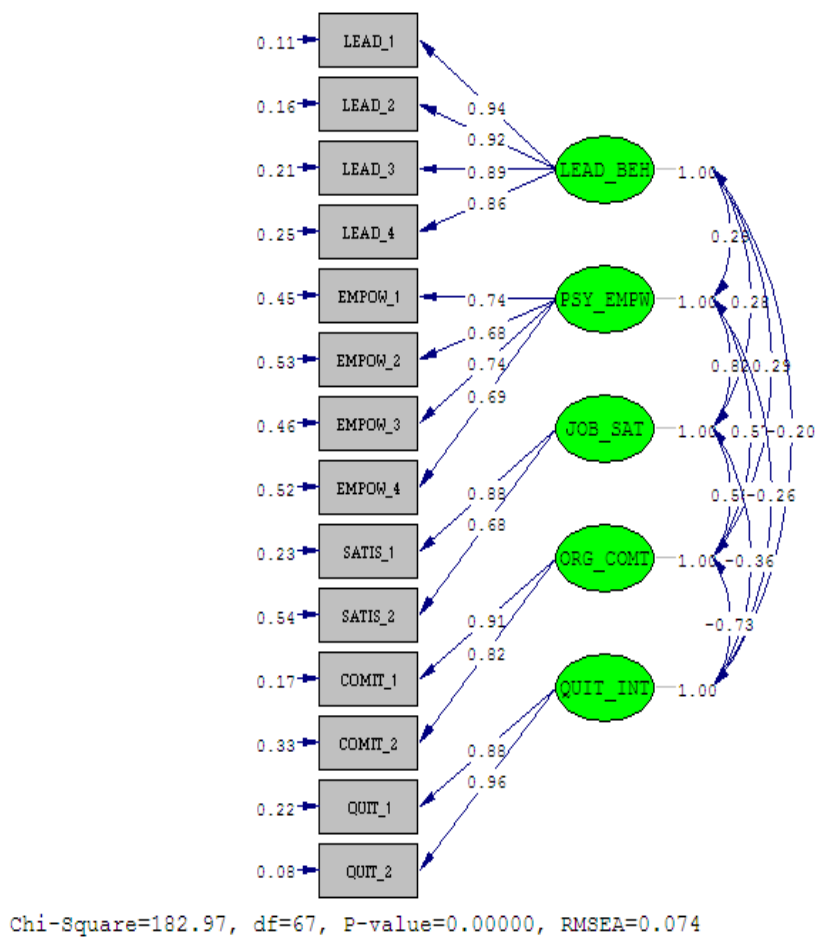


Figure 4.3: Completely Standardised Solution of the Measurement Model

The parameters of interests are the unstandardised loadings in the LAMBDA-X and LAMBDA-Y matrices. In Table 4.27 below, the unstandardised LAMBDA-X matrices that contain the indicator loadings are presented.

Table 4.27: Unstandardised Lambda-X Matrix

	LEAD_BEH	EMPWRMNT	JOB_SAT	ORG_COMT	QUIT_INT
LEAD_1	1.25 (0.05) 23.65	- -	- -	- -	- -
LEAD_2	1.27 (0.06) 22.99	- -	- -	- -	- -
LEAD_3	1.17 (0.05) 21.86	- -	- -	- -	- -
LEAD_4	1.29 (0.06) 22.52	- -	- -	- -	- -
EMPOW_1	- -	0.58 (0.04) 15.38	- -	- -	- -
EMPOW_2	- -	0.40 (0.03) 12.99	- -	- -	- -
EMPOW_3	- -	0.54 (0.04) 14.41	- -	- -	- -
EMPOW_4	- -	0.63 (0.04) 15.22	- -	- -	- -
SATIS_1	- -	- -	0.57 (0.04) 15.77	- -	- -
SATIS_2	- -	- -	0.51 (0.04) 13.07	- -	- -
COMMIT_1	- -	- -	- -	0.65 (0.03) 20.61	- -
COMMIT_2	- -	- -	- -	0.56 (0.03) 16.30	- -
QUIT_1	- -	- -	- -	- -	0.83 (0.04) 21.96
QUIT_2	- -	- -	- -	- -	0.91 (0.04) 26.00

In the current model, all the indicator loadings indicated in the LAMBDA-X matrix, are significant, with t-values well in excess of 1,96 in absolute terms. However, there could be a problem with relying on unstandardised loadings and their associated t-values. It might be hard to compare the validity of different indicators measuring a particular construct. This problem emanates from the fact that the same construct may be measured on very different scales; if this is the case, direct comparisons of the magnitudes of the loadings would be inappropriate (Diamantopoulos & Siguaw, 2000). Furthermore, since each latent variable has to be assigned a scale by fixing the loading of one of its indicators to unity, the loadings of the other indicators for the latent variable are only interpretable relative to the unit of the reference indicator. Therefore, if a different indicator is used as a reference variable, the magnitudes of loadings will change. As a result Diamantopoulos and Siguaw (2000) recommend that the magnitudes of the standardised loadings should also be investigated by evaluating the *Completely Standardised Solution* (Table 4.28), in which both latent and manifest variables have been standardised. The values indicated in Table 4.28 could be interpreted as the regression slopes of the regression of standardised indicator variables on the standardised latent variables. The completely standardised factor loadings therefore indicate the average expressed in standard deviation units in the indicator variable associated with one standard deviation change in the latent variable. Interpreted in this way, the loadings of the second (Empow_2) and fourth (Empow_4) indicator variables on the Psychological Empowerment latent variable, as well as the second (Satis_2) indicator variable on the Job Satisfaction latent variable could possibly be regarded as somewhat problematic. The overall graphical representation of the tested measurement model is shown in Figure 4.3.

Table 4.28: Completely Standardised Lambda-X Matrix

	LEAD_BEH	EMPWRMNT	JOB_SAT	ORG_COMT	QUIT_INT
LEAD_1	0.94	--	--	--	--
LEAD_2	0.92	--	--	--	--
LEAD_3	0.89	--	--	--	--
LEAD_4	0.86	--	--	--	--
EMPOW_1	--	0.74	--	--	--
EMPOW_2	--	0.68	--	--	--
EMPOW_3	--	0.74	--	--	--
EMPOW_4	--	0.69	--	--	--
SATIS_1	--	--	0.88	--	--
SATIS_2	--	--	0.68	--	--
COMMIT_1	--	--	--	0.91	--
COMMIT_2	--	--	--	0.82	--
QUIT_1	--	--	--	--	0.88
QUIT_2	--	--	--	--	0.96

The squared multiple correlations (R^2) of all the indicator variables shown in Table 4.29 indicate the proportion of variance in an indicator that is explained by its underlying latent variable. A high R^2 value indicates that variance in the indicator in question to a large degree reflects variance in the latent variable to which it has been linked. The rest of the variance, not explained by the latent variable, can be ascribed to systematic and random measurement error (Diamantopoulos & Sigauw, 2000).

Table 4.29: Squared Multiple Correlations for X – Variables

LEAD_1	LEAD_2	LEAD_3	LEAD_4	EMPOW_1	EMPOW_2
-----	-----	-----	-----	-----	-----
0.89	0.84	0.79	0.75	0.55	0.47
Squared Multiple Correlations for X - Variables					
EMPOW_3	EMPOW_4	SATIS_1	SATIS_2	COMMIT_1	COMMIT_2
-----	-----	-----	-----	-----	-----
0.54	0.48	0.77	0.46	0.83	0.67
Squared Multiple Correlations for X - Variables					
QUIT_1	QUIT_2				
-----	-----				
0.78	0.92				

4.6. EVALUATING STRUCTURAL MODEL OVERALL GOODNESS-OF-FIT (GOF)

In the assessing the structural part of the model, the focus is on the substantive relationships of interest (i.e. the linkages between the various endogenous and exogenous variables). The aim is to determine whether the theoretical relationships specified at the conceptualisation stage are indeed supported by data. An admissible final solution of parameter estimates for the tested structural model was obtained after thirteen (13) iterations. Figure 4.4 (below) presents the results of the hypothesised relationship relationships between the latent variables (exogenous and endogenous) in the form of a completely standardised solution of the structural model.

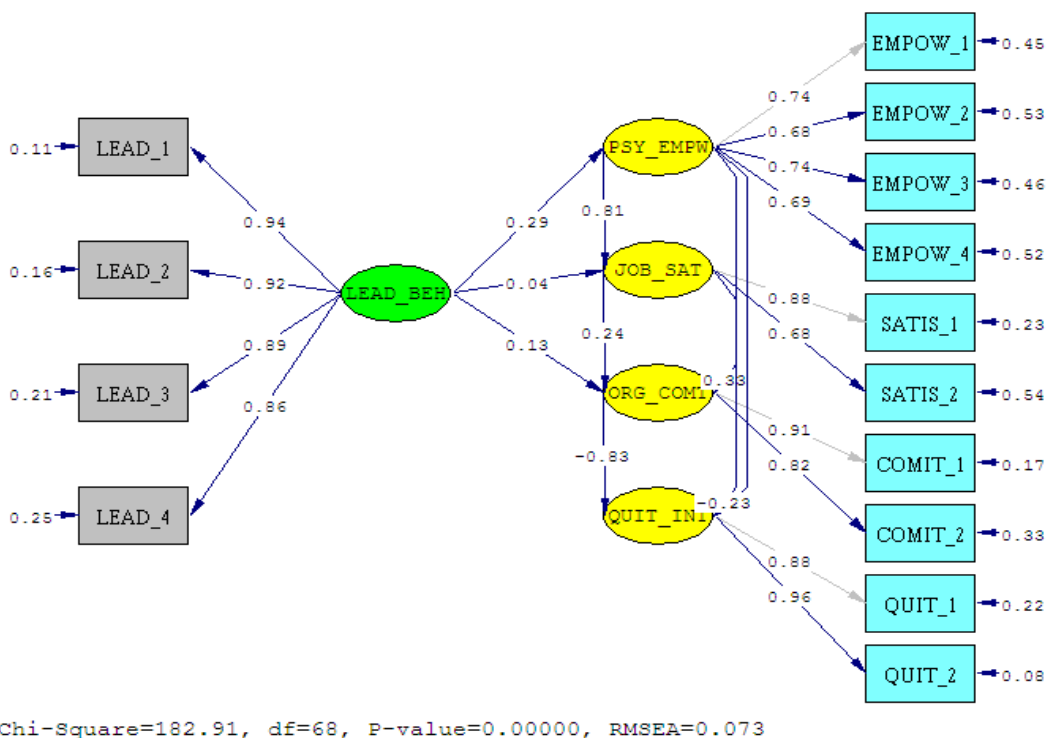


Figure 4.4: Completely Standardised Solution of the Structural Model

Table 4.30 (below) presents the full spectrum of fit indices provided by LISREL to assess the absolute fit of the structural model. The reported model fit statistics in Table 4.30 were evaluated by means of the minimum acceptable criteria and norms for absolute fit indices, incremental fit indices (same as the measurement model), as well as the parsimonious fit indices in order to establish the structural model's validity. For detailed discussion on the criteria used for the model's χ^2 test statistics, absolute fit indices and incremental fit indices, refer to paragraph 4.5.3. All the fit indices of interest in the evaluation of model fit in the current study are highlighted (Table 4.30). The most frequently used measure for evaluating model fit is the likelihood ratio χ^2 test statistic. It tests the null hypothesis that the population covariance matrix is equal to the reproduced covariance matrix implied by the model, which signifies exact model fit (Tabachnick & Fidell, 1989). A non-significant p-value associated with χ^2 test statistic would indicate good model fit in that the model could reproduce the observed covariance matrix (Bollen & Long, 1993; Kelloway, 1998). Table 4.30 shows that the p-value ($p = 0.00$) associated with the χ^2 test statistic for the combined structural model was highly significant.

Consequently, the highly significant χ^2 test statistic obtained in this case implied that the null hypothesis $H_{01a}: \Sigma = \Sigma (\Theta)$ of exact fit had to be rejected in favour of the alternative hypothesis for exact model fit, $H_{a1a}: \Sigma \neq \Sigma (\Theta)$. However, due to the shortcomings of the χ^2 test statistic as discussed earlier, the expression of χ^2 in terms of the degrees of freedom (χ^2/df) had to be considered. The reported χ^2/df value (2.69) falls within the generally accepted norm range of between 2 and 5, therefore the evaluation of fit on the basis of χ^2/df for the structural model indicates that the model fits the data very well (Hair et al., 2006). For a more in-depth discussion on the interpretation of this ratio, refer to paragraph 4.5.3.

Table 4.30: Goodness-of-Fit Statistics for the Structural Model

Degrees of Freedom	=	68
Minimum Fit Function Chi-Square	=	201.57 (P = 0.00)
Normal Theory Weighted Least Squares Chi-Square	=	207.05 (P = 0.00)
Satorra-Bentler Scaled Chi-Square	=	182.91 (P = 0.00)
Chi-Square Corrected for Non-Normality	=	161.73 (P = 0.00)
Estimated Non-centrality Parameter (NCP)	=	114.91
90 Percent Confidence Interval for NCP	=	(78.54 ; 158.95)
Minimum Fit Function Value	=	0.64
Population Discrepancy Function Value (F0)	=	0.36
90 Percent Confidence Interval for F0	=	(0.25 ; 0.50)
Root Mean Square Error of Approximation (RMSEA)	=	0.073
90 Percent Confidence Interval for RMSEA	=	(0.060 ; 0.086)
P-Value for Test of Close Fit (RMSEA < 0.05)	=	0.0018
Expected Cross-Validation Index (ECVI)	=	0.81
90 Percent Confidence Interval for ECVI	=	(0.70 ; 0.95)
ECVI for Saturated Model	=	0.66
ECVI for Independence Model	=	14.22
Chi-Square for Independence Model with 91 Degrees of Freedom	=	4481.04
Independence AIC	=	4509.04
Model AIC	=	256.91
Saturated AIC	=	210.00
Independence CAIC	=	4575.71
Model CAIC	=	433.11
Saturated CAIC	=	710.02
Normed Fit Index (NFI)	=	0.96
Non-Normed Fit Index (NNFI)	=	0.96
Parsimony Normed Fit Index (PNFI)	=	0.72
Comparative Fit Index (CFI)	=	0.97
Incremental Fit Index (IFI)	=	0.97
Relative Fit Index (RFI)	=	0.95
Critical N (CN)	=	170.89
Root Mean Square Residual (RMR)	=	0.048
Standardised RMR	=	0.054
Goodness of Fit Index (GFI)	=	0.91
Adjusted Goodness of Fit Index (AGFI)	=	0.87
Parsimony Goodness of Fit Index (PGFI)	=	0.59

The RMSEA value of 0.073 indicates an acceptable model fit. RMSEA values between 0.05 and under 0.08 indicate reasonable model fit; values below 0.05 indicate good fit and values smaller than 0.01 indicate exceptional fit (Diamantopoulos & Siguaw, 2000; Hair et al., 2010; Hair et al., 2006). The 90% confidence interval for the RMSEA shown in Table 4.30 (0.060; 0.086) also indicates a reasonable model fit. Furthermore, the test of significance for the obtained RMSEA value was performed by LISREL by testing:

Hypothesis 1: H_{01b} : $RMSEA \leq 0.05$ against H_{a1b} : $RMSEA > 0.05$.

If the p-value for the test of close fit is greater than 0.05, the null hypothesis is not rejected, and if the p-value is smaller than 0.05, the H_{a1b} : $RMSEA > 0.05$ is rejected in favour of the H_{01b} : $RMSEA \leq 0.05$. Table 4.30 indicates that the p-value for the test of close fit (0.0018) is smaller than 0.05 and therefore the null hypothesis of close fit (H_{01b} : $RMSEA \leq 0.05$) is not rejected. The RMR (0.048) and the SRMR (0.054) in Table 4.30 demonstrate that the model seemed to fit the data very well. Values that are less than 0.05 on the RMR and SRMR indices are regarded as indicative of acceptable fit (Diamantopoulos & Siguaw, 2000; Kelloway, 1998). The goodness-of-fit (GFI) index and the adjusted-GFI (AGFI) shown in Table 4.30 both indicate acceptable model fit. Values exceeding 0.9 indicates well fitting model to the data (Jöreskog & Sörbom, 1993; Kelloway, 1998). Similarly, the NFI (0.96) and the NNFI (0.96) values, as well as the CFI (0.97) value also indicate that an acceptable model fit was achieved. When model fit is assessed in terms of the NFI, NNFI, and CFI, values of 0.95 or greater are indicative of good model fit (Hair et al., 2010).

Furthermore, the values of the model's Aiken Information Criterion ($AIC = 256.91$), as well as the Expected Cross Validation Index ($ECVI = 0.81$) shown in Table 4.30 suggest that the fitted structural model provides a more parsimonious fit than the independent/null models respectively, i.e. Independence AIC ($I-AIC = 4509.04$) and ECVI for independence model (Independence $ECVI = 14.22$). Both these values (AIC and ECVI) are clearly smaller than the values obtained for the independence models, and both are more closely resembling the values of the saturated models respectively. The ECVI expresses the difference between the reproduced sample covariance matrix derived from fitting the model on the present sample and the expected covariance matrix that would be obtained in an independent sample of the same size from the same population (Diamantopoulos & Siguaw, 2000).

Therefore the model with smallest ECVI value or at least more closely resembling the ECVI value associated with saturated model has a better chance of being replicated in a cross-validation sample than the fitted model (Diamantopoulos & Siguaw, 2000; Kelloway, 1998). Consequently, since the model ECVI (ECVI = 0.81) in Table 4.30 was smaller than the value obtained for the independence model (Independence - ECVI = 14.22) and also the closest to the ECVI value associated with the saturated model (Saturated – ECVI = 0.66), it seemed to have a better chance of being replicated in a cross-validation sample than the fitted model.

Similarly, the Aiken Information Criterion value (AIC = 256.91) shown in Table 4.30 also suggests that the fitted structural model provides a more parsimonious fit than the independence model (independence-AIC = 4509.04). The AIC value of the fitted structural model is smaller than the value obtained for the Independence-AIC, and is the closest to the Saturated-AIC value (Saturated–AIC = 210.00). The value of the fitted structural model's consistent-AIC (CAIC = 433.11) also suggests that the fitted model provides a more parsimonious fit than both the independent model (Independence-CAIC = 4575.71) and the saturated model (Saturated-CAIC = 710.02). Smaller values in these indices indicate a more parsimonious model (Kelloway, 1998). Consequently, after assessing and interpreting all the fit indices, integrating the results obtained on the full spectrum of fit statistics presented in Table 4.30 seems to suggest that an acceptable model fit that clearly outperforms the independence model was achieved.

However, to ensure thorough assessment of fit on the structural model, it was also necessary to investigate the standardised residuals and modification indices to determine the extent to which the model was successful in explaining the observed covariances amongst the variables (Jöreskog & Sörbom, 1993).

4.6.1. Evaluating the Structural Model Residuals

Residuals refer to the differences between corresponding cells in the observed and fitted covariance/correlation matrices (Jöreskog & Sörbom, 1993). Residuals, the standardised residuals in particular, provide diagnostic information on sources of lack of fit in structural equation models (Jöreskog & Sörbom, 1993; Kelloway, 1998).

The standardised residual refer to the residual that is divided by its standard error (Jöreskog & Sörbom, 1993). Standardised residuals can be interpreted as z-scores (i.e. number of standard deviations above or below the mean). Standardised residuals are considered to be large if they exceed +2.58 or -2.58 (Diamantopoulos & Siguaaw, 2000). For a detailed discussion and explanation of the meaning of large positive and negative residuals as well as model underestimation and or overestimation, refer to paragraph 4.5.4. The standardised residuals resulting from the covariance estimates derived from the estimated comprehensive model parameters are depicted in Table 4.31 below and summarized in Table 4.32. The (standardised residuals) values that are greater than +2.58 and or -2.58 in both Table 4.31 and Table 4.32 are highlighted.

Table 4.31: Structural Model Standardised Residuals

	EMPOW_1	EMPOW_2	EMPOW_3	EMPOW_4	SATIS_1	SATIS_2
	-----	-----	-----	-----	-----	-----
EMPOW_1	- -					
EMPOW_2	1.86	- -				
EMPOW_3	-4.18	4.59	- -			
EMPOW_4	- -	-7.47	18.89	- -		
SATIS_1	3.03	-1.01	-2.65	-0.57	- -	
SATIS_2	5.37	-1.67	-3.03	0.15	- -	- -
COMIT_1	1.44	-2.27	-0.43	2.49	0.95	0.05
COMIT_2	-1.11	-2.90	-0.81	1.85	-1.25	-1.64
QUIT_1	0.11	2.02	0.37	-1.85	-0.39	0.62
QUIT_2	0.07	1.78	0.95	-2.89	-0.61	1.38
LEAD_1	-3.10	-2.43	-0.13	2.63	-0.67	0.12
LEAD_2	-1.23	-1.58	0.28	3.19	-0.05	0.68
LEAD_3	-1.12	-1.84	1.84	4.95	0.75	-0.02
LEAD_4	-0.91	-1.25	1.52	4.54	-0.07	0.02
	Standardized Residuals					
	COMIT_1	COMIT_2	QUIT_1	QUIT_2	LEAD_1	LEAD_2
	-----	-----	-----	-----	-----	-----
COMIT_1	- -					
COMIT_2	- -	- -				
QUIT_1	- -	-4.13	- -			
QUIT_2	- -	- -	- -	- -		
LEAD_1	0.04	-0.84	-0.12	-0.09	- -	
LEAD_2	0.19	-1.19	0.27	0.22	- -	- -
LEAD_3	0.72	0.00	-0.06	-0.73	- -	- -
LEAD_4	0.10	-0.02	-1.11	-0.96	- -	- -
	Standardized Residuals					
	LEAD_3	LEAD_4				
	-----	-----				
LEAD_3	- -					
LEAD_4	- -	- -				

The eight (8) large positive residuals ($> 2,58$) and the eight (8) large negative residuals ($< -2,58$) in Table 4.31 (above) and Table 4.32 (below) indicate sixteen (large positive and negative) observed covariance terms in the observed sample covariance matrix (out of about 90 covariance terms) that were poorly estimated by the derived model parameter estimates. However, the small number (i.e. sixteen) of the positive and negative covariance terms that are poorly reproduced by the fitted model parameter seems to corroborate the earlier conclusion that the model acceptably succeeds in explaining the observed data.

Table 4.32: Summary Statistics for Structural Model Standardised Residuals

Smallest Standardized Residual =	-7.47
Median Standardized Residual =	0.00
Largest Standardized Residual =	18.89
Largest Negative Standardised Residuals	
Residual for EMPOW_3 and EMPOW_1	-4.18
Residual for EMPOW_4 and EMPOW_2	-7.47
Residual for SATIS_1 and EMPOW_3	-2.65
Residual for SATIS_2 and EMPOW_3	-3.03
Residual for COMIT_2 and EMPOW_2	-2.90
Residual for QUIT_1 and COMIT_2	-4.13
Residual for QUIT_2 and EMPOW_4	-2.89
Residual for LEAD_1 and EMPOW_1	-3.10
Largest Positive Standardised Residuals	
Residual for EMPOW_3 and EMPOW_2	4.59
Residual for EMPOW_4 and EMPOW_3	18.89
Residual for SATIS_1 and EMPOW_1	3.03
Residual for SATIS_2 and EMPOW_1	5.37
Residual for LEAD_1 and EMPOW_4	2.63
Residual for LEAD_2 and EMPOW_4	3.19
Residual for LEAD_3 and EMPOW_4	4.95
Residual for LEAD_4 and EMPOW_4	4.54

All the standardised residuals may also be examined collectively in a stem-and-leaf plot (Figure 4.5) as well as the Q-plot (Figure 4.6). The stem-and-leaf plot and the Q-plot provide additional information regarding the success with which the implied model is reproduced accurately, by looking at how much observed model covariances deviate from sample covariances (Jöreskog & Sörbom, 1996). Good model fit would be characterised by a stem-and-leaf plot in which the residuals are distributed symmetrically around zero. An excess of residuals on the positive or negative side would be indicative of residuals that are symmetrically under- or over-estimated (Diamantopoulos & Siguaw, 2000; Jöreskog & Sörbom, 1993).

The standardised residuals depicted by the stem-and-leaf plot in Figure 4.5 (below) illustrate the model that seems to be slightly positively skewed, which could therefore mean that the estimated model parameters on average tend to under-estimate the observed covariance terms; however, the median standardised residual (0.00) suggests a more symmetrical distribution. On closer evaluation, Figure 4.5 indicates that this type of skewness could be the result of the outliers.

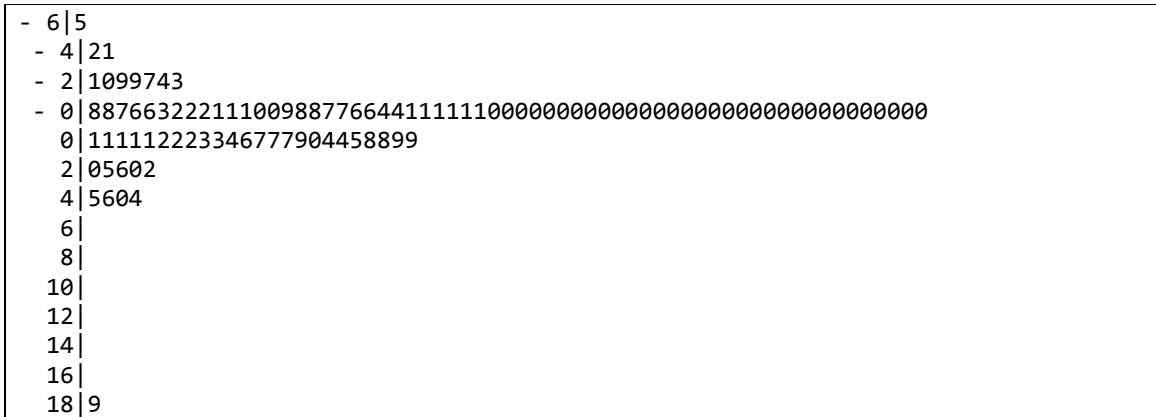


Figure 4.5: Stem-And-Leaf Plot of Standardised Residuals for Structural Model

When interpreting the Q-plot, it is important to note whether the data points fall on the 45-degree reference line or not. If the points fall on the 45-degree reference line, it would be indicative of a good model fit, whereas the model fit would be less satisfactory if the data points deviate from the 45-degree reference line (Jöreskog & Sörbom, 1993). Figure 4.6 (above) shows a less satisfactory model fit in that the standardised residuals for all pairs of observed variables tend to deviate slightly from the 45-degree reference line in the Q-plot in both the lower and upper region of the X-axis. The deviation is not pronounced, however, and less severe than in the case of the measurement model.

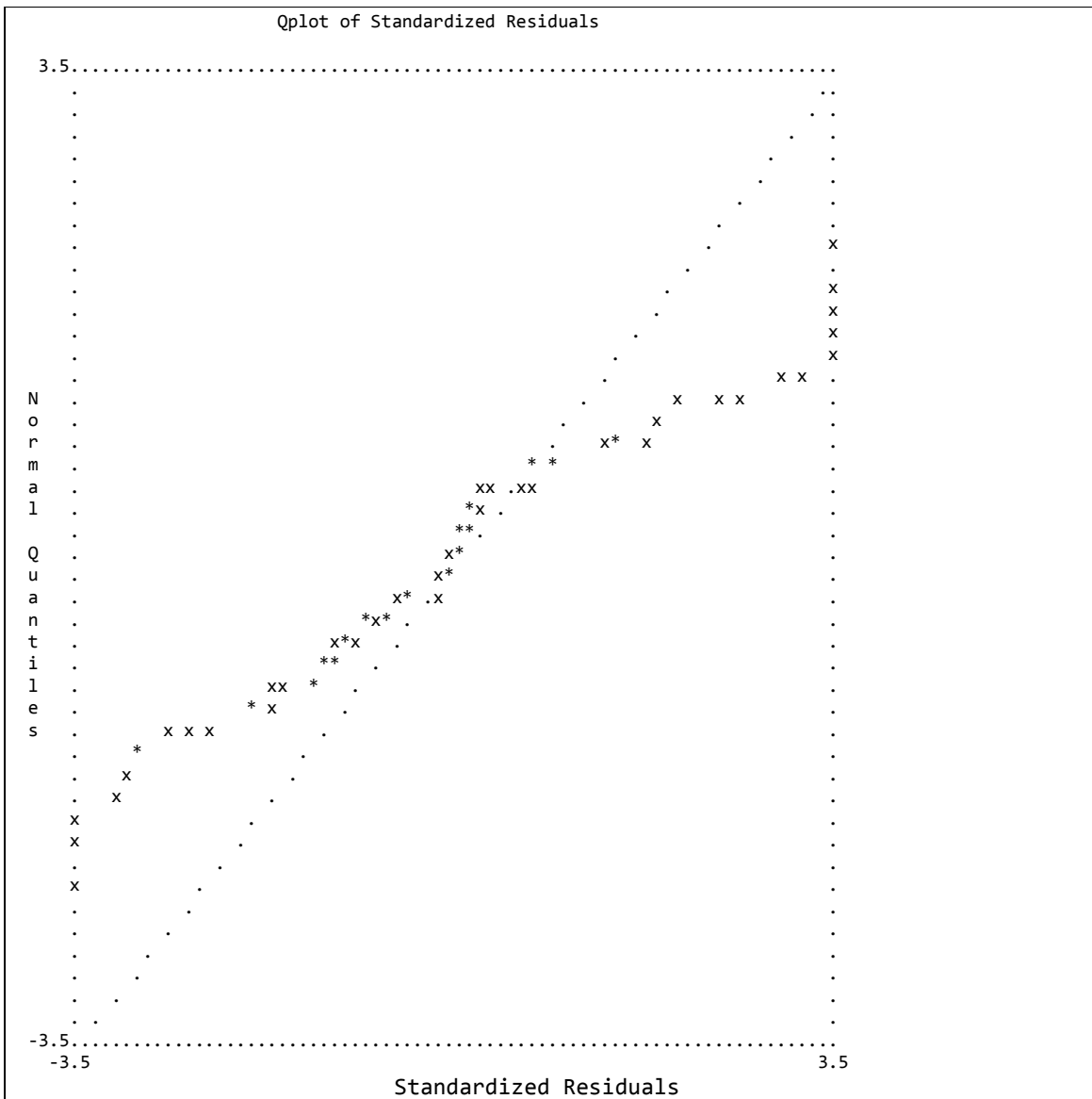


Figure 4.6: Q-Plot of Standardised Residuals

4.7. EVALUATING THE HYPOTHESISED STRUCTURAL RELATIONSHIPS

SEM is a useful method in social and behavioural sciences for specifying, estimating, and testing hypothesised interrelationships among a set of substantively meaningful variables, and much of its attractiveness emanates from its generality and applicability in a wide variety of research situations, a versatility that has been demonstrated amply (Baldwin, 1989; Bollen & Long, 1993; Crowley & Fan, 1997; Jöreskog & Sörbom, 1989; MacCallum & Austin, 2000;). SEM is used to attain a best fitting model between all considered constructs (Crowley & Fan, 1997; Dion, 2008; Martin & Roodt, 2008). SEM takes a confirmatory rather than exploratory approach to data analysis (Crowley & Fan, 1997), which means that the pattern of relations among variables are specified a priori based on theoretical expectations. SEM incorporates the overall quality of the factor solution and the specific parameters composing the model, and it also allows for the specification and testing of complex models, where mediating relationships and causal processes are of interest (Krafft, Engelbrecht, & Theron, 2004; MacCallum & Austin, 2000). SEM was used in this study because a set of correlations was implied. There are three main arguments in support of SEM as an analysis technique (Bollen & Long, 1993; Kelloway, 1998). Firstly, in the social sciences, measures are used to represent constructs, and as a result SEM allows the researcher to determine how well these measures reflect the intended constructs. Secondly, social scientists are more interested in the question of prediction. Predictive models are very complex, and SEM allows the testing and specification of these more complex path models as an entity in addition to testing the components comprising the model. Thirdly, SEM provides a flexible, yet powerful, method by which the quality of measurement can be taken into account when evaluating the predictive relationship existing amongst the underlying latent variables. Unlike more traditional analysis techniques, SEM permits estimates of the strength of the existing relationship between latent variables unattenuated by measurement error. Consequently, the CFA procedures allowed the researcher to test the stated hypotheses.

Since the structural model acceptably fits the data as judged by the overall goodness-of-fit measures, the structural model is evaluated further. The aim of the further evaluation of the structural model was to determine whether each of the hypothesised theoretical relationships was supported by data.

Diamantopoulos and Siguaw (2000) identify the four main reasons for the importance of assessing the structural model. Firstly, the structural model is assessed in order to determine whether the signs of the parameters representing the paths between latent variables are consistent with the nature of the causal effect hypothesised to exist between latent variables. Secondly, it is assessed to determine whether parameter estimates are significant ($p < 0.05$). Thirdly, assuming significance, it is important to assess the magnitude of the parameter estimates indicating the strength of the hypothesised relationships. Lastly, it is important to evaluate the squared multiple correlations (R^2), indicating the amount of variance in each endogenous latent variable that is explained by the latent variables linked to it in terms of the hypothesised structural model. The parameters of interest in assessing the structural model are the freed elements of the GAMMA (Γ) and BETA (B) matrices.

4.7.1. The Unstandardised GAMMA (Γ) Matrix

The unstandardised Γ matrix (Table 4.33) is used to assess the significance of the estimated path coefficients γ_{ij} expressing the strength of the influence of ξ_j on η_i . These parameters are significant ($p < 0.05$) if the t-values exceed 1.96 (Diamantopoulos & Siguaw, 2000). A significant γ estimate would imply that the corresponding null-hypothesis (H_0) will be rejected in favour of the relevant alternative-hypothesis (H_a). In this study, the hypotheses that are relevant to the Γ matrix indicated in Table 4.33 are H_{02} , H_{03} , and H_{04} , and all the t-values are highlighted.

Table 4.33: Unstandardised Gamma (Γ) Matrix

	LEAD_BEH
PSY_EMPW	0.29 (0.06) 4.56
JOB_SAT	0.04 (0.06) 0.70
ORG_COMT	0.13 (0.06) 2.30
QUIT_INT	- -

Hypothesis 2: $H_{o2}: \gamma_{11} = 0$ against $H_{a2}: \gamma_{11} > 0$

The values in the matrix (Table 4.33) indicate that null-hypothesis 2 ($H_{o2}: \gamma_{11} = 0$), which proposes that leader behaviour (ξ_1) has no statistically significant effect on psychological empowerment (η_1) can be rejected in favour of $H_{a2}: \gamma_{11} > 0$ ($p < 0.05$ or $t > 1.96$). Thus, the relationship postulated between leader behaviour (ξ_1) and psychological empowerment (η_1) in the structural model is corroborated. In addition, the sign associated with this significant γ parameter estimate is consistent with the nature of the relationship hypothesised to exist between these latent variables.

Hypothesis 3: $H_{o3}: \gamma_{21} = 0$ against $H_{a3}: \gamma_{21} > 0$

The values in the matrix (Table 4.33) indicate that null-hypothesis 3 ($H_{o3}: \gamma_{21} = 0$), which proposes that leader behaviour (ξ_1) has no statistically significant effect on employee job satisfaction (η_2) cannot be rejected. An insignificant ($p > 0.05$ or $t < 1.96$) relationship is therefore evident between leader behaviour and employee job satisfaction. The causal relationship hypothesised between leader behaviour (ξ_1) and employee job satisfaction (η_2) is therefore not corroborated.

Hypothesis 4: $H_{o4}: \gamma_{31} = 0$ against $H_{a4}: \gamma_{31} > 0$

Lastly, the values in the GAMMA matrix (Table 4.33) indicate that null-hypothesis 4 ($H_{o4}: \gamma_{31} = 0$), which proposes that leader behaviour (ξ_1) has no statistically significant effect on organisational commitment (η_3) can be rejected in favour of $H_{a4}: \gamma_{31} > 0$ ($p < 0.05$ or $t > 1.96$). Thus, the relationship postulated between leader behaviour (ξ_1) and employees' organisational commitment (η_3) in the structural model is corroborated. In addition, the sign associated with this significant γ parameter estimate is consistent with the nature of the relationship hypothesised to exist between these latent variables.

In sum, two out of the three hypothesised GAMMA pathways reported statistically significant parameter estimates. The strength of the significant pathways ranged from 0.13 to 0.29, and their pathways were both consistent with the direction of the hypothesised relationships.

4.7.2. The Unstandardised BETA (B) Matrix

The unstandardised BETA (B) matrix in Table 4.34 assesses the significance of the estimated path coefficients β_{ij} expressing the strength of the influence of η_j on η_i . Unstandardised β_{ij} estimates are also significant ($p < 0.05$) if the t-values exceed 1.96 (Diamantopoulos & Siguaw, 2000). A significant β estimate would imply that the corresponding null-hypothesis (H_0) will be rejected in favour of the relevant alternative hypothesis (H_a). The hypotheses that are relevant to the B matrix in this study (Table 4.34) are H_{05} , H_{06} , H_{07} , H_{08} , H_{09} , and H_{010} , and all the t-values are highlighted.

Table 4.34: Unstandardised Beta (B) Matrix

	PSY_EMPW	JOB_SAT	ORG_COMT	QUIT_INT
PSY_EMPW	---	---	---	---
JOB_SAT	0.81 (0.09)	---	---	---
ORG_COMT	9.32 0.33 (0.21)	0.24 (0.22)	---	---
QUIT_INT	1.55 0.39 (0.16)	1.13 -0.23 (0.16)	-0.83 (0.09)	---
	2.37	-1.44	-9.60	

Hypothesis 5: $H_{05}: \beta_{21} = 0$ against $H_{a5}: \beta_{21} > 0$

The values in Table 4.34 indicate that null-hypothesis 5 ($H_{05}: \beta_{21} = 0$), which propose that psychological empowerment (η_1) has no statistically significant effect on job satisfaction (η_2) can be rejected in favour of $H_{a5}: \beta_{21} > 0$. Thus the relationship postulated between psychological empowerment (η_1) and job satisfaction (η_2) in the structural model is corroborated. In addition, the sign associated with this significant β parameter estimate is consistent with the nature of the relationship hypothesised to exist between these latent variables.

Hypothesis 6: $H_{o6}: \beta_{31} = 0$ against $H_{a6}: \beta_{31} > 0$

The values in Table 4.34 indicate that null-hypothesis 6 ($H_{o6}: \beta_{31} = 0$), which propose that psychological empowerment (η_1) has no statistically significant effect on organisational commitment (η_3) cannot be rejected. An insignificant ($p > 0.05$ or $t < 1.96$) relationship is therefore evident between psychological empowerment and employee organisational commitment. The causal relationship hypothesised between psychological empowerment (η_1) and organisational commitment (η_3) is therefore not corroborated.

Hypothesis 7: $H_{o7}: \beta_{32} = 0$ against $H_{a7}: \beta_{32} > 0$

The values in the BETA matrix in Table 4.34 indicate that null-hypothesis 7 ($H_{o7}: \beta_{32} = 0$), which propose that job satisfaction (η_2) has no statistically significant effect on organisational commitment (η_3) also cannot be rejected. An insignificant ($p > 0.05$ or $t < 1.96$) relationship is evident between job satisfaction and organisational commitment. Similarly, the hypothesised causal relationship between job satisfaction (η_2) and commitment (η_3) is therefore not corroborated.

Hypothesis 8: $H_{o8}: \beta_{41} = 0$ against $H_{a8}: \beta_{41} > 0$.

Furthermore, the BETA matrix in Table 4.34 also shows that null-hypothesis 8 ($H_{o8}: \beta_{41} = 0$), which proposes that psychological empowerment (η_1) has no statistically significant effect on turnover intention (η_4) can be rejected in favour of $H_{a8}: \beta_{41} > 0$. Thus the postulated relationship between employee perceived psychological empowerment (η_1) and turnover intention (η_4) in the structural model is corroborated. However, the sign associated with this significant β parameter estimate is not consistent with the nature of the relationship hypothesised to exist between these latent variables.

Hypothesis 9: ($H_{09}: \beta_{42} = 0$ against $H_{a9}: \beta_{42} > 0$)

Table 4.34 also indicates that null-hypothesis 9 ($H_{09}: \beta_{42} = 0$), which suggests that job satisfaction (η_2) has no statistically significant effect on turnover intention (η_4) cannot be rejected. An insignificant ($p > 0.05$ or $t < 1.96$) relationship is evident between job satisfaction and turnover intention. The hypothesised causal relationship between these latent variables is therefore not corroborated.

Hypothesis 10: $H_{010}: \beta_{43} = 0$ against $H_{a10}: \beta_{43} > 0$

Lastly, Table 4.34 indicates that null-hypothesis 10 ($H_{010}: \beta_{43} = 0$), which proposes that organisational commitment (η_3) has no statistically significant effect on turnover intention (η_4) can be rejected in favour of $H_{a10}: \beta_{43} > 0$. Thus the relationship postulated between organisational commitment (η_3) and turnover intention (η_4) in the structural model is corroborated. The sign associated with this significant β parameter estimate is also consistent with the nature of the relationship hypothesised to exist between these latent variables.

Furthermore, in order to develop additional insights into the understanding of the hypothesised relationships, completely standardised estimates also needed to be taken into consideration.

4.7.3. The Completely Standardised Parameter Estimates

Diamantopoulos and Siguaw (2000) suggest that additional insights can be obtained by looking at the completely standardised B and Γ parameter estimates. The completely standardised B and Γ parameter estimates are not affected by differences in the unit of measurement of the independent variables and can thus be compared across equations. The completely standardised B and Γ parameter estimates reflect the average change, expressed in standard deviation units, in the endogenous latent variable directly resulting from a one standard deviation change in an endogenous or exogenous latent variable to which it has been linked, holding the effect of all other variables constant. The completely standardised B and Γ parameter estimates of the current study are presented below, in Table 4.35.

The Γ parameter estimates in Table 4.35 indicate that, in the current study, leader behaviour in the workplace (ξ_1) has a more significant and positive direct effect on psychological empowerment (η_1) and organisational commitment (η_3), whereas it has no direct effect on job satisfaction (η_2). Furthermore, of the six hypothesised B parameter estimates, Table 4.35 indicates that psychological empowerment (η_1) has a strong and direct positive effect on both turnover intention (η_4) as well as job satisfaction (η_2), whereas it has no significant effect on organisational commitment (η_3). In addition, organisational commitment (η_3) has a strong negative effect on turnover intention (η_4), whereas job satisfaction (η_2) has an insignificant negative effect on quit/turnover intention (η_4). Lastly, job satisfaction (η_2) has an insignificant positive effect on organisational commitment (η_3). The graphic summary of all the hypothesised relationships between the latent variables of this study is presented in Figure 4.5, showing the tested structural model.

Table 4.35: Completely Standardised Gamma (Γ) and Beta (B) Estimates

GAMMA				
	LEAD_BEH			
	PSY_EMPW	JOB_SAT	ORG_COMT	QUIT_INT
PSY_EMPW	0.29			
JOB_SAT	0.04			
ORG_COMT	0.13			
QUIT_INT	-	-		
BETA				
	PSY_EMPW	JOB_SAT	ORG_COMT	QUIT_INT
PSY_EMPW	-	-	-	-
JOB_SAT	0.81	-	-	-
ORG_COMT	0.33	0.24	-	-
QUIT_INT	0.39	-0.23	-0.83	-

4.7.4. Indirect Relationships Between Latent Variables

LISREL also has the ability to decompose total effects between latent variables into direct and indirect effects. Indirect effects refer to the influence of ξ_j or η_i on η_j as mediated by η_k . The indirect effects are derived from multiplying the unstandardised parameter estimates of the paths comprising the indirect effect.

LISREL also computes an estimated standard error and an accompanying t-value for each direct and indirect effect in the model (Diamantopoulos & Siguaaw, 2000; Jöreskog & Sörbom, 1996; Kaplan, 2000). The matrix of indirect effects of ξ on η (Table 4.36) will be used to test the mediated relationship between latent variables. However, Diamantopoulos and Siguaaw (2000) warn that the indirect effect statistics need to be interpreted with caution when any of the contributing parameter estimates is insignificant. For this reason, the phi-matrix was consulted to confirm that the necessary direct individual relationships have statistically significant relationships (Hair et al., 2010). From an inspection of the intercorrelations attached to Table 4.36, it is clear that further mediation analysis was warranted.

Table 4.36: Unstandardised Indirect Effects of Ksi on Eta

	LEAD_BEH				

PSY_EMPW	-	-	-	-	-
JOB_SAT	0.23				
	(0.06)				
	4.25				
ORG_COMT	0.16				
	(0.04)				
	3.97				
QUIT_INT	-0.19				
	(0.05)				
	-3.72				

Correlation Matrix of ETA and KSI					
	PSY_EMPW	JOB_SAT	ORG_COMT	QUIT_INT	LEAD_BEH
	-----	-----	-----	-----	-----
PSY_EMPW	1.00				
JOB_SAT	0.82	1.00			
ORG_COMT	0.57	0.55	1.00		
QUIT_INT	0.26	0.36	0.73	1.00	
LEAD_BEH	0.29	0.28	0.29	0.19	1.00

The proposed generic structural model in Figure 3.1 also contained five possible indirect effects of ξ (leader behaviour) on η (job satisfaction; organisational commitment; turnover intention). Table 4.36 shows the estimated indirect effects, as well as the estimated standard error and accompanying t-value. No formal hypothesis was formulated on the mediated relationship between latent variables; however three important indirect effects of ξ on η in the fitted structural model were significant. These estimated indirect effects are discussed below.

Firstly, Table 4.36 indicates that psychological empowerment (η_1) has a strong mediating role on the indirect positive effect of leader behaviour (ξ_1) on job satisfaction (η_2). Therefore a possible null-hypothesis 11 ($H_{o11}: \gamma_{11}\beta_{21} = 0$) would have to be rejected ($p < 0.05$ or $t > 1.96$) in favour of a possible alternative hypothesis ($H_{a11}: \gamma_{11}\beta_{21} > 0$). Secondly, Table 4.36 suggests that psychological empowerment (η_1) has a significant mediating role on the indirect positive effect of leader behaviour (ξ_1) on organisational commitment (η_3). As a result, another possible null-hypothesis 12 ($H_{o12}: \gamma_{11}\beta_{31} = 0$) would have to be rejected ($p < 0.05$ or $t > 1.96$) in favour of a possible alternative hypothesis ($H_{a12}: \gamma_{11}\beta_{31} > 0$).

Lastly, Table 4.36 indicates that psychological empowerment (η_1) also has a significant mediating role on the indirect negative effect of leader behaviour (ξ_1) on turnover intention (η_4). As a result, another possible null-hypothesis 13 ($H_{o13}: \gamma_{11}\beta_{41/3} = 0$) would have to be rejected ($p < 0.05$ or $t > 1.96$) in favour of a possible alternative hypothesis ($H_{a13}: \gamma_{11}\beta_{41/3} > 0$).

In sum, three of the six hypothesised BETA pathways parameter estimates reported statistically significant parameter estimates. The strength of the significant pathways ranged from 0.33 to 0.83, which could be regarded as moderate to very strong relationships between variables, and their pathways were all consistent with the direction of the hypothesised relationships. A more elaborate testing of these mediating effects (e.g., as suggested by Hair et al., 2010) by means of comparing path-saturated and path-reduced models, is recommended.

4.8. STRUCTURAL MODEL MODIFICATION INDICES

As a result of the residuals and appearance of the Q-plot, it is therefore important to also assess the model modification indices. Model modification indices assist in determining and identifying which of the currently fixed model parameters, if set free, would significantly improve the model fit. Modification indices (MI) indicate the extent to which the χ^2 fit statistic will decrease if a currently fixed parameter in the model is freed, and the model is re-estimated. Large modification index values (> 6.6349) would be indicative of parameters that, if set free, would improve the fit of the model significantly ($p < 0.01$) (Diamantopoulos

& Siguaaw, 2000; Jöreskog & Sörbom, 1993). However, parameters with high MI values should only be freed if it makes substantive sense to do so (Kelloway, 1998). Making modifications on a current model would only be permissible if the refined model (a) fits the data better, (b) is more parsimonious, and (c) modifications are theoretically justifiable (Jöreskog & Sörbom, 1996). The expected change is the expected value of the parameter if it were freed (i.e. the extent to which it would change from its currently fixed value of zero). The standardised and completely standardised expected changes are the expected values in the standardised and completely standardised solution if the parameter were freed.

Table 4.37: Modification Indices and Expected Change for the Gamma (Γ) Matrix

Modification Indices for GAMMA	
	LEAD_BEH

PSY_EMPW	- -
JOB_SAT	- -
ORG_COMT	- -
QUIT_INT	0.11
Expected Change for GAMMA	
	LEAD_BEH

PSY_EMPW	- -
JOB_SAT	- -
ORG_COMT	- -
QUIT_INT	-0.02
Standardised Expected Change for GAMMA	
	LEAD_BEH

PSY_EMPW	- -
JOB_SAT	- -
ORG_COMT	- -
QUIT_INT	-0.02

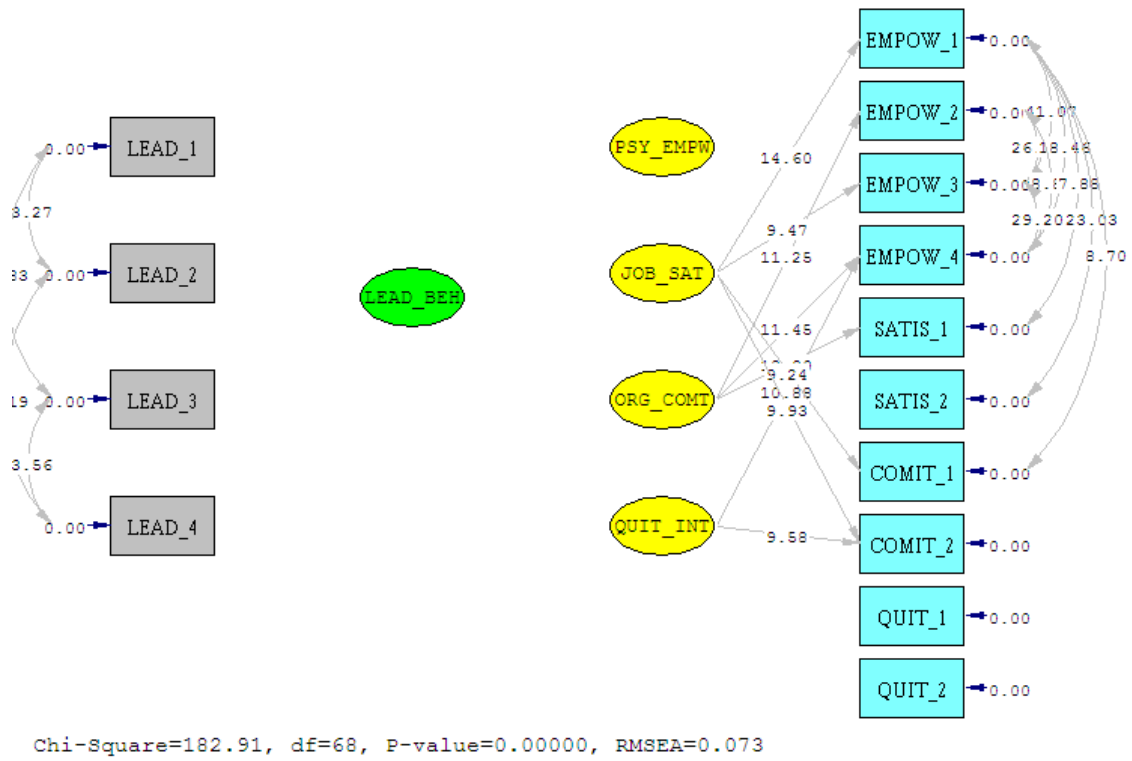


Figure 4.7: Modification Indices of the Structural Model

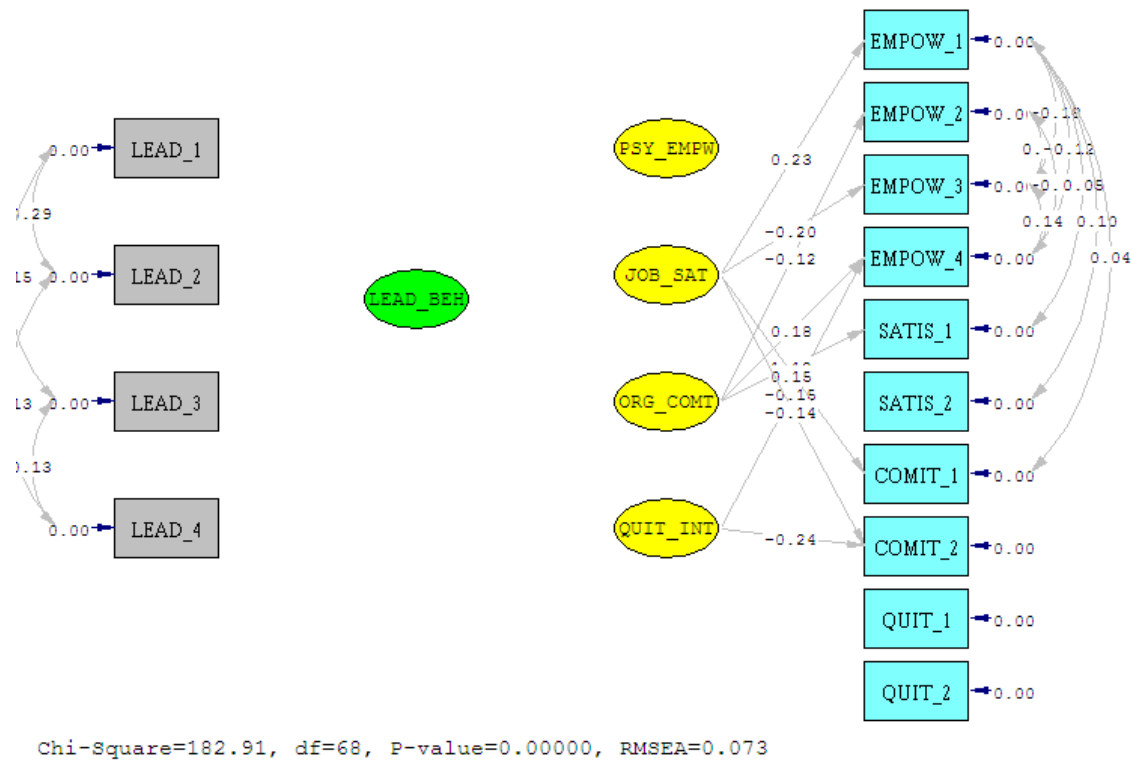


Figure 4.8: Expected Changes of the Structural Model

When computing the modification index, for the current study, LISREL found that no non-zero modification indices existed for the B matrix. This means that there was no possible additional path(s) between the exogenous latent variable (ξ_1) and any of the four endogenous latent variables ($\eta_1, \eta_2, \eta_3, \eta_4$) that would significantly improve the fit of the hypothesised structural model. Table 4.37 above shows the modification indices that were computed for the Γ matrix. The evaluation of the modification indices computed for the Γ matrix suggest that there exist no additional paths between any endogenous latent variables that would significantly improve the fit of the hypothesised structural model. Figure 4.7 and Figure 4.8 also confirm that no additional paths (and or expected changes respectively) were required to improve the structural model fit on the current data.

Furthermore, researchers should also keep in mind that when testing various hypotheses about model fit, it is important to have adequate power for detecting when a hypothesis about model fit is false. Any model evaluation would be incomplete if power considerations are ignored (Diamantopoulos & Sigua, 2000).

4.9. POWER ASSESSMENT

Another important, but often neglected aspect in model evaluation is the statistical power associated with testing a model. When evaluating the findings of the model fit, it is imperative to investigate the statistical power associated with testing the model. The importance of performing power analysis stems from the critical role that sample size plays in the decisions made in model testing (MacCallum et al., 1996). Statistical power refers to the conditional probability of rejecting the null-hypothesis given that it is false. In the context of SEM, statistical power therefore refers to the probability of rejecting an incorrect model. When testing a model's fit using the χ^2 test statistic, the emphasis is on the probability of making a Type I error, i.e. rejecting a model when it is actually correct, and this probability is captured by the significance level, α , which is usually set at 0,05. A significant χ^2 result indicates that if the null hypothesis is true, then the probability of incorrectly rejecting it is low. However, another error that can occur is the failure to reject an incorrect model. This type of error is known as Type II error and the probability associated with it is denoted as β . However, the probability of avoiding a Type II error is therefore $1 - \beta$ and it is this probability

that indicates the power of the test. Thus, the power of the test tells how likely it is that a false null hypothesis will be rejected (Diamantopoulos & Siguaaw, 2000).

In large samples (i.e. high power) the decision to reject a null hypothesis of exact fit (or a null hypothesis of close fit) becomes problematic because it is not clear whether the model was rejected due to severe misspecifications in the model or to the too high sensitivity of the test to detect even minor flaws in the model. Conversely, in small samples (i.e. low power) the decision not to reject the null hypothesis of exact/close fit results in ambiguity because it is not clear whether the decision was due to the accuracy of the model or the insensitivity of the test to detect specification errors in the model. When the χ^2 test is applied, only Type I errors are explicitly taken into account, thus, a power analysis must be performed to also account for the probability of Type II errors (Diamantopoulos & Siguaaw, 2000).

There are two types of power calculations that could be performed (Diamantopoulos & Siguaaw, 2000; MacCallum et al., 1996). First, the power associated with a test of exact fit (i.e. testing the null hypothesis that the model fits perfectly in the population) could be performed. This is the null hypothesis tested by the conventional χ^2 test. However, as argued earlier, this test is restrictive since models are only approximations of reality (i.e. they never fit exactly even in the population). Consequently, the power associated with a test of close fit, whereby the null hypothesis is that the model has a close, albeit imperfect fit in the population, was estimated. The stated null hypothesis takes the error due to approximation [i.e. the discrepancy between Σ and $\Sigma(\Theta)$] into account and is therefore more realistic (Diamantopoulos & Siguaaw, 2000). Both the test of exact fit and the test of close fit utilize the RMSEA statistic, as discussed earlier in this chapter (paragraph 4.5.3). If the model fits perfectly in the population, then the error due to approximation is set at zero (0), and therefore, the null hypothesis formulated earlier as H_{01a} is consequently tested against H_{a1a} .

To determine the power of a test of exact fit hypothesis, a specific value for the parameter needs to be assumed under H_a , because there are as many power estimates, as there are possible values for the parameter under H_a . A value that makes good sense to use in this instance is $RMSEA = 0.05$, as $RMSEA < 0.05$ is indicative of good fit. If a model achieves close fit in the population, the error due to approximation will be set to ≤ 0.05 . However, if the model only fits approximately in the population the error due to approximation is set at

0.05 and the null hypothesis formulated earlier as H_{01b} is consequently tested against H_{a1b} . to determine the power of a test of the close fit hypothesis, a specific value for the parameter again needs to be assumed. A reasonable value to assume is $RMSEA = 0.08$, since $RMSEA = 0.08$ is the upper limit of reasonable fit.

MacCallum et al (1996) provide tables with the values of N necessary to attain power levels of 0.80 and 0.50 for models with different degrees of freedom. Therefore, with the information on H_0 and H_a and given a significance level (α) of 0.05 and sample size N , the power of the test becomes a function of the degrees of freedom (ν) in the model. As a result, higher degrees of freedom lead to greater power of a test (Diamantopoulos & Siguaw, 2000).

For the current model in this study, an approximation of the minimum N that is necessary to achieve a power of 0.80 when testing the close fit, was obtained by looking at MacCallum et al.'s (1996) Table 4 for degrees of freedom = 70 (68 in this study). Table 4 indicates that with a degrees of freedom = 70, the $N = 177$ would have a sufficient power to test the current model in this study. This means that the sample of the current study (318) comfortably exceeds the required N to obtain the sufficient statistical power. The easier option is found in Table 2 of MacCallum et al (1996). For a model with 70 degrees of freedom and a sample of 300 (318 in the current study), Table 2 shows that the power estimate for the test of exact fit is 0.965 and that for the test of close fit is 0.978. Therefore, since the power levels of about 0.80 are usually considered sufficient for practical purposes (Diamantopoulos & Siguaw, 2000; MacCallum et al., 1996), it seems that both power estimates of the current model indicate that the power analysis is sufficiently powerful. However, the power figures shown above suggest that there is an extremely high chance of rejecting a good (if not perfect) model with the current sample size. The likelihood of rejecting the hypothesis of exact fit is more than 0.90 even though the true fit is close. This demonstrate unequivocally the problems associated with relying exclusively on a test of exact fit (performed by the χ^2 test statistic) and establishes the basis for recommending against the use of the test of exact fit for evaluating covariance structure models (Diamantopoulos & Siguaw, 2000). On the other hand, since the null hypothesis of exact fit in the current study has been rejected, this assertion need no longer be a reason for concern.

4.10. SUMMARY

In this chapter, an overview of the analysis and procedures that were performed on the data and the results thereof were presented and discussed comprehensively. The analysis was preceded by the data cleaning procedures in order to gain critical insights into the characteristics of the data. Once the data was found to be ready for further analysis, the psychometric properties of each scale used in this study were assessed by means of item and dimensionality analysis. The assessment of psychometric properties was aimed at ensuring high internal consistency and uni-dimensionality of the individual scales before the CFA could be performed.

Highly satisfactory internal consistency and uni-dimensionality were obtained, however the procedures resulted in the deletion of items that were identified as weak in some measurement scales such as the *Idealized Influence* and *Individual Consideration* (MLQ), *Satisfaction with Work* (JDI), *Affective and Normative Commitment* (OCQ), and *Turnover intention* (TIS).

Confirmatory factor analysis was also performed on the measurement model in order to ensure a satisfactory model fit was obtained before the data could be fitted on the structural model. An acceptable measurement model fit was obtained without any major modification on the model itself. This provided acceptable evidence of validity regarding the measurement scales used in the study. As a result, the proposed structural model was fitted on the data. The goodness-of-fit indices obtained from the fitting of the structural model also suggested a reasonably satisfactory model fit. The model fit statistics of both the measurement and structural models provided enough confidence for the testing of the hypothesised relationships on the structural model.

The discussion on the hypothesised relationships between latent variables also included those that were not formally hypothesised (i.e. the indirect effects between latent variables). Of the nine formally hypothesised relationships between the latent variables, hypothesis 2, hypothesis 4, hypothesis 5, hypothesis 8, and hypothesis 10 were corroborated, while hypothesis 3, hypothesis 6, hypothesis 7, and hypothesis 9 were not corroborated. LISREL also provided the indirect effects between the exogenous and endogenous latent variables, although these were not formally hypothesised. The indirect effects among the latent

variables (exogenous latent variable on endogenous latent variables) in the hypothesised structural model were then labelled as possible additional hypotheses (hypothesis 11, hypothesis 12, and hypothesis 13). Three indirect relationships between the exogenous variable and endogenous variables, as implied by the fitted structural model, were all corroborated.

With regards to the modification indices, when LISREL computed modification indices for the Γ matrix (effect of ξ on η), the values in Table 4.37 suggested an additional path between *Leader behaviour* (ξ_1) and *Turnover intention* (η_4), thus indicating the existence of a direct effect of ξ_1 on η_4 .

However, the effect of the addition of a path indicating the direct effect of *Leader behaviour* on *Turnover intention* was very small and would have resulted in no significant improvement to the fit of the hypothesised structural model. Furthermore, LISREL found that no non-zero modification indices existed for the B matrix. This meant that there was no possible additional path(s) between the endogenous latent variables amongst themselves (effect of η on η), which could significantly improve the fit of the hypothesised structural model.

Finally, the statistical power associated with testing the current model was analysed and discussed in detail. The power assessment values obtained suggested an extremely high chance of rejecting a good (if not perfect) model with the current sample size. The likelihood of rejecting the hypothesis of exact fit was more than 0.90 even if the true fit was close. This demonstrated unequivocally the problems associated with relying exclusively on a test of exact fit (performed by the χ^2 test statistic), and therefore establishing the basis for recommending against the use of the test of exact fit for evaluating covariance structure models.

CHAPTER FIVE

CONCLUSIONS, RECOMMENDATIONS, AND SUGGESTIONS FOR FUTURE RESEARCH

5.1. INTRODUCTION

Voluntary turnover is well recognized as a factor of critical importance to both managers and their organisations. Lack of employee continuity and organisational stability, as well as the high costs involved in recruiting and training of new employees are some of the challenges that arise as a consequence of turnover behaviours (Siong et al., 2006). Organisations are social systems where human resources are the most important factors for effectiveness and efficiency (Van Schalkwyk et al., 2010). Organisations, especially those that are reliant on human resource capabilities, cannot succeed without their employees' efforts and commitment. Employee attitudes are generally believed to have either direct or indirect relations to some crucial aspects of organisational behaviour (Chiu et al., 2005).

Accumulating evidence suggests various factors that can be associated with work attitudes, behavioural intentions and work-related behaviour, and among the major factors is the role of leader behaviour (Bass, 1999; Bono & Judge, 2003; Dumdum, Lowe, & Avolio, 2002; Lowe, Kroeck, & Sivasubramaniam, 1996; Tai, Bame, & Robinson, 1998). Other major factors that have been identified as directly influential for turnover intentions among employees include perceived psychological empowerment (Spector, 1986; Wilkinson, 1997; Yao & Cui, 2010), job satisfaction (Ferres et al., 2004; Luna-Arocas & Camps, 2008; Martin & Roodt, 2008; Tai et al., 1998), and organisational commitment (Clayton Hutchinson, 2002; Lee, 2000; Muchinsky, 2003; Tai et al., 1998). Employees' satisfaction with their jobs and commitment to their organisations has been viewed as major determinants of organisational effectiveness (Mosaddeghrad, Ferlie, & Rosenberg, 2008).

Such factors and their antecedents are even more important for professionalized and service-based organisations such as the military, where long-term specialist training, experience, and retention issues are highly important. However, employee turnover intention is an important topic that has been overlooked in service-based organisational research (Chiu et al., 2005).

Given the consequences of turnover intention and turnover behaviours among employees in the workplace, and the importance of employee retention in organisations, it is imperative that managers, industrial/organisational psychology practitioners and researchers understand the factors that affect employee turnover intention. Therefore, managers, practitioners, and researchers must rather focus on the driving forces behind the development of turnover intentions so that whatever the strategies are employed to prevent turnover could be taken well in advance (Van Schalkwyk et al., 2010).

The purpose of this study was to examine the relationships between employees' perceived leader behaviour, psychological empowerment, job satisfaction, and organisational commitment, and their effects on turnover intentions among employees. The primary objective of this research was to elucidate the structural model underlying the nature and relationships between as well as the effects of leader behaviour, empowerment, satisfaction and commitment on turnover intentions among employees in organisations. This was supported by the theoretical objective which was aimed at conducting a comprehensive literature study on the identified constructs in order to make use of sound theoretical background and logical reasoning in the development of a structural model that indicates the relationships between these constructs. The empirical objective of this study was to test the specific hypotheses on the causal linkages between the variables of interest, and their hypothesised effects on turnover intention. The aim was to develop and empirically test a structural model that reflects the relationship between leader behaviour, empowerment, satisfaction, commitment, and turnover intentions. This required the evaluation of the hypothesised model on empirical data.

5.2. SUMMARY AND DISCUSSION OF RESULTS

In this section, the summary of the results of this study will be discussed and compared to the existing literature and findings from previous studies. The aim will be to determine the extent to which the results of the present study support the findings of earlier research conducted in similar or different research contexts. SPSS version 18 and LISREL 8.8 software were utilized to analyse data and to compare the fit of the nested models respectively. Principal component analysis (PCA) was utilised to determine the factor structure of transformational leadership behaviour, psychological empowerment, job satisfaction, organisational commitment and turnover intention.

Confirmatory Factor Analysis (CFA) was used to evaluate the proposed measurement theory, since no valid conclusion could be reached without valid measurements. Structural Equation Modeling (SEM) was used to attain and evaluate a best fitting structural model between all identified constructs. The aim was to determine whether the theoretical relationships specified at the conceptualisation stage were indeed supported by data.

5.2.1. Evaluation of the Measurement Model

The measurement model fit assesses the extent to which a hypothesised model fits the data and provides information on the validity and reliability of the observed indicators (Diamantopoulos & Siguaw, 2000). The overall goodness-of-fit of the measurement model was tested through confirmatory factor analysis. Various indices were interpreted to assess the goodness-of-fit of the measurement model and it was found that the measurement model fitted the data reasonably well. After the examination of the measurement model residuals, it was found that sixteen observed covariance terms in the observed sample covariance matrix (out of about 90 covariance terms) were being poorly estimated by the derived model parameter estimates. Therefore, considering the total of covariance terms, sixteen was a small number, and the parameter estimates of the measurement model still reported reasonably satisfactory model fit suitable for inclusion in the structural model. As a result, it seemed that the theoretical model fitted the data acceptably well and therefore could be used to test the hypothesised structural relations between leader behaviour, employees' perceived psychological empowerment, work satisfaction, commitment, and intention to quit.

When examining the stem-and-leaf plot, the distribution of standardised residuals appeared only slightly positively skewed but not overly so. This slight positive skewness might have been partly caused by the problem of outliers found in the data. Therefore, this type of skewness indicated that there was a slightly stronger tendency for the model to over-estimate the observed covariance terms. An examination of the Q-plot revealed a clear deviation from the 45-degree reference line, thereby providing further evidence that the models did not fit perfectly. As a result of the residuals and appearance of the Q-plot, it was therefore important to also assess the model modification indices.

The modification indices for the measurement model were examined to determine whether any of the currently fixed parameters, when freed in the model, would significantly improve the parsimonious fit of the model. After examining the measurement model's modification indices it was found that ten additional paths would improve the fit of the measurement model. However, the magnitudes of the completely standardised expected parameter changes associated with the fixed parameters in this matrix did not warrant setting free any of the parameters. The values of the squared multiple correlations (SMCs) for three indicators (EMPOW_2; EMPOW_4; SATIS_2) and the calculated composite reliability values for each latent variable was initially somewhat worrying, however this concern was alleviated when the overall model fit produced a well fitting measurement model fit on the data. The success with which these three indicator variables represented the latent variables they were intended to reflect seemed satisfactory. As such, the integrity of the analysis of the hypothesised structural relations was less threatened.

5.2.2. Evaluation of the Structural Model

In assessing the structural part of the model, the focus was on the substantive relationships of interest between the various endogenous and exogenous variables. The goodness-of-fit of the structural model was assessed through the structural equation modelling. The aim was to determine whether the theoretical relationships specified at the conceptualisation stage were indeed supported by data. LISREL software was used to examine the research hypotheses and research model fit in the sample data.

After an in-depth analysis of the goodness-of-fit indices of the structural model, it was concluded that the structural model fit the data reasonably well. Integrating the results obtained on the full spectrum of fit statistics also seemed to suggest an acceptably fitting model that clearly outperformed the independence model. However, to ensure that a thorough assessment of the fit of the structural model was done, and because the obtained model fit of the structural model was only acceptable in fit, it was necessary to also investigate the standardised residuals and modification indices in order to determine the extent of success with which the model explained the observed covariances amongst the manifest variables.

Only ten large positive residuals and six large negative residuals indicated a total of sixteen observed covariance terms in the observed sample covariance matrix being poorly estimated by the derived model parameter estimates. The evaluation of the variables associated with these standardised residuals did not reveal any clear or specific suggestions for possible model modification. The small number of covariance terms poorly reproduced by the fitted model parameter corroborated the earlier conclusion that the model succeeded acceptably well in explaining the observed data. From the stem-and-leaf plot, the distribution of the standardised residuals appeared to be slightly positively skewed. Moreover, a less than perfect model was indicated by the fact that the standardised residuals for all pairs of observed variables tended to deviate slightly from the 45-degree reference line in the Q-plot in both the lower and upper region of the X-axis. The deviation is, however, not pronounced and less severe than in the case of the measurement model.

After the overall goodness-of-fit indices confirmed the model fit of the fitted structural model, further evaluation of the structural model was performed in order to determine whether each of the hypothesised theoretical relationships was supported by data.

The findings of the current study allowed drawing the following conclusions in relation to the primary and empirical objectives of the study:

Hypothesis 1: H_{01b} : $RMSEA \leq 0.05$ against H_{a1b} : $RMSEA > 0.05$.

The null hypothesis of exact fit was rejected, but the null hypothesis of close fit was not rejected in both the measurement and structural models. It can therefore be concluded that the model reasonably reproduces or approximates the observed covariance matrix. The exact and close fit statistics, in conjunction with the goodness-of-fit indices, enabled the researcher to conclude that both the measurement and structural models fit reasonably well with the current data.

Hypothesis 2: H_{02} : $\gamma_{11} = 0$ against H_{a2} : $\gamma_{11} > 0$

Consistent with previous studies (Huang et al., 2006; Larrabee et al., 2003; Peccei & Rosenthal, 2001; Wallach & Muller, 2006) a significant positive relationship was found to exist between leader behaviour and psychological empowerment ($t = 4.46$; $r = .29$). This implies that high perceptions of transformational leader behaviours by immediate supervisor are associated with high levels of psychological empowerment among employees in the current data. The confirmation of this relationship is not surprising given the strong argument in previous studies (Conger & Kanungo, 1988; Dewettinck & Van Amejide, 2007) that leadership behaviours contribute to employees' psychological empowerment to the extent to which it is able to affect an individual's perception of meaning, competence, self-determination, and or impact.

Hypothesis 3: H_{03} : $\gamma_{21} = 0$ against H_{a3} : $\gamma_{21} > 0$

A very weak and insignificant relationship was found to exist between leader behaviour and job satisfaction ($t = 0.70$; $r = .04$). This finding implies that high transformational leader behaviours have very little or almost no association with levels of job satisfaction. Therefore, this result is almost completely inconsistent with previous research literature.

Several studies (e.g., Bertelli, 2007; Chen et al., 2005; Firth et al., 2004; Loke, 2001; Medley & Larochelle, 1995; Tepper, 2000; Ting, 1997) have reported a strong positive relationship to exist between leader behaviour and job satisfaction. For example, McNeese-Smith (1997, cited in Loke, 2001), suggested that among the characteristics of the immediate supervisor that influence subordinate employees' job satisfaction is provision of recognition, meeting employee personal needs, helping or guiding the employee, and so forth. As a result, this finding indicates that further investigation is required through future research studies in order to explain the inability of leader behaviour to affect job satisfaction in certain contexts. A possible reason for the lack of a relationship between job satisfaction and leader behaviour in the present sample, could relate to the operationalisation of the satisfaction measure. In the present study, only the work satisfaction sub-scale of the job satisfaction measure was used, where earlier research studies made use of more general indicators of job satisfaction that also measured aspects of satisfaction with peers, supervisors, and other aspects. In this way, these earlier studies could have artificially created significant paths between satisfaction and leader behaviour by making use of measures that partly overlap, i.e, both contain aspects that relate to leader behaviour.

Hypothesis 4: $H_{04}: \gamma_{31} = 0$ against $H_{a4}: \gamma_{31} > 0$

A significant positive relationship was found to exist between leader behaviour and subordinate employees' organisational commitment ($t = 2.30$; $r = .13$). This implies that high transformational leadership behaviours are associated with high levels of subordinate employees' organisational commitment in the current data, which is consistent with the findings from previous studies (Avolio et al., 2004; Firth et al., 2004; Karrasch, 2003; Loke, 2001; Rivera & Tovar, 2007). Organisational commitment is influenced by the supervisors' use of their leadership behaviours such as being appreciative, supportive and visionary, having the ability to trust others, role modelling, and creating open communication (Avolio et al., 2004; Loke, 2001). They further reported that employees who perceive interdependence with their immediate superiors reinforce their commitment to the organisation.

Hypothesis 5: $H_{05}: \beta_{21} = 0$ against $H_{a5}: \beta_{21} > 0$

A very high positive relationship was found to exist between psychological empowerment and job satisfaction ($t = 9.32$; $r = .81$). This implies that high levels of perceived psychological empowerment were associated with high levels of job satisfaction in the current data. In the organisational context, it also means that highly empowered employees are likely to be more satisfied with their jobs. Accumulated research evidence has shown that psychological empowerment results in more satisfied employees, and the finding of this study is consistent with the findings of previous studies (Avey et al., 2007; Bowen & Lawler, 1995; Holdsworth & Cartwright, 2003; Laschinger & Finegan, 2005; Seibert et al., 2004). Previous research findings has consistently showed that psychological empowerment is the primary predictor of job satisfaction and, as a result, an increase in job satisfaction is one of the key outcomes behind the perceived feeling of empowerment among employees in the workplace, while low levels of empowerment in the workplace are strongly related to the reduction in job satisfaction (Bordin et al., 2007; Holdsworth & Cartwright, 2003; Spreitzer et al., 1997; Spreitzer, 1995; Wilkinson, 1997).

Hypothesis 6: $H_{06}: \beta_{31} = 0$ against $H_{a6}: \beta_{31} > 0$

The results suggest that a weak and insignificant relationship exists between psychological empowerment and organisational commitment ($t = 1.55$; $r = .33$). To a large extent, this finding came as a surprise and was inconsistent with prior research. Several studies (Bordin et al., 2007; Dewettinck & Van Amejide, 2007; Koberg et al., 1999; Laschinger et al., 2000) have reported strong positive relationships to exist between psychological empowerment and organisational commitment. Psychological empowerment has been reported in previous studies to increase an employee's commitment to the organisation in that employees who feel empowered are more likely to reciprocate by being more committed to their work and the organisation as a whole (Avolio et al., 2004; Koberg et al., 1999; McDermott et al., 1996; Zhou, May, & Avolio, 2004).

Hypothesis 7: $H_{o7}: \beta_{32} = 0$ against $H_{a7}: \beta_{32} > 0$

Inconsistent with the researcher's hypothesis, as well as contrary to the bulk of research findings, a very weak and insignificant relationship exists between job satisfaction and organisational commitment ($t = 1.13$; $r = .24$). Although this finding was against the researcher's expectation, it did not come as a surprise due to the contradictory or inconsistent nature of the findings that are evident in previous studies relating to the relationship between job satisfaction and organisational commitment. For example, some studies reported a significant positive relationship between job satisfaction and organisational commitment (Blau & Lunz, 1998; Gaetner, 1999; Ladebo, 2005; Lee, 2000; Lok & Crawford, 2001; Podsakoff et al., 2007), while others (Currivan, 1999) reported no relationship at all between these two variables.

Furthermore, research evidence from previous studies also suggests that satisfied employees are likely to exhibit discretionary behaviours within the organisation and show more commitment to the employing organisation (Blau & Lunz, 1998; Gaetner, 1999; Knoop, 1995; Ladebo, 2005; Sagie, 1998). More and more evidence suggest that employees who are satisfied with their jobs are likely to be better ambassadors for the organisation and show more organisational commitment (Agho et al., 1992). It must be highlighted that although the present study did not find any relationship at all between job satisfaction and organisational, but an insignificant positive relationship, the current finding seems to corroborate Currivan's (1999) study which also reported an insignificant relationship between satisfaction and commitment. Again, it must be borne in mind that the operationalisation of the job satisfaction measure (i.e., as satisfaction *with work*, per se) could have played a role in this result.

Hypothesis 8: $H_{o8}: \beta_{41} = 0$ against $H_{a8}: \beta_{41} > 0$.

One of the most captivating findings in the present study was found between psychological empowerment and turnover intention. The current results suggest that a significant positive relationship exists between psychological empowerment and turnover intention ($t = 2.37$; $r = .39$).

This finding implies that high levels of perceived psychological empowerment are associated with high levels of employees' turnover intentions within the military context. As a result, it is completely inconsistent with the findings of the previous studies in other work contexts (e.g., Koberg et al., 1999), particularly the results of the large meta-analysis study conducted by Spector (1986), which showed a strong negative relationship between psychological empowerment and turnover intention. Also, several other studies have concurred by showing that low levels of empowerment in the workplace are strongly related to high levels of turnover intentions among employees (Appelbaum & Honeggar, 1998; Fox, 1998; Holdsworth & Cartwright, 2003; Ripley & Ripley, 1993; Thomas & Tymon, 1994). Similarly, the current finding is also inconsistent with Hayes' (1994) study, which reported no relationship at all between empowerment and turnover intention.

The reasons for the present finding are unclear. However, it can only be speculated that the link between empowerment and turnover intentions may be organisational specific. It is possible that, in the present military sample, characterised by high levels of job security and high levels of turnover among professional personnel, individuals that feel psychologically empowered also feel more inclined to search for better employment opportunities elsewhere. This inference is based on the Attraction-Selection Attrition (ASA) model (Bretz, Ash, & Dreher, 1989; Schneider, 1983). Through the process of attraction, selection, and attrition, organisations evolve towards a state of interpersonal homogeneity. Early in the process, a similarity-attraction effect results in people being attracted to organisations whose members they believe are similar to themselves. Their attraction to such organisations leads people to seek organisational membership. When current members screen potential new members, they too are attracted to similar others, so they are more likely to admit new members who are like themselves. After entering the organisation, the new members and the more tenured members become better acquainted, and the similarity-attraction effect can again affect the feelings and behaviours of both parties (Jackson, Brett, Sessa, Cooper, Julin, & Peyronnin, 1991). The arrangement is likely to be judged satisfactory to the extent that perceived similarity is maintained. If the match is judged unsatisfactory, pressures form to encourage dissimilar members to leave the organisation, and, therefore, overtime these processes create psychologically homogenous work groups (George, 1990). In this current speculation, it is therefore possible that the psychologically empowered employees develop high levels of turnover intention due to the dissimilarity effect. However, this inference should be explored by further research.

Another speculation to explain the reason for the present finding of a high positive relationship between psychological empowerment and turnover intention could be the influence of the other latent variables (i.e., job satisfaction and organisational commitment), which psychological empowerment moderated for in the current model. The high positive relationship might have been the result only after psychological empowerment has moderated for any other variable. It is, therefore, possible that a different finding could be obtained if the relationship between psychological empowerment and turnover intention were to be measured independently of other variables. Again, this inference should be explored by further research.

Hypothesis 9: $H_{09}: \beta_{42} = 0$ against $H_{a9}: \beta_{42} > 0$

Another unexpected finding in the present study was found in the relationship between job satisfaction and turnover intention. The results show that an insignificant negative relationship existed between job satisfaction and turnover intention ($t = -1.44$; $r = -.23$). Most earlier research reported a strong negative relationship between job satisfaction and turnover intention (Griffeth et al., 2000; Jui-Chu et al., 2009; Larrabee et al., 2003; Martin & Roodt, 2008; Ravichandran, 2006). When job satisfaction levels are low, employees normally develop behavioural intentions to quit, which explicitly suggested that when employees' job satisfaction level decreases, their turnover intention increases (Gaan, 2007; Irvine & Evans, 1995; Murrells et al., 2008). However, considering the fact that a military sample was utilised in the current study, military withdrawal or intent to withdraw may involve a different process than civilian withdrawal (Carsten & Spector, 1987; Waite & Berryman, 1986). Moreover, meta-analytic findings suggest that because of contractual obligations, dissatisfaction may have less influence on military personnel's withdrawal cognitions than for civilians' samples (Carsten & Spector, 1987; Farkas & Tetrick, 1989; Hom, Caranikas-Walker, Prussia, & Griffeth, 1992; Hom & Griffeth, 1991; Hom & Hulin, 1981; Lee, Ashford, Walsh & Mowday, 1992).

Also, Carsten and Spector (1987) reported that predictability of turnover by satisfaction specifically decreased with time, and this decrease was more evident in the military samples. Once again, unlike civilians, when military personnel make decisions to enlist, they irreversibly commit themselves to a long-term membership. Therefore, under such circumstances, dissatisfaction is expected to have a weaker effect on military personnel's turnover intention thoughts than on civilians' turnover thoughts (Sümer, 2004).

Hypothesis 10: $H_{010}: \beta_{43} = 0$ against $H_{a10}: \beta_{43} > 0$

A very strong negative relationship exists between organisational commitment and turnover intention ($t = -9.60$; $r = -.83$). This implies that high levels of organisational commitment among employees are associated with low levels of turnover intention. This finding is consistent with the body of previous research evidence relating to the effect of organisational commitment on turnover intention. Previous studies reported a strong negative relationship between these commitment and turnover intention (Chen et al., 1998; Gaan, 2007; Griffeth et al., 2000; Hackett et al., 1994; Lee et al., 2008; Luna-Arocas & Camps, 2008; Meyer et al., 2002).

Having discussed the findings that relate to the research hypotheses, it is appropriate to shift the statistical artefacts that may have influenced the results. With regards to the power analysis of the current study, the power figures that were obtained suggested that there was an extremely high chance of rejecting a good (if not perfect) model with the current sample size. The probability of rejecting the hypothesis of exact fit was more than 0.90 even though the true fit was close. This demonstrated the reported problems associated with relying exclusively on a test of exact fit (performed by the χ^2 test statistic) and established the basis for recommending against the use of the test of exact fit for evaluating covariance structure models. However, since the null hypothesis of exact fit was rejected, this no longer was a reason for concern. The probability of rejecting the null hypothesis of close fit if the true model fit was mediocre was also low enough to provide any reason for concern. The power estimates, taken into conjunction with the decision not to reject the null hypothesis of close fit suggested that the current model's power analysis is sufficiently powerful.

Insights from this study may help practitioners, managers, and organisations take appropriate steps to ameliorate quit intentions among their employees. In addition, it may provide researchers with additional insight into the relationship between these constructs, particularly within the context of non-profit organisations, which include the military organisations.

In conclusion, the findings of the present study suggest that organisational interventions that are aimed at minimising turnover intentions and turnover behaviours among employees need to focus on developing, reinforcing and encouraging the transformational leadership behaviours among the individuals occupying leadership or supervisory positions, and psychological empowerment and organisational commitment among all organisational members. The study clearly showed the extent to which transformational leadership behaviour affects turnover intentions through its influence on psychological empowerment. Transformational leadership also affected job satisfaction and organisational commitment through the mediating role of psychological empowerment. The findings highlighted the possible role of leader behaviour in increasing perceived psychological empowerment as well as organisational commitment. This means that immediate supervisors' behaviours and social support towards subordinate employees could create and promote feelings of psychological empowerment and organisational commitment among employees. Therefore, organisational interventions and programs intended to reduce turnover intentions could be planned around the development of transformational leader behaviours among the organisational leadership at all levels, because transformational leader behaviour creates and increases psychological empowerment and organisational commitment. High levels of psychological empowerment could in turn result in high levels of job satisfaction among employees, while high levels of organisational commitment could in turn result in low levels of turnover intention among employees.

The findings also highlighted the possible role of intermediate processes that result in turnover intentions. In particular, the central role of psychological empowerment and its effect on turnover intention was illustrated. The study showed that, for organisations who want to minimise turnover intentions among their employees, encouraging the psychological empowerment of employees could be an advantage, but also, sometimes result in unintended consequences in the form of increased turnover intention.

However, the present findings demonstrated that employees who are psychologically empowered are also satisfied with their jobs, which should be interpreted as a positive result. It follows that employees who experience feelings of psychological empowerment will be more satisfied and less likely to leave the organisation. It is clear that the mediating processes that ultimately lead to turnover-related thoughts and intentions are more complex than acknowledged in the current literature and, therefore, warrant further research.

Furthermore, the results of the present research also suggest another major implication for practice. Practitioners, managers and their employing organisations should take cognisance of the fact that highly empowered employees are also career-mobile employees. This means that employees who experience high levels of psychological empowerment could also develop high intentions to leave the organisation, especially in certain contexts. Therefore, in such contexts, this finding leaves managers, practitioners and employing organisations with a dilemma as to whether to invest in psychological empowerment of their employees or not to, considering the existing empirical evidence that suggest that psychological empowerment causes job satisfaction, commitment and high performance among employees in organisations. As a result, the situational factors that could affect the sign of the correlation between empowerment and turnover intention, such as the performance culture of the organisation, the prevailing job market, and others, should be explored by further research

5.3. LIMITATIONS AND RECOMMENDATIONS FOR FUTURE RESEARCH

5.3.1. Limitations of the Study

It is also important to acknowledge that this study does have several limitations that readers need to take into consideration when interpreting the results of this study as well as for future research on this subject. First, the study sample was drawn from the limited number of locations/units, which hardly represented the organisation involved in this study. Second, the demographic characteristics of the entire organisation from which the sample was drawn were not considered with regards to the representation of the sample in terms of race, gender, age, and other demographic variables.

Third, the current study used a cross-sectional approach, and not a longitudinal approach. Typically, cross-sectional studies aim at understanding the causal processes that occur at here-and-now time period and, as a result, their conclusions are based on observations made at only one time, while one of the advantages of the longitudinal studies is that they are designed to permit observations over an extended period. Fourth, the possible challenge in the operationalisation of some measures in the current study should be taken into consideration. For example, the measure of leader behaviour utilised the transformational subscale of the MLQ only, therefore excluding all other MLQ subscales. Satisfaction with work is the only JDI subscale that was used to measure the construct of Job satisfaction. Affective and normative commitment subscales are the only subscales of the OCS that were utilised. Therefore, the inclusion of the non-transformational subscales of the MLQ, the continuance commitment subscale of the OCS, as well as the other (pay, promotion, supervisor, co-workers) JDI subscales could possibly lead to different findings.

5.3.2. Recommendations for Future Research

The findings reported in this study have implications for future research and theory concerning turnover intention. First, the theoretical model proposed in the current study has the potential to be expanded through the inclusion of further variables that are likely to influence turnover intention among employees. Such a comprehensive model could have the potential to explain more variance in the turnover intention subject, particularly in service-based organisations such as the military. Among the notable additions, the influence of various mediating variables, such as demographic characteristics, alternative employment opportunities, and so forth can be explored. Second, the limited nature of some measures (i.e., JDI, OCS, MLQ) used in this study suggest that, for future research on the effect of job satisfaction, organisational commitment and leader behaviour on turnover intention, utilisation of complete measures and or alternative measures should be considered. For example, the findings of the present study showed the strong effects of leader behaviour, psychological empowerment, and organisational commitment on turnover intentions among employees in organisations. Therefore, the lack of relationship between job satisfaction and turnover intention reported in the current study suggest the need for future investigation on this matter.

Since only one JDI subscale was utilised to measure job satisfaction, future research should consider utilising the whole JDI measure for possible testing of the relationships between other JDI dimensions and turnover intention. This could shed some light on the effect of different aspects of job satisfaction on turnover intention. Third, identifying the factors that influence turnover intention in organisations will provide managers, practitioners and researchers with necessary, meaningful information to make intelligent decisions regarding interventions aimed at reducing turnover intentions. Rather than treating turnover intention as either an exclusive exogenous variable or the final endogenous variable, it is important to look at both the causes and effects of factors related to turnover intention, and actual turnover. The current model succeeded to explicate the processes involved in the development of turnover intentions among employees. Previous studies have identified psychological empowerment, job satisfaction and organisational commitment among the factors related to turnover behaviours, only limited studies have investigated the factors that could be antecedent to these variables. However, one of the major findings in the current study was the role of psychological empowerment as a possible driving force behind the development of job satisfaction. Therefore, since only leader behaviour was treated as an independent variable, future studies should investigate other factors that can be used to explain the development of psychological empowerment and organizational commitment.

Fourth, the findings of the present study reported a high positive relationship between psychological empowerment and turnover intention. This finding leaves the managers, practitioners and employing organisations in a dilemma because they would not know when psychological empowerment would result to the intended consequences (high job satisfaction and low turnover intention), and when it would lead to unintended consequences (high turnover intention). Therefore, future research should investigate whether or not all four aspects (dimensions) of psychological empowerment would cause high turnover intention. Finally, the practical implications of the findings of the current study also suggest the need for organisations to direct their resources towards the leadership development programs as the main factor, in order to increase psychological empowerment and organisational commitment, which in turn could reduce turnover intentions among their employees.

In the present research, psychological empowerment seemed to be a key mediating variable between leader behaviour and other constructs of interest in the study, i.e. job satisfaction, commitment and turnover intention. The stability of this enhanced structural model needs to be examined in a cross-validation study using fresh sample data drawn from the same population. Cross-validation and expansion of the current model in future research could shed more light on the role of leadership behaviour in employees' work-related attitudes and turnover intention. Aside from the practical implications of the current research, the advancement of theory through continued research in itself represents a noble goal worth pursuing and the South African academic fraternity should take its rightful position as a stakeholder and lead this venture in search of the epistemological truth.

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Appendix A

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7395
April 2009

The Influence of Leader Behaviour, Empowerment, Satisfaction, and Commitment on Turnover Intention

Dear participant,

1. Thank you for participating in this study.
2. **Background.** The following questionnaire is designed to explore the relationships between perceived leader behaviours, psychological empowerment, job satisfaction, and organizational commitment and their influence on turnover intentions in organizations, e.g. the South African National Defence Force. The questionnaire consists of six sections:
 - a. Section A: Biographical Information
 - b. Section B: Leadership Behaviour (**LB**)
 - c. Section C: Psychological Empowerment (**PE**)
 - d. Section D: Job Satisfaction (**JS**)
 - e. Section E: Organizational Commitment (**OC**)
 - f. Section F: Turnover Intention (**TI**)
3. However, before beginning with the completion of the questionnaire, you are kindly requested to carefully read and sign the consent form attached on the next page.

Your cooperation is highly appreciated.

(T. J. DHLADHLA)

Please page over to read and complete the consent form

Appendix B

STELLENBOSCH UNIVERSITY CONSENT TO PARTICIPATE IN RESEARCH

The Influence of Leader Behaviour, Empowerment, Satisfaction, and Commitment on Turnover Intention

You are requested to participate in a research study conducted by Thamsanqa. J. Dhladhla of the Military Academy, from the Department of Industrial Psychology at Stellenbosch University. The results of this research study will contribute to the completion of his Master's thesis, which forms part of his MComm (Psych) degree. You are selected as a possible participant in this study because you are a uniformed member and an employee of the South African military or the South African National Defence Force (SANDF), an organization that was selected for this study.

1. PURPOSE OF THE STUDY

The purpose of the present study is to investigate the influence of job related attitudes, with specific reference to leader behaviour, empowerment, satisfaction and commitment, on turnover intention in organizations.

2. PROCEDURES

If you volunteer to participate in this study, you are requested to do the following things:

2.1. Receipt of Questionnaire

The questionnaire will be handed out to you, the participant, in person, by the researcher (Thamsanqa Dhladhla).

2.2. Completion of Questionnaire

As a participant, you are requested to read through and complete all the sections (A to F) of the questionnaire individually and as honest as possible. When completing your questionnaire, please keep in my mind that there are no right or wrong answers.

2.3. Questionnaire Collection

After completion, the researcher will personally collect all questionnaires from participants immediately.

3. POTENTIAL RISKS AND DISCOMFORTS

No reasonably foreseeable physical and or psychological potential risks or discomforts are anticipated during the completion of the questionnaires, however, it possible that some participants may be uncomfortable responding about their direct supervisor, for fear of victimization. As a result, participation in this study is completely voluntary, anonymous, and confidential.

4. POTENTIAL BENEFITS TO SUBJECTS AND/OR TO SOCIETY

There are no direct benefits to the individual subjects, however the South African military organization may benefit through a fostered in-depth understanding of the interplay between leadership behaviour, psychological empowerment, job satisfaction and organizational commitment, and how these variables influence turnover intentions and turnover among uniformed members of the organization. Such understanding may enable the top management to develop relevant strategies to minimize and or prevent voluntary turnover of personnel, thereby enhancing the organization's ability to carry out its national responsibilities as well as international obligations effectively. It may also assist the organization in trying to adjust the right psychological mix of variables that affect productivity in the organization as well as overall service delivery to the nation and other clients.

4.1. Benefit to Science/Society

The development of a model that explicates the manner in which the interplay between leadership behaviour, psychological empowerment, job satisfaction and organizational commitment influence turnover intention in the organizations will provide the science with an understanding of how the selected variables vary in their influence on turnover intention among the workforce in organizations. This will make a significant contribution to the body of knowledge in the field of Organizational Psychology, especially in the South African setting.

5. PAYMENT FOR PARTICIPATION

No participants will receive any form of payment in exchange for participating in this study.

6. CONFIDENTIALITY

Any information and data that is obtained through the conduct of this study will be treated with the utmost confidentiality and not be made available to any unauthorised person. This information will remain confidential and will be disclosed only with the participant's permission or as required by law. Confidentiality will be maintained by means of using coding procedures. The participants are not required to write their names or particulars on the questionnaires. The questionnaires will be issued to the participants by the researcher, in person. On completion of the questionnaire, the researcher will personally collect the questionnaires from all participants. If the results of this research are published, confidentiality will still be maintained due to the fact that results are anonymous and analysed and reported on in collective or group form. Therefore, confidentiality and anonymity are a priority and will be honoured.

7. PARTICIPATION AND WITHDRAWAL

Participation in this study is completely voluntary, and you may withdraw your participation any time you wish to do so. You may also refuse to answer any questions you don't want to answer and still remain in the study.

No penalty will be incurred or sanctioned to the participant that decide to withdraw at any stage for whatever reason. The investigator may also withdraw your participation from this study if circumstances arise which warrant doing so, such as ill-health or resignation.

8. IDENTIFICATION OF INVESTIGATORS

If you have any questions or concerns about the research, please feel free to contact Thamsanqa Dhladhla (Researcher) at the Military Academy in Saldanha on the telephone numbers: (022) 702 3168 during office hours, and (073) 843 7898 all hours, or email: a_dhla@ma2.sun.ac.za / teejay-d@webmail.co.za. Alternatively, participants are free to contact Mr Francois De Kock at the Department of Industrial Psychology, Stellenbosch University, Stellenbosch (021-808 3016 / 082-780 4652).

9. RIGHTS OF RESEARCH SUBJECTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, please contact the Division of Research Development at Stellenbosch University on (021) 808 4622.

SIGNATURE OF RESEARCH SUBJECT OR LEGAL REPRESENTATIVE
--

The information above was described to me, the participant by in *Afrikaans / English / isiXhosa / isiZulu / other*, and I (the participant) am in command of this language or it was satisfactorily translated to me (the participant). As a participant, I was given the opportunity to ask questions and these questions were answered to my satisfaction.

I, the participant, hereby consent voluntarily to participate in this study. I confirm that I have received a copy of this form.

Name of Subject/Participant

Name of Legal Representative (if applicable)

Signature of Subject/Participant or Legal Representative

Date

SIGNATURE OF INVESTIGATOR

I declare that I explained the information given in this document to _____ [*name of the subject/participant*] and/or [his/her] representative _____ [*name of the representative*]. [He/she] was encouraged and given ample time to ask me any questions. This conversation was conducted in [Afrikaans/*English/*Xhosa/*Other] and [no translator was used/this conversation was translated into _____ by _____].

Signature of Investigator

Date

.....Please page over to start completing the Questionnaire.....

Appendix C

SECTION A:

Your biographical information in this study is very important, and is purely required for statistical purposes only. This information as well as all your responses will not be revealed to any person other than the researcher(s). Please **DO NOT** write your **name, force number or unit** anywhere in this document. You are therefore requested to mark with a cross (X) inside the box that contains the information that best describes you.

AGE

18 - 25	
26 - 35	
36 - 45	
Older than 45	

GENDER

Male	
Female	

MARITAL STATUS

Single	
Married	
Divorced	
Separated	
Widowed	
Living together	

RANK

CO/Mid – Lt/SLt	
Capt/Lt(SAN) – Maj/LtCdr	
LtCol/Cdr - Col/Capt(SAN)	
Pte/Smn – Cpl/LSmn	
Sgt/PO – SSgt/CPO	
WO	

HIGHEST QUALIFICATION

Lower than Grade 10 (std 8)	
Grade 10 / Std 8	
Grade 12 / Matric	
Post-matric certificate	
Diploma	
Degree	

RACE

African	
Asian	
Coloured	
White	

ARM OF SERVICE

SA Air Force	
SA Army	
SAMHS	
SA Navy	

YEARS OF SERVICE

1 to 5 yrs	
6 to 10 yrs	
11 to 15 yrs	
16 to 20 yrs	
More than 20yrs	

.....END OF SECTION-A.....

Please page-over to Section-B

SECTION B:

This section consists of statements that are aimed at providing the description of leadership behaviours that you experienced as demonstrated by your direct supervisor/commander. There are no *right* or *wrong* answers therefore, please try and respond to ALL statements as honestly as possible.

Directions: Please indicate how frequent/often your direct supervisor/commander demonstrates each of the following behaviours. **For example:** If you feel that your supervisor/commander is almost never absent when you need him/her, then cross the box with number 1.

Almost Never	Once in a while	Sometimes	Fairly Often	Frequently	Almost Always
1 X	2	3	4	5	6

Please read each statement below carefully and choose only ONE answer that best describes your direct supervisor/commander.

My Supervisor / Commander....	Almost Never	Once in a while	Sometimes	Fairly Often	Frequently	Almost Always
1. Re-examines critical assumptions to question whether they are appropriate.	1	2	3	4	5	6
2. Talks about his/her most important values and beliefs.	1	2	3	4	5	6
3. Seeks differing perspectives when solving problems.	1	2	3	4	5	6
4. Talks optimistically about the future.	1	2	3	4	5	6
5. Instils pride in being associated with him/her.	1	2	3	4	5	6
6. Talks enthusiastically about what needs to be accomplished.	1	2	3	4	5	6
7. Specifies the importance of having a strong sense of purpose.	1	2	3	4	5	6
8. Spends time supporting and coaching.	1	2	3	4	5	6
9. Goes beyond his/her self-interest for the good of the group.	1	2	3	4	5	6
10. Treats you as an individual rather than just a member of a group.	1	2	3	4	5	6
11. Acts in a way that builds my respect.	1	2	3	4	5	6

My Supervisor / Commander....	Almost Never	Once in a while	Sometimes	Fairly Often	Frequently	Almost Always
12. Considers the moral and ethical consequences of his/her decisions.	1	2	3	4	5	6
13. Displays a sense of power and confidence.	1	2	3	4	5	6
14. Articulates a compelling vision of the future.	1	2	3	4	5	6
15. Considers me, as having different needs, abilities and aspirations from others.	1	2	3	4	5	6
16. Gets me to look at problems from many different angles.	1	2	3	4	5	6
17. Helps me to develop my strengths.	1	2	3	4	5	6
18. Suggests new ways of looking at how to complete tasks.	1	2	3	4	5	6
19. Emphasises the importance of having a collective sense of mission.	1	2	3	4	5	6
20. Expresses confidence that goals will be achieved.	1	2	3	4	5	6

.....**END OF SECTION-B**.....

Please page-over to Section-C

SECTION C:

The following statements describe how you feel about your work currently. There is no *right* or *wrong* answers, therefore please try and respond to ALL statements. **Directions:** Please mark with a cross (X) inside the box to indicate how much you *agree* or *disagree* with each of the following statements.

Statements:	Strongly Disagree	Disagree	Agree	Strongly Agree
1. The work I do is very important to me.	1	2	3	4
2. My job activities are personally meaningful to me.	1	2	3	4
3. The work I do is meaningful to me.	1	2	3	4
4. I am confident about my ability to do my job.	1	2	3	4
5. I am self-assured about my capabilities to perform my work activities.	1	2	3	4
6. I have mastered the skills necessary for my job.	1	2	3	4
7. I have significant autonomy in determining how I do my own job.	1	2	3	4
8. I can decide on my own how to go about doing my work.	1	2	3	4
9. I have considerable opportunity for independence and freedom in how I do my job.	1	2	3	4
10. My impact on what happens in my department is large.	1	2	3	4
11. I have a great deal of control over what happens in my department.	1	2	3	4
12. I have significant influence over what happens in my department.	1	2	3	4

.....**END OF SECTION-C**.....

Please page-over to Section-D

SECTION D:

The following statements describe how you feel about different aspects of your job in the SANDF. Read each statement carefully and indicate the extent to which you are satisfied with each aspect of your job. There are no *right* or *wrong* answers, therefore please try and respond to ALL statements as honest as possible. **Directions:** Please write a cross (X) inside the box that contain the information that you think best describes the level of your satisfaction with each aspect of your job.

	Strongly Disagree	Disagree	Agree	Strongly Agree
1. My work is satisfying.	1	2	3	4
2. My work is boring.	1	2	3	4
3. My work is good.	1	2	3	4
4. My work is tiresome.	1	2	3	4
5. My work is challenging.	1	2	3	4
6. My work gives me a sense of accomplishment.	1	2	3	4

.....**END OF SECTION-D**.....

Please page-over to Section-E

SECTION E:

The following statements describe the way you feel in/about the SANDF as a whole. Remember that there are no right or wrong answer, therefore please try and respond to ALL statements. **Directions:** Thinking of the SANDF as your organization, please read each statement and indicate with a cross (X) the extent to which you *agree* or *disagree* with each.

Statements:	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I would be very happy to spend the rest of my career in the SANDF.	1	2	3	4
2. I do not feel any obligation to remain with the SANDF.*	1	2	3	4
3. I really feel as if the SANDF's problems are my own.	1	2	3	4
4. Even if it were to my advantage, I do not feel that it would be right to leave the SANDF now.	1	2	3	4
5. I do not feel like 'part of the family' in the SANDF.*	1	2	3	4
6. I would feel guilty if I left the SANDF right now.	1	2	3	4
7. I do not feel 'emotionally attached' to the SANDF.*	1	2	3	4
8. The SANDF deserves my loyalty.	1	2	3	4
9. The SANDF has a great deal of personal meaning for me.	1	2	3	4
10. I would not leave the SANDF right now because I have a sense of obligation to the people in it.	1	2	3	4
11. I do not feel a strong sense of belonging in the SANDF.*	1	2	3	4
12. I owe a great deal to the SANDF.	1	2	3	4
13. I enjoy discussing the SANDF with people outside it.	1	2	3	4
14. I think that people these days move from company too company too often.	1	2	3	4
15. I think I could easily become as attached to another organization as I am to the SANDF.*	1	2	3	4
16. I do not believe a person must always be loyal to his organisation				

.....**END OF SECTION-E**.....

Please page-over to Section-F

SECTION F:

Directions: Please mark with a cross (**X**) inside the box to indicate how much you *agree* or *disagree* with each of the following statements.

Statements	Strongly Disagree	Disagree	Agree	Strongly Agree
1. I am actively looking for another job outside the SANDF.	1	2	3	4
2. As soon as I can find a better job, I will leave the SANDF.	1	2	3	4
3. I often think about leaving the SANDF.	1	2	3	4
4. I intend to leave the SANDF as soon as I possibly can.	1	2	3	4
5. If another organization offered me a job right now, I would leave the SANDF even if the salary were to be equal to my present salary.	1	2	3	4

.....**THE END**.....

THANK YOU FOR YOUR PARTICIPATION!