# THE RELATIONSHIP BETWEEN HIGH COMMITMENT MANAGEMENT AND EMPLOYEE ATTITUDES AND BEHAVIOURS: THE ROLE OF PSYCHOLOGICAL CONTRACT FULFILMENT AND JUSTICE

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# DECLARATION

I, Susan Zeidan, declare that the PhD thesis entitled *The Relationship between High Commitment Management and Employee Attitudes and Behaviours: The Role of Psychological Contract Fulfilment and Justice* is no more than 100,000 words in length, exclusive of tables, figures, appendices, references and footnotes. This thesis contains no material that has been submitted previously, in whole or in part, for the award of any other academic degree or diploma. Except where otherwise indicated, this thesis is my own work.

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Susan Zeidan
7th November 2006

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fatigued countless times when the task at hand overwhelmed me, but despite all of the sleepless nights, setbacks, delays in data collection and time spent contemplating what had to be done next, I never once thought of giving up. I owe this determination to my parents for teaching me to persevere in the face of adversity and to always strive to attain my goals and follow my dreams.

Finally, I would like to dedicate this work to my mother for being my guiding light, and to my father who always wanted to have a Doctor in the family. Well now you do have one! At long last!

# PUBLICATIONS BY THE CANDIDATE

## RELEVANT TO THE THESIS

Zeidan, S. (2005). *Linking High Commitment Management Practices with Important Work Outcomes: A Psychological Contract Perspective.* Paper presented at the Business Research Conference, Melbourne, Australia. <u>Best Paper Award.</u>

Zeidan, S., & Knight-Turvey, N. (2005). *On the Potential Negative Effects of High Commitment Management: A Psychological Contract Perspective.* Paper presented at the 19th ANZAM conference, Canberra, Australia.

Zeidan, S. (2006). Workers' affective commitment and their willingness to perform discretionary work behaviour: The impact of commitment-oriented human resources management practices. *Journal of Business Systems, Governance and Ethics, 1, 1, pp. 13-23.*

Zeidan, S., & Knight-Turvey, N. (2006). *High Commitment Management and Employee Perceptions of Psychological Contract Fulfilment.* Paper presented at the Academy of World Business, Marketing and Management Development Conference, Paris.

Zeidan, S., & Knight-Turvey, N. (2006). *Linking High Commitment Management and Organizational Citizenship Behavior: the Role of Perceived Contract Fulfillment.* Paper presented at the Annual Meeting of the Academy of Management Conference, Atlanta, United States.

## NOT RELEVANT TO THE THESIS

Shammout, A., Zeidan, S., & Polonsky, M. J. (2006). *Exploring the Links between Relational Bonds and Customer Loyalty: The Case of Loyal Arabic Guests at Five-Star Hotels.* Paper presented at the Australian and New Zealand Marketing Academy (ANZMAC), Brisbane, Australia.

Shammout, A., & Zeidan, S. (2007). *Ability of Relational Bonds to Elicit Loyalty Behaviour: An Investigation of the Mediating Role of Emotions.* Paper presented at the International Tourism and Hospitality Virtual Conference.

Pham, H., Zeidan, S. (2007). *Marketing Standardisation or Adaptation: The MNC Subsidiaries Approach in Emerging Markets.* Academy of Marketing Science, Florida, USA.

# ABSTRACT

The implementation of high commitment human resource management (HRM) practices is widely believed to affect employee skills and motivation, and lead to a strategic advantage for the organisation. However, whilst there is now an abundant amount of evidence to indicate that high commitment HRM practices are associated with superior organisational level outcomes, it is still unclear as to how these practices affect such outcomes and whether these practices lead to desirable individual level outcomes. It is this need to determine the individual level effects of high commitment management that forms the focus of the present thesis.

Drawing on social exchange theory and the norm of reciprocity, this dissertation was conducted to examine the mechanisms involved in observed relations between high commitment HRM practices and employee attitudes and behaviours. More specifically, this study aimed to help fill the gap in the high commitment HRM-worker outcome relationship research by examining the role of perceived fulfilment of the psychological contract in linking employees' shared perceptions of a variety of people management practices with important work outcomes. The present program of research additionally examined the role of procedural and interactional justice in influencing any high commitment HRM-contract-outcome relationships.

Employees ($N = 488$) from a large banking organisation in Australia completed a survey that included measures of (a) perceptions of HRM practices pertaining to participative decision making, training and development, rewards, communication/information sharing, team working, selective staffing, and job security in their organisation, (b) perceptions of psychological contract fulfilment, (c) affective commitment, (d) organisational citizenship behaviour, (e) intention to quit, (f) procedural and interactional justice. Structural equation modeling was used to test the hypothesized model. It was hypothesised and consequently determined that employee perceptions of high commitment HRM practices were positively related to their perceptions of psychological contract fulfilment. In turn, this resulted in higher affective commitment and work performance. In addition, consistent with the hypotheses of this study, citizenship behaviour was higher following a contract fulfilment when both procedural and interactional justice were high. However, this

research established that the association between affective commitment and psychological contract fulfilment was higher only when procedural justice was high. Finally, the relationship between contract fulfilment and intentions to quit was not moderated when both procedural and interactional justices were high.

The findings of this study shed some light on the processes through which the implementation of a high commitment approach to managing employees affect employee outcomes. At a practical level, this study highlighted some important considerations for those attempting to improve individual level outcomes through the high commitment approach to managing employees. Findings suggest that apart from serving a functional role, HRM practices also play a non-instrumental role of communicating to employees that they are valued by the organisation. Thus, these findings support previous claims that organisations able to create a stronger climate for HRM can create greater utility from their HRM policies and practices. This research also expanded on previous accounts of the impact of the moderating effects of organisational justice on these outcomes.

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# LIST OF ACRONYMS

ACS          Affective Commitment Scale

AIC          Akaike Information Criterion

AMOS         Analysis of Moment Structures

CFA          Confirmatory Factor Analysis

CFI          Comparative Fit Index

DF           Degrees of Freedom

EFA          Exploratory Factor Analysis

HCM          High Commitment Management

HR           Human Resources

HRM          Human Resource Management

KMO          Kaiser-Meyer-Olkin Measure of Sampling Adequacy

OCB          Organisational Citizenship Behaviour

PCA          Principal Components Analysis

PDM          Participative Decision Making

POS          Perceived Organisational Support

RMSEA        Root Mean Square Error of Approximation

SD           Standard Deviation

SEM          Structural Equation Modeling

SPSS         Statistical Package for Social Sciences

SRMR         Standardised Root Mean Square Residual

TLI          Tucker-Lewis Index

# CHAPTER ONE

# INTRODUCTION

## 1.1 Introduction to Chapter One

This thesis develops and empirically examines a high commitment HRM-worker related outcome model through researching employees' perceptions of high commitment HRM practices, psychological contract fulfilment, and procedural and interactional justice. The scope of the study is the banking and finance industry, specifically analysing responses from a random sample of 488 employees in one of the largest four banking organisations of Australia.

The statement of the problem and a rationale for this study is presented in Section 1.2. Section 1.3 discusses the significance of the thesis, with Section 1.4 briefly discussing the methodology employed in this study. Finally, Section 1.5 introduces the remaining chapters of the thesis.

## 1.2 Statement of Problem and Rationale for this Research

In our rapidly changing global economy, organisational trends toward restructuring, mergers and acquisitions, changing product markets, e-commerce technology and global competition have increased pressure on organisations to make changes to the way their work force is managed (Noer, 1993; Kissler, 1994; Hitt, 1998; Cappeli, 1999). As Lodge (1985, p. 319) observed:

> By the early 1980s there was little disagreement that US corporate managers, employees and trade unions would have to change their ways in order to compete successfully for markets in America and abroad.

In this situation, the ability of organisations to readily adapt everyday business procedures and long-term goals becomes crucial to their success (Bartlett and Ghoshal, 1992). Therefore, to be successful, managers of organisations need to respond to these changes by cultivating a greater level of competence in human resource management (HRM). By effectively managing their human resources, firms nurture the type of employee behaviour that is essential to the success of their competitive strategy (Schuler, 1987; Dowling and Schuler, 1990). In addition, HRM practices may very tangibly signal organisational care or concerns, or lack thereof. That is to say, an effective HRM strategy facilitates the development of a workforce

that meets the requirements of a competitive business strategy by more fully harnessing employee potential to achieve organisational goals and missions (Guest, 1987).

Given the importance of HRM to business success, the above leads us to investigate ways in which organisations could more fully harness the potential of their human resource pool. Since 1990, a substantial and growing body of research into human resource management has centered on studying the influence of HRM practices on business performance (Wright and Boswell, 2002). That line of research defends the presence of a series of high commitment HRM practices that are characterized by their positive influence on business performance. These practices include communication, rigorous selection procedures, training and development, participative decision making, team working and rewards research. They have been variously labeled in the literature as 'high commitment management' (Whitener, 2001; Gould-Williams, 2004); 'high performance work practices or systems' (Huselid, 1995; Becker and Huselid, 1998; Varma, Beatty, Schneier and Ulrich, 1999; Cappelli and Neumark, 2001); 'sophisticated work practices' (Koch and McGrath, 1996); 'progressive HRM practices' (Gelade and Ivery, 2003); 'supportive employment practices' (Frenkel and Orlitzky, 2005); 'high involvement' (Vandenberg, Richardson and Eastman, 1999); and 'innovative human resource practices' (MacDuffie, 1995; Agarwala, 2003).

Researchers argue that implementation of high commitment HRM practices may enhance corporate financial performance, and create strategic and sustainable competitive advantage for the organisation (Arthur, 1994; Delaney and Huselid, 1996; Huselid, Jackson and Schuler, 1997; Weakland, 2001; Den Hartog and Verbug, 2004). Furthermore, a number of researchers have promoted the advantages of using high commitment HRM practices. They suggest that these practices can release untapped reserves of human resourcefulness by increasing employees' level of skills, commitment, motivation, participation and involvement (Blyton and Turnbull, 1992; Lawler, 1992; Pfeffer, 1998). In agreement, Walton (1985, p. 49) stresses that HRM should lead to employee commitment – not simply as a means to employer objectives of improved productivity and profits, but because 'the fulfilment of many employee needs is taken as a goal rather than merely a means to an end'.

However, whilst there is now a considerable amount of evidence to indicate that high commitment management is associated with a variety of organisationally beneficial outcomes, the assumption that these practices will lead to desirable individual level outcomes needs further investigation. For example, Youndt (2000) recently found that HR practices do not directly influence organisational performance; rather these practices help build intellectual capital, which in turn leads to increased organisational value creation. More specifically, despite the expected links between commitment HRM practices, employee attitudes and organisationally relevant outcomes, our understanding of the processes or mechanisms through which HRM practices impact organisational outcomes, remains at an early stage (Bowen and Ostroff, 2004). In fact, to this point, links from HRM to performance via outcomes such as commitment, have been assumed rather than tested (Purcell, 1999). Moreover, commitment is likely to be one of many mediating variables which have yet to be properly tested within the literature. These inadequacies have been highlighted by a number of researchers (Gibb, 2001; Gallie *et al.,* 2001) who believe that the scarcity of research into employee reactions to HRM should be addressed. In accord, Guest (2002, p. 336) also advocates placing workers 'center-stage' in the analysis of HRM. Hence, the role HRM practices play in attitude-behaviour relationships has remained unclear, and there is very little understanding of exactly how such practices work to bring about performance gains, and how they exert their influence on individual and organisational outcomes.

The failure to appropriately consider the processes by which HRM practices create value for the organisation has been referred to by some as the 'black box' problem (Becker and Gerhart, 1996). By looking closely inside this black box, researchers should better be able to explain how the HRM-performance relationship operates (Ferris *et al.,* 1998). Grant and Shields (2002) suggest that a possible answer to employee reactions to HRM may be found in the psychological contract, that aspect of the employment relationship that bounds employers and employees together beyond any formal underpinning. To this end, the present program of research seeks to address the gap by attempting to peer into the black box and look at the interaction between worker perceptions and high commitment HRM. Specifically, this thesis proposes that including employee perceptions of psychological contract fulfilment may help further our understandings of why high commitment management practices

may positively impact employee commitment, and in turn, increase organisational citizenship behaviours and reduce employee intention to quit the organisation. The study will also shed more light on the relationship between high commitment management practices and organisational commitment, as most research linking these two variables has only examined the direct link.

This study also investigates Rousseau's (1995) and Morrison and Robinson's (1997) belief that the strength of emotional and behavioural reactions following a contract breach/fulfilment may be moderated by individual cognitive assessments of organisational context surrounding the breach/fulfilment. According to these authors, part of this cognitive assessment involves an interpretation of how fairly the individual has been treated by the organisation. In situations where an individual can distinguish unfair procedures and treatment (i.e. low levels of procedural and interactional justice) that have occurred along with the breach of psychological contract, more intense feelings of anger and frustration may result (Morrison and Robinson, 1997). Although a few researchers have begun to investigate these relationships, there has been little research on how employees' perceptions of justice develop and affect their attitudes and behaviours. Furthermore, there has been no research that looks at whether perceptions of justice further lead to an increase in the positive impact of psychological contract fulfilment on employee attitudes and behaviours. Hence, this thesis will be novel in examining how contract fulfilment interacts with both procedural and interactional justice in determining employee attitudes and behaviours.

## 1.3  Significance of the Study

Given the enormous changes occurring in today's highly competitive business world, there appears to be almost universal agreement that the nature of the employment relationship is undergoing fundamental changes that have potentially vast implications for how companies attract, motivate and retain talent. It seems imperative that organisations search for ways to maintain a positive work environment for their employees by achieving a better understanding of their attitudes and behaviours, and finding ways to respond to change. This thesis attempts to clarify the roles of high commitment human resource practices, psychological contracts and organisational justice in influencing employee attitudes and

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behaviours, in the hope that results will provide insights into creative ways for human resource managers and organisational leaders to get the best work from their employees.

## 1.4 Methodology

In order to investigate the links between high commitment management practices and employee attitudes and behaviours, a quantitative approach has been used. This approach addresses the research goals through creation of concrete numerical descriptions of staff perceptions on a number of constructs, allowing the relationships between these constructs to be examined (Neuman, 2003). The organisation used for data collection was one of the four largest banks in Australia.

Data were collected through questionnaire-surveys. The survey-based method was the preferred tool because, in the current program of research, there was little control over behavioural events, and the focus was to identify and develop a contemporary phenomenon within a real-life context. In such cases, according to Yin (1994), a survey investigation is the favoured research tool.

Quantitative data collected from the distributed questionnaires were processed and analysed using the Statistical Package for Social Science (SPSS) and the Analysis of Moment Structures (AMOS) software programs. Cronbach's standardised alpha test was applied to assess the reliability of the scale items. Descriptive statistics delineated and summarised profiles of the entire sample. The researcher also conducted exploratory factor analysis, confirmatory factor analysis and structural equation modelling (SEM). SEM is used to present statistical models of linear relationships among the latent (unobserved variables) and manifest (observed) variables. For this research, AMOS was used to perform confirmatory factor analysis and to test the model by investigating the relationships in which path coefficients were tested for significance and goodness-of-fit.

## 1.5 Outline of the Thesis

The thesis is presented in seven chapters. The first chapter provides an introduction to issues that the present program of research is designed to address. In Chapter 2, a review of literature relevant to this study is provided including a complete and

thorough development of the constructs of high commitment HRM practices, psychological contract fulfilment, affective commitment, OCB, intention to quit, and procedural and interactional justice. Developed from the literature review and presented in Chapter 3 is the research framework and relevant theory. This chapter supports the literature, further refining and synthesising the knowledge as a foundation for this study.

Chapter 4 details the research methodology including sections relating to operationalisations of the independent, dependent, mediating and moderating variables, the descriptions of scales used to measure each variable, and the research procedures of data collection. Chapter 5 presents results of the quantitative data analysis including descriptive statistics and exploratory factor analysis. In Chapter 6, the hypotheses are set out by reporting confirmatory factor analysis and SEM results. Finally, Chapter 7 contains an overall discussion on the issues and findings emanating from the questionnaire results. In this final chapter, a discussion of the practical implications of the findings is provided. It also discusses the strengths and limitations of this research, and recommendations for further research.

# CHAPTER TWO
# LITERATURE REVIEW

## 2.1 Introduction

The objective in this chapter is to overview and review the key literature relevant to high commitment human resource management (HRM) practices, psychological contracts, affective commitment, organisational citizenship behaviour (OCB), intention to quit, procedural justice and interactional justice in order to determine what are the various authors' views regarding these concepts. This material is used as a starting point for the thesis and is extensively referred to throughout.

Section 2.1 summarises the objectives of the chapter and outlines what will be covered in the subsections. Section 2.2 provides an overview of high commitment HRM practices focusing primarily on those relevant to this study and how they may affect work related outcomes. Section 2.3 examines the psychological contract literature. Section 2.4 discusses the works examining organisational affective commitment and justifies the use of the affective commitment dimension. Section 2.5 reviews the literature on OCB and its dimensionality. Following this, the concepts of intention to quit and organisational justice (specifically procedural and interactional) are examined in sections 2.6 and 2.7 respectively. Section 2.8 summarises the material discussed in Chapter 2.

## 2.2 High Commitment Human Resource Management Practices

### 2.2.1 Introduction

In the last two decades, many business corporations have been confronted with an increasingly competitive global business environment. Intensified competition, technological change, deregulation, privatisation, changing consumer demands, changes in the workforce (in terms of age, gender, family structure and job expectations), and increasing product-market competition have pressured firms to seek new ways to enhance their performance and survive. To enhance performance in this competitive era, firms have been looking at different types of employment practice to provide a source of competitive advantage. They can no longer rely on traditional sources of competitive advantage, such as economies of scale, to succeed (Pfeffer, 1994), while at the same time, striving to implement what have become

mandatory changes that accommodate trends towards a service and information age society (Kane, 2000).

Several theoreticians have argued that the human resources of a company will potentially be the only source of a sustainable competitive edge for organisations in the near future (Pfeffer, 1994; Ferris, Hochwarter, Buckly, Harrel-Cook and Fink, 1999). People would be considered an important source of competitive advantage due to the attributes that only they can deliver (e.g., flexibility, customisation, innovation and service economy). As such, it is through the application of suitable people management practices that organisations can hope to succeed. Recognition that the human capital of a firm is an important source of competitive advantage can be found in the increasing implementation of new types of people management practices by organisations seeking to meet changing workplace demands. For example, Wood and Albanese (1995) reported increases in workplace flexibility, worker responsibility and teamwork between 1986 and 1990. Also, between 1984 and 1998, Cully, Woodland, O'Reilly and Dix (1999) found increasing incidences of employee involvement mechanisms, such as regular meetings between management and the workforce. These new work practices represent novel ways of organizing work or managing people and are included in an approach that is referred to as 'high commitment management' (Wood and de Menezes, 1998; Whitener, 2001). Extensive recruitment, training, information sharing, participatory programs, and incentive compensation systems that recognize and reward employee merit are also included (Delery and Doty, 1996; Oakland and Oakland, 2001).

Empirical research has consistently found that substantial investment in human capital and the effective implementation of high commitment human resource management practices reflects in firm performance (Arthur, 1994; MacDuffie, 1995; Ichniowski, Shaw and Prennushi, 1997). In this regard, Youndt (2000) recently found that HR practices do not directly influence organisational performance; rather, these practices help build intellectual capital, which in turn leads to increased organisational value creation. Furthermore, Huselid (1995) suggested that these practices 'can improve the knowledge, skills, and abilities of a firm's current and potential employees, increase their motivation, reduce shirking, and enhance

retention of quality employees while encouraging non-performers to leave the firm' (p. 635).

This section serves to provide a review of the literature relevant to high commitment management and reveals the lack of research into the mechanisms by which these practices may affect employee attitudes and behaviours. To begin, a comparison between traditional Tayloristic approaches and high commitment management approaches to employee management is undertaken. Following this, the importance of high commitment HRM practices, including a brief overview of empirical research linking these practices with firm performance and of the practices used throughout this study, is presented. Finally, the main issue of interest as to how progressive HRM practices influence work related outcomes is discussed.

### 2.2.2 Control (Traditional Tayloristic) versus Commitment Practices

It is possible to identify two types of human resource practices. These are control and commitment practices (Walton, 1985; Arthur, 1994; Wood and DeMenzes, 1998; Kossek and Block, 2000). Control and commitment practices or systems represent two distinct approaches to shaping employee behaviours and attitudes at work. According to Walton (1985), a control system seeks to control people by standardisation, close supervision, hierarchy and the use of all types of control. He argues that a commitment system, which is more beneficial and suitable for companies, aims to involve the workers in such a way that their behaviour is self-regulated, with practices such as employee participation, teamwork and job security.

The goal of control human resource practices is to increase efficiency and reduce direct labor costs by relying on strict work rules and procedures, and by basing rewards on measurable outputs (Walton, 1985). For instance, organisations employing a control-based culture require their employees to be efficient and behave in an orderly manner. Additionally, to monitor and control effort, the hierarchy is tall, roles are specialized, status symbols are emphasized, and choice lies with management (Walton, 1985; Arthur, 1994). Further, with a control-oriented approach, 'the thinking and controlling part of the work is separated from the doing of the work' (Lawler, 1992, p. 28).

In contrast, the goal of commitment human resource practices is to increase effectiveness and productivity by encouraging employees to identify with the organisation's goals and to work hard to accomplish those goals (Arthur, 1994; Whitener, 2001). Furthermore, a commitment-based culture concentrates on attracting, satisfying and motivating employees. Thus, the focus is on developing committed employees who can be trusted to use their discretion to carry out their jobs in ways that are compatible with organisational goals (e.g., Organ, 1988) and that supports a workforce that is self-programming and self-managing (Lawler, 1992). In addition, the focus of management is to minimize the status difference presented in the organisation, engage in activities such as employee involvement, information sharing and extensive employee benefits. Moreover, the organisation emphasizes joint problem solving and planning (Walton, 1985; Arthur, 1992). According to Kossek and Block (2000), the philosophy of the HRM commitment-based model is investment in developing human assets within the firm. The goal is to maximize commitment, employee empowerment, and quality and assignment flexibility. Additionally, the employment relationship focus of this model is long-term, organisation focused, and views employees primarily as resources for doing business.

### 2.2.3 The Impact of High Commitment HRM Practices on Organisational Performance

The dominant stream of research within the field of HRM over the last decade has been exploring the links between HRM and organisational performance. Empirical research suggests that organisations with high commitment HRM practices display greater productivity, financial performance and effectiveness, compared to organisations with control-based practices (e.g., Arthur, 1994; MacDuffie, 1995; Huselid, 1995; Ichinowsk, Shaw and Prennushi, 1997; Wood and DeMenezes, 1998). For example, Pfeffer (1994) identified the five top performing US firms (based on percentage of stock returns) between 1972 and 1992, and found that, contradictory to traditional strategy literature, these five organisations were not in the right industry, nor were they market leaders in these industries. Instead, these organsiations shared a set of high commitment HR practices including employment security, selectivity in recruiting, high wages, incentive pay, employee ownership, information sharing, participation and empowerment, teams, job redesign, and cross-training.

Arthur (1992) established that in general, commitment human resource systems are characterized by higher levels of employee involvement in managerial decisions, formal participation programs, training in group problem solving and socializing activities, and by higher percentages of skilled employees. He found in American steel mini-mills (taken from a group of about 55 steel producing mills), those with 'commitment' human resource systems emphasising development of employee commitment had lower employee turnover and scrap rates and higher productivity, compared to mini-mills with 'control' systems. Huselid (1995), basing his findings on a sample of nearly one thousand firms, extended the findings of Arthur. He found that high commitment human resource practices – or what he termed High Performance Work Practices – had an economically and statistically significant impact on turnover, productivity, and short- and long-term measures of corporate financial performance. His sample suggests that a one standard deviation increase in high-performance work practices reduced employee turnover by 7.05 percent and increased productivity by 16 percent. In terms of financial impact, he found that a one standard deviation in high performance work practices led to US$27,044 increase in sales, US$18,641 increase in market value and US$3,814 increase in profit.

Similarly, MacDuffie (1995) established that in 62 automotive assembly plants, those using bundles of commitment-based HRM practices for managing people enjoyed better quality and better productivity than those relying on traditional approaches. Moreover, Ichniowski et al., (1997) investigated the productivity effects of high-commitment employment practices (e.g., incentives, training) using data from a sample of 36 homogenous steel production lines owned by 17 companies. Ichniowski et al., (1997) found that these firms achieved substantially higher levels of productivity than those using a more traditional approach (e.g., narrow job definitions, strict work rules and hourly pay with close supervision). The research of Patterson, West, Lawthom and Nickell (1997) also analysed links between HRM and business performance as well basing their study on longitudinal data collected from sixty-seven UK manufacturing firms. Patterson et al. (1997, p. 19) found that 17 percent of the variation in company profitability was due to high commitment HRM practices and job design, whereas, research and development explained just 8 percent of the variation, strategy explained only 2 percent, and quality and technology

explained only one percent. Thus, high commitment HRM practices are found to have significant positive effects on organisational performance.

## 2.2.4   High Commitment HRM Practices Investigated in the Study

A pattern is emerging that high commitment human resource practices are invaluable for creating the firm specific human capital crucial to competitive advantage (Lawler, Mohrman and Ledford, 1995). High commitment HRM includes a range of practices and procedures. These are: extensive training and development initiatives, selective staffing, communication, participative decision-making, team working, job security, job variety, developmental appraisal, group-based pay, employee stock ownership, and competitive and equitable compensations (Snell and Dean, 1992; Youndt, Snell, Dean and Lepak, 1996; Ichniowski *et al.,* 1997; Guthrie, 2001; Den Hartog and Verburg, 2004; Gould-Williams, 2004). Although there is wide support for the implementation of high commitment practices (also referred to as best practices) approach to HR, there are notable differences across studies as to what actually constitutes a best practice and what practices to include (see Table 2.1). Furthermore, researchers differ in the way they label and operationalise these practices (see Table 2.1).

An overview of the studies on high commitment management presented in Table 2.1 demonstrates the lack of agreement between authors over which HRM practices should be regarded as 'high commitment' as 'studies…vary significantly as to the practices included' (Becker and Gerhart, 1996, p. 784). Despite inconsistencies in the HRM measures, proponents of the high commitment approach argue that these practices work 'because they are grounded in sound social science principles…and they make sense' (Pfeffer, 1998, p. 38). That is, the idea that treating people with respect, treating them fairly, and developing them to reach their potential are all things to which people respond favourably. Advocates for a best practice approach claim that 'high commitment management is universally applicable' (Wood and Albanese, 1995, p. 57), and that the use of such practices 'should lead to positive outcomes for all types of firms' (Huselid, 1995, p. 644). This perspective is based on normative HRM theories proposing that appropriate HRM practices lead to enhanced employee motivation and commitment.

Table 2.1

*Summary of High Commitment HRM Practices Investigated in Major Studies*

| Study | HRM system operationalised as: | Sample | Country | HRM practices investigated |
|---|---|---|---|---|
| **Guthrie (2001)** | High-involvement work practices | Survey was mailed to the senior manager (such as CEO or managing director) of 701 New Zealand business organisations employing at least 100 individuals who were asked to complete the survey or forward it to a knowledgeable organisation member. i.e., Information source: Varied<br><br>Cross Sector<br><br>190 responses | New Zealand | Internal promotions<br>Performance vs. seniority based-performance<br>Skill-based pay<br>Group-based (gainsharing, profitsharing) pay<br>Employee stock ownership<br>Employee participatory programs<br>Information sharing<br>Attitude surveys<br>Teams<br>Cross-training<br>Training focused on future skill requirements<br>Average hrs of annual training provided |
| **Whitener (2001)** | High commitment human resource practices | A stratified random sample of 500 credit unions<br><br>Information source: Senior human resource officer<br><br>185 responses | US | Selective Staffing<br>Developmental appraisal<br>Competitive and equitable compensation<br>Comprehensive training and development activities |

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| Study | Concept | Country | Sample | Practices |
|---|---|---|---|---|
| **Gould-Williams (2004)** | High commitment human resource practices | UK | 320 questionnaires were distributed to front-line workers, supervisors, and middle managers in 7 departments across two local government organisations<br><br>206 responses | Involvement in decision making<br>Job security<br>Training and development<br>Job variety<br>Communication<br>Team working<br>Rigorous selection process<br>Status reduction<br>Performance-related pay |
| **Arthur (1992)** | Commitment maximizing industrial relations system | US | Public Sector<br>Sample was taken from a group of about 55 steel-producing mills<br><br>29 responses<br><br>Steel minimills<br><br>Information Source: HR managers, Line managers | Empowerment: to use their judgment on the job<br>Broadly defined jobs<br>Employee participation<br>Formal dispute resolution<br>Information sharing<br>Highly skilled workers<br>Self-managed teams<br>Extensive skills training<br>Extensive benefits<br>High wages<br>Salaried workers<br>Stock ownership |
| **MacDuffie (1995)** | Innovative HR practice bundles | Various countries | 62 automotive assembly plants representing 44 companies in the automotive industry | Work teams<br>Problem-solving groups<br>Employee suggestions<br>Job rotation<br>Decentralization<br>Recruitment and hiring<br>Contingent compensation<br>Status differentiation<br>Training of new employees<br>Training of experienced employees |

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| Study | Practice type | Sample | Country | Practices |
|---|---|---|---|---|
| **Vandenberg et al. (1999)** | High involvement work practices | 3,570 employees from 49 life insurance firms<br><br>Information Source: Employees | US and Canada | Power: participative decision making<br>Information: communication<br>Reward<br>Knowledge: training and development |
| **Meyer & Smith (2000)** | HRM practices | 281 employees from several organisations<br><br>Cross sector (manufacturing and distribution & financial services)<br><br>Information Source: Employees | Canada | Performance appraisal<br>Benefits<br>Training<br>Career development |
| **Agarwala (2003)** | Innovative human resource practices | 422 executives and managers from across 7 organisations<br><br>Cross sectors | India | Employee acquisition strategies<br>Employee retention strategies<br>Compensation incentives<br>Benefits and services<br>Rewards and recognition<br>Technical training<br>Management development<br>Career planning and development practices<br>Performance appraisals<br>Potential development<br>Successful planning<br>Employee relations with a human face: treating employees with concern<br>Employee exit and separation<br>Adopting responsibility for socially relevant issues |

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| Author | | | | |
|---|---|---|---|---|
| Arthur (1994) | Commitment maximizing industrial relations system | 30 steel mini-mills<br><br>Information source: Hr managers, line managers | US | Decentralization<br>Participation<br>General training<br>Skill<br>Supervisor<br>Social: no of times per management organizes social gatherings for employees<br>Due process: percentage of total employee complaints or grievances that are handled through formal grievance procedures<br>Wages<br>Benefits<br>Bonus |
| Huselid (1995) | High performance work practices | 3,452 publicly held firms representing all major industries and with more than 100 employees.<br>Representatives of 968 firms submitted usable responses<br><br>Information Source: Senior HR professional | US | Comprehensive employment recruitment and selection procedures<br>Incentive compensation<br>Performance appraisal & merit-based promotion<br>Job design<br>Grievance procedures<br>Information sharing<br>Attitude assessment<br>Labor-management participation |
| Ichniowski et al. (1997) | Innovative work practices | 36 homogenous steel production lines owned by 17 companies<br><br>Information source: HR, line, operational, labour relations managers, union reps, CEOs, top management | US | Incentive pay<br>Recruiting and selection: high screening<br>Team work<br>Employment security<br>Flexible job assignment<br>Skills training<br>Communication: Information sharing, meet workers, meet unions<br>Labour relations |

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| Study | Construct | Sample | Country | Practices |
|---|---|---|---|---|
| **Den Hartog & Verburg (2004)** | High performance work practices | 175 organisations across different sectors | Netherlands | Selectivity in hiring<br>Training<br>Keeping skills up to date<br>Possibilities for internal promotion<br>Pay-for-performance<br>Profit sharing<br>Information sharing/communication<br>Autonomy<br>Job evaluation and task analyses<br>Management development<br>Mission<br>HRM strategy<br>Frequent performance evaluation<br>Team performance |
| **Allen et al. (2003)** | Supportive human resource practices | 215 department store sales people and 197 insurance agents | US | Participation in decision making<br>Fairness of rewards<br>Growth opportunities |
| **Bartel (2004)** | High performance work practices | Bank branches – Banking industry<br><br>Information source: company records, & non-managerial employees | Canada | Communication<br>Performance and reward<br>Climate (e.g., express views, cooperation…)<br>Skill (e.g., understand bank products) |
| **Youndt et al. (1996)** | Human capital enhancing HR system | 97 manufacturing plants (Metal working)<br><br>Information source: General and functional managers | US | Staffing<br>Training<br>Performance appraisal<br>Compensation |

| Author (Year) | Concept | Sample / Source | Country | HR practices |
|---|---|---|---|---|
| **Delaney & Huselid (1996)** | Progressive human resource management practices | 727 organisations across different sectors<br><br>Informations source: organisational representatives | US | Staffing selectivity<br>Training effectiveness<br>Incentive compensation<br>Grievance procedure<br>Decentralised decision making<br>Internal labour markets<br>Vertical hierarchy |
| **Delery & Doty (1996)** | Strategic human resource practices - Market-type versus internal HR system | 216 questionnaires were returned from HR managers and 114 usable questionnaires were returned from bank presidents<br><br>Banking industry | US | Internal career opportunities<br>Training<br>Results-oriented appraisals<br>Profit sharing<br>Employment security<br>Participation<br>Job descriptions |
| **Bae & Lawler (2000)** | High involvement HRM strategy | 138 organsiations across different sectors<br><br>Informations source: HR managers | Korea | Extensive training<br>Empowerment<br>Highly selective staffing<br>Performance-based pay<br>Broad job design |
| **Snell & Dean (1992)** | Human resource management practices | 512 manufacturing firms drawn from several segments: primary metals, fabricated metal products, industrial and metal working machinery, transportation equipment, and precision instruments<br><br>Information Source: plant managers, human resource managers, and non-managerial employees | UK | Selective staffing<br>Comprehensive training<br>Developmental performance appraisal<br>Equitable rewards |

| Author | Construct | Country | Sample / Information Source | Practices |
|---|---|---|---|---|
| **Hoque (1999)** | Human resource management practices | UK | 209 hotels<br><br>Information Source: most senior manager with HR responsibility | Terms and conditions of employment<br>Recruitment and selection<br>Training<br>Job design<br>Communication techniques<br>Quality issues<br>Pay systems |
| **D'Arcimoles (1997)** | High commitment / performance HR | France | 61 firms at time 1<br>42 firms at time 2<br><br>Cross sector | Wages<br>Training<br>Work systems (i.e., job organisation and design, participation of employees and allocation of responsibilities, and labour-technology relationships) |
| **Guest et al. (2003)** | High use of HR practices (with focus on high commitment and performance practices) | UK | 366 manufacturing and services firms<br><br>Information source: varied (Hr managers, company directors, pay-roll managers, or general manager responsible for HR issue) | Recruitment and selection<br>Training and development<br>Appraisal<br>Financial flexibility<br>Job design<br>Two-way communication<br>Employment security and the internal labor market<br>Single status and harmonization<br>Quality |
| **Frenkel & Orlitzky (2005)** | Supportive employment practices | Australia | 2001 Australian workplaces employing 20 or more employees<br>Cross sector with highest proportions of workplaces investigated in manufacturing, retail trade and education<br>Information source: senior managers, senior HR managers, and employees | Formal training and development<br>Job security<br>Decentralised management<br>Employee participation<br>Fair pay<br>Fair procedures (affirmative action/equal employment opportunities)<br>Good benefits |

Drawing from the above overview of high commitment HRM practices and after careful consideration of its theoretical foundation and an extensive review of literature on the high commitment management approach, the following seven practices have been explored in the present program of research: (1) participative decision making; (2) training and development; (3) rewards; (4) communication/information sharing; (5) selective staffing or hiring; (6) team working; and (7) job security. The inclusion of these practices is consistent with existing research on high commitment management (see Lawler, 1986; Bailey, 1993; Legge, 1995; Pfeffer, 1998; Wood and Albanese, 1995; Agarwala, 2003), and with the themes that emerge across commitment management studies. For example, the seven HRM practices examined in this study are consistent with the practices of successful organisations identified by Pfeffer (1998): employment security; selective hiring; team working; high compensation contingent on organisational performance; extensive training; and reduction of status difference. The last of these practices, reduction of status difference, is widely seen as a way to encourage employees to offer ideas and participate in decision making. In agreement with these categories, Legge (1995) suggests that effective HRM (through participation, empowerment, teamwork, effective communications and training and development) reflects attempts by management to create a work environment that emphasizes good practices.

Further, two complementary conceptual frameworks by Lawler (1986) and Bailey (1993) have received much attention from HR researchers and practitioners. According to McMahan, Bell and Virick (1998), the high involvement model proposed by Lawler (1986) is seen as the driving force behind the evolution of contemporary strategic management. This model suggests that four organisational processes may influence work-related attitudes and behaviours, namely empowerment, competence development, information sharing and rewards. The high performance work system model proposed by Bailey (1993) posits that workers will exhibit discretionary efforts if and only if they have the opportunity to participate, they possess the necessary skills to make their efforts meaningful, and they are given the appropriate incentives to deploy such discretionary efforts. Accordingly, the seven high commitment HRM practices considered in this study are congruent with Lawler's and Bailey's models in that this study also concludes that the following conditions promote positive behaviours and attitudes among employees: employees

must have an incentive (e.g., rewards) to elicit desirable attitudes and behaviours; employees must possess the necessary skills to make their efforts meaningful; and employees must have the opportunity to participate at various levels. The aim of such practices is to invest in and develop innovative, flexible, and committed employees who are seen as high value-adding resources (Beer *et al.*, 1984; Walton, 1985; Noon, 1992; Guest, 1999). Brief overviews of the seven high commitment HRM practices investigated in this study are introduced in the following subsections.

### 2.2.4.1 Training and Development

According to Schultz (1960), organisations invest in skill development or human capital when they expect that the value of additional future benefits (e.g., greater productivity) will offset the extra costs incurred in the present to obtain them (e.g., costs of training programs and production forgone while individuals are in training). Examples of skill development include interpersonal communication, technological know-how and problem solving abilities. Gaertner and Nollen (1989) argued that training and development represent an investment in current and future employee performance through creation of an internal labour supply to meet the firm's current and future needs. They stated that firms adopting extensive training and development are likely to have a cadre of highly skilled employees. While training provides employees with specific skills and helps to correct deficiencies in performance, career development provides employees with abilities that the organisation will need in the future (Gomez-Mejia, Balkin and Cardy, 1995). Thus, the purpose of career development is to enhance each employee's current performance, enable employees to take advantage of future job opportunities, and fulfil their employer's goals of achieving a dynamic and effective workforce.

Goldstein and Gilliam (1990) point out that training is one area in which human resource management departments help organisations maintain competitiveness and prepare for the future. Furthermore, training helps create firm-specific human assets, which are strongly linked to a firm's core competencies (Prahalad and Hamel, 1990). For instance, more and more organisations are providing quality management and customer service training in an attempt to keep up with rising consumer expectations (Bellizzi and Piontkowski, 1990). There is little doubt there has been a growing recognition during the last decade of the importance of training and development as a

source of sustained competitive advantage particularly as employers introduce more skills-specific forms of training (Pfeffer, 1998). Furthermore, Rhoades and Eisenberger (2002) suggest that provision of training and development implies a high level of concern for employees which in turn increases identification with their organisation (Morris and Sherman, 1981).

### 2.2.4.2 Participative Decision Making

When exploring employee participation or involvement, previous scholars have consistently used the term participative decision making, otherwise referred to as PDM (Latham, Winters and Locke, 1994; Black and Gregersen, 1997). PDM is a process in which influence is shared between superiors and their subordinates (Mitchell, 1973; Wagner and Gooding, 1987). It is also defined as joint decision making (Vroom, 1960) or as the act of sharing decision making with others to achieve organisational objectives (Knoop, 1991). In general, organisations use PDM to 'increase the rate of information [flow] through the organisation, enrich connections among agents and increase the diversity of information models applied to decision-making' (Anderson and McDaniel, 1999, p. 8). As increases in participation entail decentralization and are likely to foster information dissemination and sharing of control, PDM has been specifically recommended to help organisations become flexible and open (Greiner, 1972; Hardy, 1987).

PDM increases employee involvement in how tasks are operationalised. Greater involvement through participation means employees have better access to information, which in turn reduces political behaviour and increases job satisfaction (Witt, Andrews and Kacmar, 2000). Employee PDM decreases role ambiguity and increases knowledge of results, and this in turn, provides motivational benefits that improve performance (Healy and McKay, 2000). Further, many empirical studies support the effect of participative decision making on employee attitudes and behaviours such as commitment (e.g., Locke and Schweiger, 1979; Miller and Monge, 1986; Mathieu and Zajac, 1990; Randall, 1993; Mueller, Finely, Iverson and Price, 1999). For example, Zeffane (1994) found strong support that less bureaucratic controls influenced workers' affective measures of commitment. Further to this, Meyer and Allen (1997) found that greater employee participation in decision making fosters increased levels of affective commitment. Scott-Ladd and Marshal

(2004) report findings on PDM from a cross-section of employees in the public, private and local government sectors of Western Australia. They found that employees perceived PDM as contributing to performance effectiveness and leading to greater gains in the workplace. Moreover, according to Salancik (1977), participation in decision making increases organisational commitment by increasing their felt responsibility and the extent to which they made committed choices. In line with these studies, Eby, Freeman, Rush and Lance (1999) indicate that organisations allowing employees to assume several responsibilities and thus exert a greater influence at work, should foster a greater sense of support, provide positive work attitudes and lessen job turnover.

### 2.2.4.3 Communication / Information Sharing

Effective communication has emerged as an essential facet of human resource management – be it communication of the organisation's goals, vision and strategies, or the communication of facts, information and data (Larkin and Larkin, 1994; Hart, Miller and Johnson, 2003). Effective communication with employees increases their feelings of being valued by the organisation and builds trust in that organisation (Fourtou, 1997; Clarke, 2001). Furthermore, Watson Wyatt's survey of 267 large companies representing all major U.S. industry sectors from 1998 to 2002, concluded that companies with the most effective employee communication programs produced a 26 percent total return to shareholders (Watson Wyatt, 2004, p. 6). Watson Wyatt's survey also established that companies that communicate more effectively are likely to report lower staff turnover rates than their industry peers who communicate less effectively.

Mumford and Hendricks (1996) and Fourtou (1997) regard two-way communication, particularly face-to-face with employees, as a core management competency and a key management responsibility. They provide a list of management responsibilities for effective commitment as: (1) meeting regularly with employees; (2) ensuring employees are briefed on key issues; (3) communicating honestly and as fully as possible on all issues affecting their employees; (4) encouraging team members to discuss company issues and give upward feedback, and ensuring that issues from team members are fed back to senior management in a timely manner.

According to Pfeffer (1998), there are two reasons why communication and sharing information is essential to effective employee commitment. First, open communications about financial performance, strategy and operational measures, convey a symbolic message to employees that they are trusted. Second, if employees are to be encouraged to offer ideas and become successfully involved in teamwork, it is essential that they have information upon which to base their suggestions. For example, they need to know something of the financial context in which their ideas are to be reviewed. Hence, open communication and holistic information sharing within an organisation creates a more positive work environment in which people feel they are listened to and respected (McElroy, 2001). As stated by Lawler (1986), information sharing or communication is one of the easiest and most effective ways to foster employee involvement as it enhances feelings of mutual trust and makes employees feel important to their organisations.

### 2.2.4.4 Rewards

According to Rousseau and Greller (1994, p. 397), 'The most visible performance term in the contract, from the employees' point of view, comes from the organisation's incentive system (what it rewards) and the measurements that support it (performance appraisals)'. A fair wage is the cornerstone of the contractual and implied agreements between employee and employer, with the underlying assumption being that money can influence behaviour (Parker and Wright, 2001). In the third annual survey of the state of the employment relationship in the UK, Guest and Conway (1997) found evidence that employees had a preference for working in organisations that attempted to link pay and performance.

According to a study by the Mercer Human Resource Department (2003), employees will stay if they are rewarded. They tend to remain with their organisation when they feel their capabilities, efforts and performance contributions are recognised and appreciated (Davies, 2001). Marchington and Grugulis (2000) maintained that rewards reflect differing levels of contribution, agreeing with Meyer and Allen (1997) who found that companies committed to their employees distribute rewards more equitably and generously. Furthermore, positive impacts flow from employee perceptions of being valued as a result of organisational compensation for their efforts.

## 2.2.4.5 Selective Staffing or Hiring

In order to ensure quality staff worthy of rewards in an increasingly competitive labour market, organisations need to think much harder about effective staff acquisition. This implies the need to improve the quality of staff through effective recruitment methods, and finding better approaches and tools to attract the right people. According to Rousseau and Greller (1994, p. 395), 'Recruiting involves several possible contract makers conveying varying job descriptions, working conditions and performance standards. Individual employees may have distinct psychological contracts, depending on what they were recruited for, when, how, and by whom'. Additionally, the initial impact of the organisation's selection and staffing practices is of prime importance. When firms invest in selecting the most skilled people, employees find themselves in a work environment filled with well-qualified co-workers (Wright, Gardner and Moynihan, 2003). Selective hiring practices also send a clear message to employees that people matter (McElroy, 2001). Thus, selective hiring is seen as an effective way to achieve 'human capital advantage' by recruiting outstanding people and 'capturing a stock of exceptional human talent' (Boxall, 1996, pp. 66-67).

According to Schuler and Jackson (1987), the use of effective staffing practices benefits most organisations, regardless of varying internal or external contingency factors. For example, they suggested that, 'all (organisations may) find it most useful to select individuals using valid as opposed to invalid selection tests' (p. 126). Further, Terpstra and Rozell (1993) collected survey data regarding the extent of use of staffing practices from the heads of HRM departments in 201 organisations. They found a positive relationship between the use of effective staffing practices and organisational profitability.

Most HRM researchers (e.g., Cascio, 1989; Heneman, Schwab, Fossum and Dyer, 1989) advise organisations to carefully monitor and track the effectiveness of their recruiting sources. Jago (1996, p. 27) pointed out that 'Recruitment and selection equals other important management activities such as strategic planning, budgetary control, and marketing of the service...'. In summary, recruitment and selection are core human resource management functions (Fish and Macklin, 2003), and hiring the

right people provides the added competitive edge of which most successful companies are in constant search.

## 2.2.4.6 Team Working

Harris and Harris (1996, p. 23) define teamwork as '...a work group or unit with a common purpose through which members develop mutual relationships for the achievement of goals/tasks'. Teams were originally documented as a progressive response by workers to the tedious monotony of Taylorism (Herbst, 1962). Similarly, in the contemporary HRM literature, teams are often portrayed as having the capacity to empower workers, enrich their lives, and make a major contribution to labour productivity (Womack, Jones and Roos, 1990; Kochan and Osterman, 1994). Teams are important not only because they might facilitate lower labour overheads and more efficient use of human resources, but also because they can provide 'more challenging and fulfilling work for employees at every level' (Womack *et al.*, 1990, p. 225).

Team working is a fundamental feature of modern management theory and practice. According to Pfeffer (1998), team working is seen as a route to better decision making and the achievement of more creative solutions. De Vries (1999) explains that teamwork has been identified as one of the fundamental elements of high-performing business. Further to this, Guest (1987) indicates that in terms of human resource management, the whole organisation may be viewed as a team.

According to Kabst, Larsen and Bramming (1996), advantages of teamwork include: (1) the acceptance of mutually created and implemented decisions with the positive consequence of higher quality; (2) a motivational effect; and (3) the discontinuation of harmful competitive behaviour. Furthermore, productivity, quality improvements, client focus, flat management structure, efficient and effective communication, and increased employee morale are the selling points of team-oriented businesses (Hayes, 1995). Team skill development might include, for example, problem solving, decision making, conflict resolution, negotiation, as well as the planning, scheduling and managing of the work itself.

Evidence from an annual corporate survey by Training Magazine found that teamwork has become an increasingly common practice. Its' 1995 survey established that 78 percent of U.S. organisations have some employees working in teams (Training Magazine, 1995). Furthermore, in an analysis of a group of national surveys of workplace reform, Appelbaum and Batt (1994, p. 68) concluded that from one-quarter to one-third of U.S. firms have made significant changes in workplace management towards a 'participative model' and that the pace of change 'has accelerated and is occurring even faster than anticipated'. Additionally, as stated by Wilkinson, Godfrey and Marchington (1997) and Edwards and Wright (1998), employees who work in teams generally tend to report higher levels of satisfaction and are more motivated than their counterparts who work under more traditional regimes.

As a great deal of research suggests that people are motivated and work better when they are part of a team, leading edge organisations place great emphasis on the value of people working together in teams. According to Barker (1993), team members might internalise the logic of managerial control and increase effort, productivity and performance. Further to this, teams can achieve more through integrated efforts and problem solving (Crom and France, 1996; Robie, 1997; Kern, 1997). Also, as maintained by Tarricone and Luca (2002), businesses that continue to perform successfully rely on teamwork as an essential basis for everyday operations. Finally, investing in extensive technical, interpersonal and team skills training is likely to impact positively on team members' attitudes towards working in a team (see Lawler, 1992; Katzenbach and Smith, 1993).

### 2.2.4.7 Job Security

According to Pearce (1998), job security is defined as a psychological state in which workers vary in their expectations of future job continuity within an organisation. Pfeffer (1998) maintained that job security is seen as essential in supporting the remainder of the HRM practices, mainly because it is regarded as unrealistic to ask employees to offer their ideas, hard work and commitment without some expectation of security on their part. Another reason, offered by Pfeffer (1998, p. 66) for emphasizing the importance of job security relates to costs and competitors because laying off people too readily 'constitutes a cost for firms that have done a good job

selecting, training and developing their workforce...layoffs put important strategic assets on the street for the competition to employ'.

As mentioned earlier, several sets of high commitment HRM practices have recently been proposed to enhance effectiveness in organisations and to retain talented employees (Pfeffer and Veiga, 1999). Such practices convey to employees that their organisation promotes humanistic values, cares about their well-being and is willing to trust them. The present study examines seven high commitment management practices that an organisation may adopt to increase commitment, induce organisational citizenship behaviours and decrease quit intentions. Forty-three measurement items were adapted from literature on commitment management and used to assess employee evaluations of the presence of these seven practices within their organisation (see Subsection 4.5.2.1 in Chapter 4).

### 2.2.5 Understanding How High Commitment HRM Practices Affect Work-Related Outcomes

Wood and DeMenzies (1998) argue that high commitment HRM systems create the conditions for employees to become highly involved in the organisation and identify with its overall goals. Based on this assumption, highly committed employees are expected to show willingness to use extra effort towards reaching organisational goals (Meyer, Stanley, Herscovitch and Topolnytsky, 2002). For example, Zornitsky (1995) described a model in which HRM practices contributed to the economic success of an organisation through enhanced employee commitment and satisfaction. In agreement with Zornitsky (1995), Yeung and Berman (1997) demonstrated that HRM practices make a difference to business results, emphasizing that the relationship is more pronounced for those HRM practices that build employee commitment.

According to Meyer *et al.* (1989), it is necessary for organisations to examine the practices they implement in order to increase commitment. In their model, linking human resource practices and employee reactions, Ostroff and Bowen (2000) also suggest that human resource practices are significantly associated with employee perceptions and employee attitudes. Yet, despite expected links between high commitment HRM practices and employee attitudes and behaviours, there has been

little systematic effort to clearly specify the mediating processes and how they influence organisational effectiveness (Bowen and Ostroff, 2004). The present program of research attempts to fill this gap by examining the following research question: 'if there are indeed impacts of high commitment HRM practices on work-related outcomes, how do these effects occur? In other words, what are the mechanisms through which these effects manifest themselves?' This study proposes that employees' affective commitment will be positively correlated with high commitment HRM practices. The study also proposes that perceived psychological contract fulfillment will play a role in mediating these relationships. Affective commitment will in turn be positively correlated with OCB and negatively correlated with employee intention to quit.

Rousseau and Greller (1994) stress that the fostering of an appropriate psychological contract is a major function of human resource management. There is wide agreement that the psychological contract begins to form from the employee's earliest contact with the employer (Shore and Tetrick, 1994; Rousseau, 2001). This could be, for example, at the hiring stage. Psychological contracts further develop as a result of the on-going interactions between the individual and the organisation. Furthermore, since it is the human resource personnel/departments of companies that, through their policies, practices, and actions, are on the front-line of employment relations, it is widely argued that the strongest promissory messages are imparted through the interaction with the HRM system (Guzzo and Noonan, 1994; Sparrow, 1996). These messages are particularly instrumental in the determination of psychological contracts (Sims, 1994; Rousseau, 1995; Sparrow, 1996). Thus, a more careful look at psychological contracts can guide HRM practices and increase their positive impact on employees. This study therefore, examines how high commitment HRM practices relate to psychological contracts. These contracts are discussed in the next section.

## 2.3 Psychological Contracts

### 2.3.1 Introduction and Definition

The notion of the psychological contract was first discussed in the 1960s and 1970s with somewhat different conceptualisations, where it was used to characterise a series of mutual expectations that govern the relationship between the employee and

the organisation (see, Argyris, 1960; Levinson, Price, Munden and Solley, 1962; Schein, 1965; Kotter, 1970, 1973). Levinson *et al.* (1962) placed an emphasis on the idea that the psychological contract is an unwritten agreement between the employee and the organisation that focuses on the intangible aspects of the employment relationship. The construct then progressed to characterise the employment relationship, based on the beliefs employees or employers hold regarding their exchange relationship. Later, Morrison and Robinson (1997) chose to distinguish psychological contracts from expectations. They stated that expectations refer to what one expects to receive from an organisation, whereas psychological contracts involve the belief that an organisation is obligated to provide certain benefits. Yet, the concept of expectations remains a common feature of the psychological contract. For example, Kotter (1973, p. 93) talks about an 'implicit contract between an individual and his organisation which specifies what each *expect* to give and receive'. Herriot (1995) also depicts expectations as a fundamental element of the psychological contract. Moreover, descriptions of the concept of expectations borrow heavily from expectancy theory in that they suggest that the psychological contract is influenced by our desired goals and outcomes. Thus, the expectation of achieving these goals and outcomes determines our motivation to work and therefore our behaviour at work (Vroom, 1964; Rose, 1975; Hollenbeck and Klein, 1987; Carter and Jackson, 1993; Steers, Porter and Bigley, 1996).

Many researchers have adopted the definitional framework outlined by Rousseau (1989, p. 123) who defined the psychological contract as:

> An individual's belief in the terms and conditions of a reciprocal exchange agreement between the focal person and another party. A psychological contract emerges when one party believes that a promise of future returns has been made, a contribution has been given, and thus an obligation has been created to provide future benefits.

Scholars adopted this definition (for example Guzzo and Noonan, 1994; Shore and Tetrick, 1994; McLean Parks and Schmedemann, 1994; Millward and Hopkins, 1998), with two specific points of agreement: psychological contracts are both subjective and reciprocal. First, the psychological contract is a subjective perception in the sense that it refers to an individual's belief in the existence of an exchange agreement (Shore and Tetrick, 1994). Second, the psychological contract is

reciprocal, in the sense that it refers to an individual's belief regarding the mutual obligations of both parties to the relationship (Rousseau, 1990; McLean Parks and Schmedemann, 1994). Rousseau (1990, p. 390) also gives a more specific and narrow definition of the psychological contract as 'an individual's beliefs regarding reciprocal obligations', which arise in the context of the relationship between the organisation and the employee.

The conceptualisation of psychological contracts throughout this study is consistent with Rousseau's definition. This definition of the psychological contract is similar to that found in earlier work (Schien, 1965; Kotter, 1970, 1973) in that the psychological contract is described as a reciprocal exchange agreement. However, this definition is also different from earlier work in two ways. First, according to Rousseau's definition, only individuals have psychological contracts, but organisations do not. Second, while earlier psychological contract theoreticians defined the psychological contract in terms similar to implied contracts, Rousseau's definition separates psychological contracts from implied contracts, and specifies psychological contracts as highly characteristic and interpretable only by the employee.

Psychological contracts are distinct from implied contracts, which are based on mutual understandings and which have greater legal connotations (Rousseau, 1989). The psychological contract represents a set of practical and emotional expectations of benefits that employers and employees can reasonably have of each other (Argyris, 1960; Rousseau, 1990). Further, the amount of agreement between the expectations of the employee and the realization of these expectations determines how the relationship is appraised (Freese and Schalk, 1996). The literature suggests that there are important aspects of the nature and functioning of the employment relationship that are not accounted for by the formal, legalistic employment contract. Guest (1998) notes that the employment contract will be signed between the employee and an agent of the organisation. However, for the psychological contract, although it is known who the employee is, there is a problem understanding what is actually meant by the organisation. In other words, formal contracts lack the detail and comprehensiveness to explain the complex mutual expectations and obligations inherent in an employment relationship. Expectations in legal contracts are specified,

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explicit and defined, while expectations associated with the psychological contract are unspoken, implicit and imprecise (Levinson, 1966).

A psychological contract emerges when one party believes that a promise of future return has been made; for example, pay for performance or a contribution given (some form of exchange), and thus, an obligation has been created to provide future benefits (Robinson and Rousseau, 1994). That is, the employee's belief is based on the perception that an employer promise has been made (e.g., fair and competitive wages, job training, and challenging and meaningful work) in exchange for an employee obligation (e.g., giving employer his or her time, energy and technical skills) (Roehling, 1996; Rousseau and Tijoriwala, 1998). Unlike formal employment contracts, the psychological contract is not made once, but is rather revised throughout the employee's stay in the organisation (Rousseau and McLean Parks, 1993) and changed over time (Shore and Tetrick, 1994). This is because events in the form of new job assignments and organisational restructuring and downsizing may overlay new terms on old ones (Robinson and Rousseau, 1994). Also, the more the employer and the employee interact, the greater the expectations and contributions that might be included in the contract (Rousseau, 1989).

Perceived obligations and the extent to which those obligations are fulfilled represent the essence of the psychological contract (Rousseau, 1989). Perceived obligations set the parameters of the exchange, whereas fulfilment of obligations captures behaviour within the exchange. Psychological contracts are subjective perceptions and expectations involving only employee's beliefs; it is not necessary that the other party in the exchange relationship share these beliefs (Rousseau, 1989; Lucero and Allen, 1994; Shore and Tetrick, 1994). Psychological contracts reside only in the perceptions of individual employees, and are directed at the organisation at large. In addition, 'the subjectivity of the contract means that an individual can have a unique experience regarding his or her exchange relationship with an employer' (Rousseau and Tijoriwala, 1998, p. 680). Further, psychological contracts include obligations for which employees have reason to believe that a specific promise has been made (Morrison and Robinson, 1997). In addition, promises are not always explicitly stated, rather they also may be inferred from the employer's actions (Rousseau, 2001). This is not to say that the employer's perspective should be ignored.

However, it is the employee perceptions that will influence his or her attitudes and behaviour in reacting to the fulfilment or non-fulfilment of his or her psychological contract. Thus, employees who fulfil their obligations to their organisation feel entitled to receive certain benefits. These entitlements may have been explicitly stated by the organisation, or implied and assumed by the employee (McLean Parks, Kidder and Gallagher, 1998). In view of the above discussion, Morrison and Robinson (1997, pp. 228-229) summarise the defining characteristics of psychological contracts as follows.

1. They are the internal cognitions of individuals formed and held individualistically.

2. They are founded upon perceived promises 'where a promise is...any communication of future intent'.

3. They are held by individuals with respect to the employing organisation in the abstract. That is, they are not formed with respect to any specific agent within the organisation.

4. They can be transactional or relational in nature. However, individuals may hold both elements in cognition at the same time, but their formation, impact and dynamics are different.

Differences between transactional and relational aspects of psychological contracts are discussed in the following subsection.


2.3.2   Transactional and Relational Psychological Contracts

MacNeil (1985) and Rousseau (1989) were among the first to demonstrate that two types of psychological contract (transactional and relational contracts) exist, anchoring opposite ends of a continuum (that is, psychological contracts are not usually either/or). Any particular psychological contract contains both transactional and relational elements, but in differing amounts. Rousseau (1989) linked transactional contracts to economic exchange, and relational contracts to social exchange.


Rousseau (1990) interviewed human resource managers from 13 engineering, accounting, and manufacturing companies in the United States of America to identify seven obligations most commonly promised by organisations to employees. These include: advancement; high pay; pay based on current level of performance; training;

long-term job security; career development; and sufficient power and responsibility. She then investigated beliefs regarding these obligations in a sample of 224 graduating MBA students in the United States, who had recently accepted job offers. Rousseau found transactional obligations of high pay and career advancement were perceived to be in exchange for hard work. Relational obligations comprised exchanging job security for loyalty and a minimum length of stay. Burr and Thomson (2002, p. 7) describe a transactional contract as an evaluation of 'what's in it for me?' and a relational contract as an evaluation of 'what's in it for us?'.

Transactional contracts focus on strictly economic exchanges, involve specific monetary or economic exchanges (for example, pay) between parties over a limited duration, and involve low emotional commitment by employees. This type of contract is typically inflexible, limited to specific conditions, requires the use of existing employee skills, and has terms that are easily understood by third parties (Rousseau, 1995). An example of this type of contract might be a summer job where there is no chance of ongoing commitment. In operationalizing transactional obligations in the context of the psychological contract, the following have been included: rapid advancement, high pay and merit pay (Robinson, Kraatz and Rousseau, 1994).

In contrast, relational contracts include both emotional and economic exchanges, and contain terms which broadly concern the relationship between the employee and the organisation, involving both monetary and non-monetary exchanges (for example, hard work, loyalty and security), and the duration of this contract usually is open-ended (MacNeil, 1985; Rousseau, 1989, 1990; Rousseau and McLean Parks, 1993). Relational contracts contain terms which may not be readily valued and which broadly concern the relationship between the employee and the organisation (Guzzo and Noonan, 1994). An example of this kind of contract can be found in family-owned businesses. In essence, a relational contract involves a mutually satisfying relationship with open-ended arrangements that include socio-emotional as well as economic terms (Hui, Lee and Rousseau, 2004). Operationalisations of relational obligations have included long-term job security, career development and support with personal problems (Robinson *et al.*, 1994).

The transactional and relational contract types are the foundation classifications in Rousseau's framework. The currency of transactional exchange is reasonably explicit, short-term and economic in nature; such exchange assumes rational and self-interested parties, and does not result in ongoing interdependence. Relational exchange, on the other hand, is more complex and promotes interdependence through a commitment to the collective interest over self-interest; its currency is less clear, evolves over time and involves long-term investments from which withdrawal is difficult (Rousseau and McLean Parks, 1993).

Millward and Hopkins (1998) demonstrated that when employees view their relationship as based primarily on economic exchange, they will meet the terms of the agreement and perform at the minimum required level. In contrast, when employment is based on social exchange, employees expand their view of the relationship beyond well specified parameters, and include intangible and tangible resources based on general, unspecified notions of reciprocity. For example, in a social exchange relationship, the employee's contributions include: working on job assignments that fall outside prior agreements, and being willing to consider the organisation's interests as important as core job duties (Tsui *et al.*, 1997). The prediction from the psychological contract literature is that fulfilment of employer obligations will be reciprocated by employees' commitment to the organisation. As a form of attitudinal and behavioural reciprocation, one would expect greater contract fulfilment to be positively related to affective commitment and OCB, and negatively related to intention to quit.

2.3.3   Traditional versus Contemporary Psychological Contracts

Both the academic and practitioner literature suggests that the market economy has changed the psychological contract in businesses (Hiltrop, 1996; Singh, 1998, Cavanaugh and Noe, 1999). As organisations cope with change by mergers, downsizing and restructuring, reported effects have been the departure of the old and emergence of a new psychological contract (Sims, 1994; Stroh, Brett and Reilly, 1994; Rousseau, 1995; Sparrow, 1996). Table 2.2 provides a summary of the differences between the old and the new psychological contract.

Table 2.2

*Distinction between 'old' versus 'new' characteristics of psychological contracts*

| Old contract | New contract |
|---|---|
| Organisation is 'parent' to employee 'child' | Organisation and employee enter into adult contracts focused on mutually beneficial work |
| Employees' identity and worth are defined by the organisation | Employees' identity and worth are defined by the employee |
| Those who stay are good and loyal; Others are bad and disloyal | The regular flow of people in and out is healthy and should be celebrated |
| Employees who do what they are told will work until retirement | Long-term employment is unlikely; expect and prepare for multiple relations |
| The primary route for growth is through promotion | The primary route for growth is through a sense of personal accomplishment |

Source: Adapted from Kissler (1994).

Within the traditional psychological contract (also referred to as old psychological contract, e.g., Beaumont and Harris, 2002), the employer is seen as a caretaker for the employee (Robinson and Rousseau, 1994). Employees who are good performers are virtually guaranteed a job by their employer until retirement; the employer helps employees plan their careers and provide promotions to ensure career development, and employees are loyal and committed to the job and the organisation. In other words, the traditional contract relates to a paternalistic style. On the other hand, within contemporary psychological contract (also referred to as the new psychological contract), both employees and employers have lower expectations for long-term employment, employees are responsible for their own career development, and commitment to the work performed has replaced commitment to the job and organisation. In other words, the contemporary psychological contract means personal responsibility for career development, expectations of job insecurity and commitment to type of work (Cavanaugh and Noe, 1999).

Key differences between traditional and contemporary psychological contracts relate to lower expectations of paternalistic human resource practices, replacement of the concept of organisational worth with 'self worth', substitution of personal accomplishment for promotion as the way to growth, and decreased importance of

tenure (Maguire, 2002). The new psychological contract emphasizes the need for a short-term orientation in the employment relationship (Rogers, 2000). Kissler (1994) suggests that employees operating under the new psychological contract are more independent, self-reliant and self-interested. Furthermore, Hall (1996) suggests that the contemporary contract is driven by the employee and subject to alterations as the environment changes. Thus, based on the new psychological contract, organisations may not be able to promise a job for life, but rather what they can do is provide the environment in which employees can take it upon themselves to grow and develop (Hall and Moss, 1998).

Anderson and Schalk (1998) contrast the traditional psychological contract with what they termed the 'emergent' contract. The emergent contract suggested by Anderson and Schalk is characterised by an equitable exchange with regard to both the inherent interest and variety of the work, and explicit rewards and benefits. Thus they viewed the emergent psychological contract as more relational than transactional. Furthermore, they indicate that such a contract is likely to be more dynamic, and leaves more room for re-negotiation in light of changing market circumstances and as the contribution of the employee changes over time. These suggestions are consistent with the findings of Roehling, Cavanaugh, Moynihan and Boswell (2000).

Roehling et al.'s (2000) study evaluated current thinking regarding the nature of the new employment relationship by systematically analysing the content of relevant articles. The articles included in their study were identified through a search of ABI Inform, and the final sample included 51 articles published between 1995 and 2000 – 18 from publications that were judged to adhere to scholarly standards and 33 from trade magazines. Their results suggest that employers providing employee training, education and skills development opportunities, plus involvement or empowerment of employees in the decision-making process, characterise the new employment relationship. The content analysis further indicates that there is a consensus that flexible, empowered employees characterise the new employment relationship.

While much of the research on psychological contracts was devoted to contrasting the 'old' with the 'new' (e.g., Kissler, 1994; Sims, 1994; Maguire, 2002), there has been some confusion as to whether the above conceptualisation of the old and new

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deal is valid. For example, Marks (2001) states that 'the "old deal" vs. "new deal" dichotomy confuses the use of the term psychological contract, as it constructs it as a metaphor for analysing the nature and impact of transformation in the character of the contemporary workplace' (p. 455).

Job security and fair pay have been the basis for much of the controversy about the changing psychological contract. While it has been repeatedly suggested that under the new psychological contract these items no longer exist and traditional employment contracts are becoming extinct (Altman and Post, 1996), results presented in a few studies do not support these claims. For example, in a U.S. study examining the relationship between employees' trust in their employers and their experiences of psychological contract breach (using data from a longitudinal field of 125 newly hired managers), Robinson (1996) found that newly hired personnel reported that their employers made promises obligating them to provide a variety of traditional benefits and rewards in return for work contributions. Furthermore, Guest and Conway (1998) conducted a telephone survey on 1000 people in employment in the UK and found that 88 percent felt very, or fairly secure in their jobs. Seventy-seven percent believed management promised to provide them with reasonable job security and 73 percent believed management kept its promise. They also found that 67 percent of the respondents reported fair treatment by management and 64 percent said that they still get a fair day's pay for a fair day's work.

Some degree of contract breach is commonplace. More than 50 percent of MBAs surveyed in a study by Robinson and Rousseau (1994) reported some contract breach in the first two years of employment. According to Rousseau and Greller (1994), it is likely that a good deal of this breach arises from different interpretations of their employment conditions. They also indicated that HRM practices sometimes overlook important elements in the contracting process and thus increase the rate of breach. They further suggested that 'recognizing how HR practices shape individual psychological contracts can move us toward more consistent communication and management of the psychological contract' (p. 399). The implications of psychological contract breach on employees' work outcomes are discussed next.

## 2.3.4   Consequences of Psychological Contract Breach/Fulfilment

Psychological contract breach pertains to an employee's belief or perception that the organisation has failed to fulfil one or more of its obligations (Morrison and Robinson, 1997). Perceived contract breach refers to 'the cognition that one's organisation has failed to meet one or more obligations within one's psychological contract in a manner commensurate with one's contribution'. Thus, it 'represents a cognitive assessment of contract fulfilment that is based on an employee's perception of what each party has promised and provided to the other' (Morrison and Robinson, 1997, p. 230). Psychological contract breach can occur in the absence of actual breach. This perception of breach is what affects consequent employee attitudes and behaviours (Robinson, 1996).

Shore and Tetrick (1994) elaborated on the perceptual nature of psychological contracts suggesting that, while an individual may believe in the existence of a particular psychological contract, this belief does not imply that other organisational members have the same understanding of the contract. As Kalleberg and Rogues (2000) noted, 'the notion of the psychological contract has proved useful for understanding employment relations, since many of their important aspects are based on perceptions: most employment relations are implicit or at least not written, and thus parties may have different understandings of them' (p. 316-317). In essence, the psychological contract reflects employees' perceptions of the mutual expectations and obligations between themselves and their employer.

Morrison and Robinson (1997) noted that psychological contract breach might occur due either to *reneging* (when an agent or agents of the organisation knowingly break a promise to an employee) or due to *incongruence* (when the employee and agent(s) have different understandings about a promise). Rousseau (1995) also suggested that contract breaches might occur due to *disruption* (when circumstances outside the organisation's control prevent it from fulfilling its obligations).

When one party to a psychological contract believes that the promised obligations have not been met, a psychological contract breach is said to have occurred (Robinson and Rousseau, 1994). Such breaches may occur across many areas of organisational life including training and development, compensation, promotion,

and performance feedback (Robinson and Rousseau, 1994) and benefits (Lucero and Allen, 1994). Examples of a psychological contract breach include: absence of training or training experience not as was thought to be promised; discrepancies between promised and realized pay, benefits, bonuses; employees given less responsibility than promised; promotion or advancement schedule not as was thought to be promised; and inadequate feedback compared to what was thought to be promised.

The norm of reciprocity represents the key explanatory mechanism that underlies psychological contract theory as it explains how employees reciprocate perceived employer contract breach. Rousseau (1989) argues that in the exchange relationship, there is a belief 'that contributions will be reciprocated and that...the actions of one party are bound to those of another' (p. 128). The idea of reciprocation draws on the work of Blau (1964) (social exchange theory), who argues that the exchange partners will strive for balance in the relationship, and, if imbalance occurs, attempts will be made to restore the balance. Following this, it can be concluded that employees reciprocate treatment by the employer by adjusting their attitudes and behaviours accordingly. This is consistent with the logic used by Feldman (1996), who suggested that lower performance is one mechanism workers can use to restore personal feelings of equity regarding the work exchange relationship.

Robinson and Rousseau (1994) performed a longitudinal study to investigate the occurrence and impact of psychological contract violations among 128 graduate management alumni of an MBA program in a midwestern U.S. management school. These subjects were surveyed twice, once at graduation immediately following recruitment and then two years later. Robinson and Rousseau (1994) found that 54.8 percent of their sample of managers perceived that their organisations had failed to fulfil one or more promised obligations in the first two years of the employment relationship (p. 245). In addition, Conway and Briner (2002) in the UK took a new approach to researching the psychological contract through the use of daily diaries, and addressed a number of fundamental questions regarding its nature. Their results showed that both broken and exceeded promises occur regularly and in relation to virtually any aspect of work. They further noted that the importance of the promise contributes significantly to emotional reactions following broken and exceeded

promises, and that the psychological contract is an important concept for understanding everyday fluctuations in emotion and mood. Thus, it would be almost superfluous to suggest that most organisations will likely be faced with the need to breach psychological contracts in an increasingly competitive business environment and that such breaches are common occurrences within the employee-employer relationship.

A driving concern behind the research interest in the psychological contract is the impact of its consequences on the attitudes and behaviour of employees (e.g., Guzzo, Noonan and Elron, 1994; Robinson and Morrison, 1995, 2000; Conway and Briner, 2002; Lester, Turnley, Bloodgood and Bolino, 2002; Turnley, Bolino, Lester and Bloodgood, 2003). Psychological contracts reflect the expectations that the employee and the organisation have concerning the particular resources each owes the other (Schein, 1980), and they are the key determinants of employees' attitudes and behaviours in the work place. Further, psychological contracts are part of the glue that binds employees to organisations. Consequently, when these contracts are perceived by employees to have been breached, these employees may experience several negative affects, such as reduced organisational commitment (Schein, 1980; Guzzo, Noonan and Elron, 1994) and may withdraw or withhold from the relationship in an attempt to enforce the contract (Spindler, 1994). Moreover, psychological contract theory states that psychological contract breach may lead to the erosion of the foundation of the relationship (Rousseau, 1989; Robinson, 1996).

Psychological contract theorists emphasize the role of perceived failure of the organisation to keep its promises – referred to as psychological contract breach – as a key antecedent of employees' dissatisfaction and poor performance (Rousseau, 1989, 1995; Morrison and Robinson, 1997). For example, according to Brockner (1992), the traditional psychological contract implies lifetime employment in return for hard work and loyalty, and when an organisation downsizes, the organisation breaks this contract and becomes associated with various negative outcomes as employees try to redress the balance in the relationship through reducing their commitment and their willingness to engage in extra-role behaviour (Robinson, Kraatz and Rousseau, 1994; Robinson and Morrison, 1995; Robinson, 1996; Coyle-Shapiro and Kessler, 2000; Robinson and Morrison, 2000). Psychological contract breach may also result in

employee withdrawal or engagement in anti-role behaviours such as negativism, theft, harassment, sabotage and vandalism (McLean Parks and Kidder, 1994), reduced performance, lower job satisfaction, higher intention to quit (Guest, 1998), and absenteeism (Guest and Conway, 1997). In addition, violations of the psychological contract by one party are hypothesized to provoke subsequent violations from the other (Rousseau and McLean Parks, 1993), and thus may seriously damage the quality of the employment exchange and endanger its very existence (Tekleab and Taylor, 2003).

While previous psychological contract research has focused primarily on the occurrence and consequences of breach (e.g., Robinson, 1996; Turnley and Feldman, 2000; Conway and Briner, 2002), there has been less empirical research examining the consequences of psychological contract fulfilment. The focal point of interest in this thesis is perceived psychological contract fulfilment, defined as 'one's cognitive evaluation of how well the organisation has fulfilled its promises' (Ho, 2005, p. 115). Given the significance of psychological contract fulfilment, it is important to understand the forces that shape employees' evaluation of fulfilment. Psychological contract theory has maintained that the favourableness of an employee's exchange relationship with the organisation has important consequences for both the organisation and the employee (Rousseau, 1995). Drawing on this argument, the fulfilment of obligations or promises to employees would reflect the extent to which the employer values the relationship. Employers that fulfil promises to employees signal that they are committed to employees, value employee contributions and intend to continue with the relationship. At a basic level, when employees perceive that they are being valued, they may reciprocate by increasing their commitment and discretionary behaviours towards their employer.

From the preceding discussion, it is clear that the maintenance of psychological contracts is a very important issue, which is significant to organisational relationships and functioning. Herriot, Manning and Kidd (1997) suggest that the consequences of psychological contract breach are serious enough to require remedial action from organisations. Thus, organisations need to seek ways of adjusting the terms of the psychological contract to meet the needs of an increasingly mobile work force (Maguire, 2002) in an ever-changing environment. Affective

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commitment, organisational citizenship behaviour and intention to quit were chosen as outcomes in the present program of research because understanding the relationships between HRM practices, psychological contracts and these work outcomes is important given the changes occurring in the employer-employee relationship (Csoka, 1995; Howard, 1995). These work outcomes are discussed in the following sections.

## 2.4  Affective Commitment

### 2.4.1  Introduction to Organisational Commitment

There is some confusion in the literature as to what organisational commitment represents (Mowday, Steers and Porter, 1979). This could be due to the fact that there is still disagreement among researchers over the definition of the organisational commitment construct (Jaros, Jermier, Koehler and Sincich, 1993; Dunham, Grube and Castaneda, 1994) and because no universally accepted definition of organisational commitment exists (Meyer and Allen, 1997). Nevertheless, most of the definitions tend to comprise either attitudinal or behavioural aspects of organisational commitment.

According to Mowday *et al.* (1979), the attitudinal aspect of organisational commitment (also known as affective commitment) measures the extent to which there is agreement and conformity between the organisation's goals and the individual's goals. They define organisational commitment as 'the relative strength of an individual's identification and involvement in an organisation' (p. 226). On the other hand, the study of behavioural commitment has been concerned with the process by which an individual's past behaviour serves to bind him or her to the organisation.

Behavioural commitment definitions seem to focus on some form of commitment-related behaviour that represents costs sunk in the organisation (Becker, 1960) associated with leaving the organisation, such as, the loss of attractive benefits, the effort of seeking a new job, and the disturbance of personal relations (Mathieu and Zajaz, 1990; Aven, Parker and McEvoy, 1993). Becker (1960) used what he termed the 'side-bet' theory to explain the process by which employees attach themselves to organisations. According to Becker's 'side-bet' theory, commitment is best described

as one's tendency to engage in consistent lines of activity as a result of the perceived cost of doing otherwise. Thus, he believes that employees remain with an organisation because of the perceived costs associated with leaving the organisation (that is, side bets such as pension funds, relevance of firm specific knowledge and seniority). Furthermore, 'behavioural commitment relates to the process by which individuals become locked into a certain organisation and how they deal with this problem' (Mowday, Porter and Steers, 1982, p. 26). In other words, an individual becomes committed to an organisation because it becomes too costly for that individual to change jobs or leave the organisation. Becker's (1960) view also seems to suggest that an individual may be committed to an organisation, but that his/her commitment would disappear quickly should another opportunity come along which was better and did not involve a great cost. That is, behavioural commitment binds the employee to the organisation and is a result of past actions or behaviours (Salancik, 1977; Truckenbrodt, 2000).

According to Mowday *et al.* (1979), viewing commitment as an affective or emotional attachment to an organisation is the most common approach in the literature to studying commitment. Additionally, some authors argued that the attitudinal aspect of organisational commitment is paramount (e.g., Mowday *et al.*, 1979; Meyer and Allen, 1991). The attitudinal commitment definition is that adopted within the present program of research.

Argyris (1998) argued that organisational commitment is about 'generating energy and activating the human mind' towards an organisation (p. 98). According to Zeffane (1994), organisational commitment has important implications for both individual and organisational outcomes, and is central to organisational life. Eisenberger *et al.* (1990) found that employees who are more committed are more prepared to contribute extra effort in performing duties that lie outside the boundaries of traditional job descriptions. Moreover, Organ (1990) has theorized:

> An intense commitment to an organisation's mission or purpose (i.e., organisational commitment) would override or prevent obsession with fairness of individual outcomes, at least until the evidence of unfairness was overwhelming. Once the threshold for perception of unfairness in social exchange is breached, the relationship with the organisation is redefined in terms of economic exchange, a

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'controlled' regulation of OCB comes into play. Gestures of OCB that might otherwise have been proffered in unconstrained fashion are withheld or extracted grudgingly. (p. 67)

For the past three decades, organisational commitment has emerged as a very important construct in organisational research. This in part could be due to the fact that commitment to an organisation is a useful antecedent of work behaviours and behavioural intentions (Lease, 1998). These behaviours include lower turnover, decreased turnover intentions, reduced absenteeism, improved performance, job satisfaction, job involvement and improved organisational citizenship (Mowday, Porter and Steers, 1982; Mathieu and Zajac, 1990; Becker, 1992; Moorman, Niehoff and Organ, 1993; Meyer and Allen, 1997; Carson, Carson, Roe, Birkenmeier and Phillips, 1999; Meyer *et al.*, 2002; Lok and Crawford, 2004). Organisational commitment is also related to the psychological and physical health of employees (Meyer and Allen, 1997). Hence, increased organisational commitment is arguably beneficial to organisations and personnel.

Organisational commitment has been regarded as a predictor that has attracted researchers interested in behaviours of individuals in organisations (Chang, 1999). As indicated by Bateman and Strasser (1984), it has been widely investigated because subordinates become committed to the organisation before attitudes towards the job can meaningfully emerge. Further, organisational commitment is considered as a relatively stable attitude over time compared to other variables such as job satisfaction (Porter, Steers, Mowday and Boulian, 1974).

In an effort to improve the measurement and conceptualisation of organisational commitment, Meyer and Allen (1991) developed a three-component model of organisational commitment. These components are affective, continuance and normative commitment (Meyer and Allen, 1991; Meyer, Allen and Smith, 1993; Lee, Allen, Meyer and Rhee, 2001). They posited that these components develop independently of one another and have different antecedents.

Allen and Meyer (1990, p. 1) define affective commitment as 'an employee's emotional attachment to, identification with and involvement in the organisation'. Employees with a strong affective commitment continue employment with the

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organisation because they *want* to do so. Affective commitment reflects an attitude that focuses on employees' attachment to their organisation and their emotional acceptance of its values and goals (O'Driscoll and Randall, 1999). It corresponds to what Argyris (1998) termed internal commitment. Continuance commitment refers to an awareness of the costs associated with leaving the organisation (Allen and Meyer, 1990). Continuance commitment is based on identification with an organisation due to economic and social ties, and includes Becker's (1960) 'side-bets' theory concerning the costs of leaving an organisation (e.g., low job alternatives). Thus, continuance commitment is more calculative, and concerns the individual's need to continue working for the organisation. That is, employees whose primary link to the organisation is based on continuance commitment remain because they *need* to do so. Some authors (e.g., McGee and Ford, 1987; Somers, 1993) have suggested that this dimension may be further subdivided into 'personal sacrifice' associated with leaving, and 'limited opportunities' for other employment. Finally, normative commitment reflects a feeling of loyalty and obligation to remain with the organisation and includes Kanter's (1968) control commitment. Normative commitment is a perceived obligation to stay with the organisation based upon generally accepted rules about reciprocal obligations between organisations and their employees. This is based on social exchange theory, which suggests that a person receiving a benefit is under a strong normative (i.e. rule governed) obligation to repay it in some way. It is commitment that is influenced by society's norms about the extent to which people ought to be committed to the organisation. That is, employees with a high level of normative commitment feel that they *ought* to remain with the organisation (Meyer and Allen, 1991; Meyer, 1997).

## 2.4.2   Justification for the Use of Affective Commitment

For the purpose of this thesis, affective commitment was investigated. Affective commitment is a specific form of organisational commitment which has been considered the most beneficial in enhancing organisational effectiveness. This form of commitment emphasizes an individual's identification with and involvement in the organisation (Porter *et al.* 1974). Furthermore, along with identification and involvement, employees high in affective commitment also demonstrate emotional attachment to the organisation. This would explain why these employees are less

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likely to engage in withdrawal behaviour and more likely to accept change (Meyer and Allen, 1997; Iverson and Buttigieg, 1999).

Consistent and strong correlations have been found between work experience variables and affective commitment across a number of studies. For instance, affective commitment has been positively correlated with job challenge, degree of autonomy and variety of skills used by the employees in different samples of employees (Colarelli *et al.*, 1987; Dunham *et al.*, 1994). Numerous researchers have examined the consequences of affective commitment and have found it to be associated with behaviours such as in-role job performance and extra-role behaviour. For example, Meyer *et al.* (1989) surveyed management food service workers and found that affective commitment was positively correlated to work performance. Furthermore, significant relations between affective commitment and citizenship behaviour have been observed in studies in which both variables were measured using self-reports (Meyer and Allen, 1986; Meyer *et al.*, 1993; Pearce, 1993) and independent assessments of behaviour (Gregersen, 1993; Moorman, Niehoff and Organ, 1993; Shore and Wayne, 1993). Morrison (1994) found that affectively committed employees viewed their jobs as encompassing a wider range of behaviours (including behaviours commonly considered to be extra-role) than those who were not affectively committed. Meyer and Allen (1986) also found that self report measures of citizenship behaviour correlated positively with measures of affective commitment. Moreover, those with higher levels of affective commitment were more likely to engage in these behaviours than those with weaker commitment. It is also important to note that some researchers suggest that levels of citizenship behaviour are only related to affective commitment (e.g., Organ and Ryan, 1995; Robinson and Morrison, 1995; Coyle-Shapiro and Kessler, 2000).

Hypothesized relationships between dimensions of the nature of the psychological contract (such as time frame, exchange symmetry and contract level) and affective commitment have also been confirmed as notable (Sels, Janssens and Van Den Brande, 2004). Further, high affective commitment means that an employee perceives his or her employment as based on a relational exchange. In contrast to the obligations of a transactional exchange, which are clearly and narrowly specified, obligations in a relational exchange are broad and open-ended (McNeil, 1985). In

addition, research has found that organisational commitment is related to perceptions of organisational justice. For example, Konovsky and Cropanzano (1991) found higher levels of affective commitment among employees who believed that the organisation provided them with an adequate explanation for a new drug-testing policy. Meyer and Allen (1997) also suggest that organisations that treat their employees fairly augment a sense of personal importance by appearing to value their contributions to the organisation. In turn, employees are likely to reciprocate by becoming committed to the organisation.

Shore, Barksdale and Shore (1995) found that managers perceive affective commitment as a desirable condition, but view continuance commitment rather negatively. Many researchers indicated that compared to continuance and normative commitment, affective commitment correlates significantly with a wider range of outcomes and correlates more strongly with any given outcome measure (see Mathieu and Zajac, 1990; Tett and Meyer, 1993; Allen and Meyer, 1996). For example, Mathieu and Zajac (1990) examined a number of commitment studies and determined that of the three components of commitment, affective commitment was the most salient in predicting intent to turnover. Similarly, Stanley, Meyer, Topolnytsky and Herscovitch (1999) conducted a series of meta-analyses to examine the correlations between commitment and turnover intention, absenteeism, job performance and organisational citizenship behaviour. They found that all three components of commitment correlated negatively with turnover intention. However, the magnitude of the correlations differed – the strongest correlation was with affective commitment, followed by normative and continuance commitment. In addition, affective commitment correlated more strongly than did normative and continuance commitment with measures of absenteeism and organisational citizenship behaviour. Moreover, in contrast to affectively committed employees, continuance and normatively committed employees demonstrated reduced levels of citizenship behaviours and lack the initiative to perform tasks that go beyond their job descriptions (Shore and Wayne, 1993). Furthermore, in a study involving 587 bank tellers in the United States, Whitener and Walz (1993) found that affective commitment was a more significant and negative predictor of 'intent to turnover' and 'voluntary turnover' than continuance commitment. Likewise, Jaros (1995) reported

that affective commitment had a significantly stronger (negative) correlation with intention to quit compared to both normative and continuance commitment.

In a study using the measures of affective and continuance commitment developed by Meyer and Allen (1984), Randall and O'Driscoll (1997) sent surveys to all employees working in four dairy cooperatives and found further evidence that the two types of commitment have very different implications in terms of organisational outcomes. Randall and O'Driscoll (1997) showed that affectively committed employees perceived more organisational support than those who were calculatively committed (i.e. continuance commitment). Also, affectively committed employees agreed with all nine organisational policies examined (i.e., assessment of job performance, training policies, help for new employees, decision making procedures, selection procedures, rewards, promotion policies, management style and HRM systems) whereas calculatively committed employees agreed with none of the policies. Additionally, those who were affectively committed reported more identification with values considered important to the organisation than those who were calculatively committed.

According to Meyer and Herscovitch (2001), a possible explanation for why affective commitment correlates with a wider range of outcomes is that when commitment is accompanied by a mind-set of desire (such as the case with affective commitment), the behavioural consequences of commitment are perceived by the individual to be broader than when commitment is accompanied by a mind-set of provided cost or obligation. The authors argue that an individual with high affective commitment towards an organisation is more likely to consider the best interests of that organisation than someone with high continuance or normative commitment. They further recommend that wherever possible, it is desirable to foster affective commitment. Additionally, Meyer *et al.* (1993) suggest that a person who is affectively committed might be more likely than someone who is not so attached to keep up with developments in the occupation, and to join and participate in relevant associations. Furthermore, Meyer and Allen (1997) state that affective commitment is the most desirable form of commitment and the one that organisations are most likely to want to instill in their employees. As previously indicated, for the purpose

of this study, employees' affective commitment was investigated as it is considered to be more beneficial to organisations than normative or continuance commitment.

## 2.5 Organisational Citizenship Behaviour

### 2.5.1 The OCB Construct: Definition, Associated Terms and Importance

Interest in organisational citizenship behaviour (OCB) can be traced back to Barnard's (1938) concept of the 'willingness to cooperate' and Katz's (Katz, 1964; Katz and Khan, 1966) distinction between dependable role performance and 'innovative and spontaneous behaviours'. Barnard (1938, p. 38) initially argued that 'it is clear that the willingness of a person to contribute efforts to the cooperative system is indispensable'. He also contended that formal structure does not anticipate all needed contributions and that willingness to cooperate is the essential condition that must be added to the formal structure. Katz (1964) suggested that there are three basic types of employee behaviour. He stated that for organisations to achieve their objectives: (1) people must be induced to enter and remain within the organisational system; and (2) that they must carry out their role assignments in a dependable fashion. He further proposed that: (3) there must also be innovative and spontaneous activity which goes beyond role specifications. These observations formed the basis of later studies in which Organ and his colleagues first coined the term 'organisational citizenship behaviour' in the early 1980s (e.g., Bateman and Organ, 1983; Smith, Organ and Near, 1983).

Organisational citizenship consists of behaviours that extend beyond specific role requirements, with the stipulation that such behaviours are performed voluntarily without expectation of material or social rewards (Brief and Motowidlo, 1986). Although organisational citizenship behaviours promote organisational effectiveness, they are not explicitly recognized in an organisation's reward system. In defining OCB and its benefits, Organ explains OCB as:

> …individual behaviour that is discretionary, not directly or explicitly recognized by the formal reward system, and that in the aggregate promotes the effective functioning of the organisation. By discretionary we mean that the behaviour is not an enforceable requirement of the role or the job description, that is the clearly specifiable terms of the person's employment contract with the organisation; the behaviour is rather a matter of personal choice, such that its omission is not

generally understood as punishable...and that returns not be contractually guaranteed by any specific policies and procedures. (Organ, 1988, pp. 4-5)

Thus, according to Organ's (1988) definition, organisational citizenship behaviour has at least three characteristics: 1) the behaviour is discretionary; (2) the behaviour is not directly or explicitly recognized by the formal reward system; and (3) in the aggregate, the behaviour promotes the effective functioning of the organisation. Others have supported this definition. For instance, Schnake (1991), in accordance with Organ (1988) and Shore and Wayne (1993), defined OCBs as 'functional, extra-role, prosocial behaviors, directed at individuals, groups, and/or organisations ...that are not formally prescribed nor are they directly rewarded' (p. 738). Further to this, Van Dyne, Cummings and McLean Parks (1995) suggest that to be considered as OCB, these behaviours must be voluntary, intentional, positive, and must benefit others. In agreement with these writers, the present study adopts Organ's (1988) definition of OCB.

Over the past two decades, interest in behaviour that generally fits the definition of OCB has increased dramatically in a variety of domains and disciplines (e.g., management, marketing, economics and healthcare) and has been the subject of numerous studies including including ones by Organ and Konovsky (1989), Podsakoff, MacKenzie and Bommer (1996), Ang, Van Dyne and Begley (2003), and Lievens and Anseel (2004). However, researchers have not been consistent with the terminology used to label such behaviours, as many terms that overlap with the concept of 'organisational citizenship behaviour' have been described including: prosocial organisational behaviour (e.g., Brief and Motowidlo (1986), O'Reilly and Chatman (1986), George (1991) and McNeely and Meglino (1994)); extra-role behaviour (e.g., Van Dyne *et al.* (1995), Tierney, Bauer and Potter (2002), Platow (2003)); contextual performance (e.g., Borman, White and Dorsey (1995) and Borman and Motowidlo (1997)); and organisational spontaneity (e.g., George and Brief (1992) and George and Jones (1997)).

According to Katz and Kahn (1978), the above-mentioned behaviours are important because effective organisational functioning requires employees not only to perform their prescribed role (referred to as in-role behaviours), but also to engage in

behaviours that go beyond these formal obligations. It is important to note that OCBs differ from in-role behaviour in two main aspects. First, unlike in-role performance, OCBs do not directly support the technical core (e.g., transforming raw materials into products), but rather influence the social and psychological environment of organisations, which in turn influences the technical core (Organ, 1997). Thus, while both types of behaviours contribute to organisational effectiveness, OCBs operate indirectly and in-role behaviours operate directly. Second, OCBs are influenced by what individuals think and feel about their jobs (Organ and Ryan, 1995). Thus, OCBs are more discretionary and less constrained by work process technology and other task features than in-role activities (see Subsection 2.5.3 for further discussion on in-role behaviour versus OCB).

It is widely accepted in the management literature that organisations need employees who are willing to exceed their formal job requirements. For instance, Katz (1964) noted:

> ...no organisation planning can foresee all contingencies within its operations, or can anticipate with perfect accuracy all environmental changes, or control perfectly all-human variability. The resources of people in innovation, in spontaneous co-operation, in protective and creative behaviour are thus vital to organisational survival and effectiveness. (p. 132)

Smith *et al.* (1983) also argued that 'citizenship behaviours are important because they lubricate the social machinery of the organisation. They provide the flexibility needed to work through many unforseen contingencies; they enable participants to cope with the otherwise awesome condition of interdependence on each other' (p. 654). Further to this, George and Brief (1992) state that OCB is essential because organisations cannot anticipate through formally stated in-role job descriptions the entire array of behaviours needed for achieving goals. In agreement with these authors, Van Scotter, Motowidlo and Cross (2000) argue that even though organisational citizenship behaviours are not part of individuals' assigned duties, they are still beneficial to the organisation, its members and the employees themselves.

Several authors have discussed the potential impact of OCBs on organisational performance and success (e.g., Schnake, 1991; Williams and Anderson, 1991).

Organisational citizenship behaviour has been associated with improvements in manager evaluations of individual performance and enhanced organisational performance (Podsakoff, Ahearne and MacKenzie, 1997; Koys, 2001; Rioux and Penner, 2001). Furthermore, Organ (1988) and Podsakoff, MacKenzie, Paine and Bachrach (2000) indicate that OCBs may contribute to organisational success by:

- enhancing co-worker and managerial productivity;

- freeing up resources so they can be used for more productive purposes;

- reducing the need to devote scarce resources to purely maintenance functions;

- helping to coordinate activities both within and across work groups;

- strengthening the organisation to adapt more effectively to environmental changes;

- contributing to organisational performance because these behaviours provide an effective means of managing the interdependencies between members of a work unit, and as a result increase the collective outcomes achieved; and

- increasing organisational productivity because workers that exhibit such behaviour improve the ability of co-workers to perform their jobs or because such behaviour allows managers to devote more time to productive activities like planning, scheduling, problem solving and organisational analysis.

In the aggregate, OCBs tend to increase the organisation's efficiency and effectiveness, adding significantly to overall positive performance evaluations and reward recommendations. OCB has been linked to organisational survival and excellence, and benefits include promotion of positive relationships among employees, providing the flexibility needed for innovation and guiding the efficient use of scarce resources (Smith *et al.,* 1983; Organ, 1988). Some even argue that the benefits of OCB are key to ensuring an organisation's survival (Katz, 1964; Katz and Khan, 1978). As Katz and Kahn put it, OCBs are the countless acts of cooperation without which the system would break down.

## 2.5.2   Dimensions of OCB

Although there is consensus as to the need for OCB to increase organisational efficiency, Podsakoff *et al.* (2000) argue that there is a lack of consensus about the dimensionality of this construct. Their examination of the literature indicated that

there are almost thirty potentially different dimensions, including: altruism and generalized compliance (Smith *et al.,* 1983); obedience, loyalty, advocacy participation, social participation and functional participation (Van Dyne, Graham and Dienesch, 1994); helping and voice (Van Dyne *et al.* 1995; Van Dyne and LePine, 1998); and interpersonal helping, individual initiative, personal industry and loyal boosterism (Moorman and Blakely, 1995). Furthermore, Williams and Anderson (1991) distinguished two broad categories of OCB: (a) OCB-O behaviours that are organisation-focused and that benefit the organisation in general (e.g., the employee gives advance notice when unable to come to work); and (b) OCB-I behavious which are interpersonal-focused OCBs (i.e., employee behaviours directed at other individuals) and that immediately benefit specific individuals, and indirectly through this means contribute to the organisation.

Although a wide variety of specific dimensions of OCBs have been identified, the five-dimension framework proposed by Organ (1988), altruism, conscientiousness, civic virtue, sportsmanship and courtesy, have been the most frequently examined by researchers (e.g., Podsakoff, MacKenzie, Moorman and Fetter, 1990; MacKenzie, Podsakoff and Fetter, 1991; Moorman, 1991; Moorman *et al.* 1993; Tansky, 1993; Konovsky and Pugh, 1994; Podsakoff *et al.* 1996; Van Yperen, Van den Berg and Willering, 1999; Diefendroff, Brown, Kamin and Lord, 2002), and have been used in the present program of research.

*Altruism* refers to behaviours that help others with existing job-related problems. This behaviour is directly intended to help a specific person in face-to-face situations. Examples of this behaviour include: helping others who have fallen behind in their work; performing a task or solving a problem for others; helping others who have been absent; helping others who have heavy workloads; and orienting new people even though it is not officially required (Organ, 1988; Podsakoff *et al.,* 1990). While these behaviours may be intended to benefit an individual, ultimately the organisation benefits (McNeely and Meglino, 1994).

*Conscientiousness* refers to behaviour which benefits the organisation, not specific individuals or groups. Essentially, it is performing one's role in the organisation in a manner that is beyond the norm (Organ, 1988). Thus, conscientiousness refers to

someone who goes beyond normal requirements or expectations. Examples include being punctual, regular attendance despite illness or extreme weather conditions, obeying rules and regulations, not spending time in idle conversation, and not wasting time (Organ, 1988; Podsakoff *et al.*, 1990).

*Civic virtue* refers to the extent to which one contributes to political issues in organisations in a responsible manner. Civic virtue is defined as 'responsible participation in the political life of the organisation' (Graham, 1986), and 'behaviour on the part of an individual that indicates that he/she responsibly participates in, is involved in, or is concerned about the life of the company' (Podsakoff *et al.,* 1990). Examples include keeping up with matters that affect the organisation, attending meetings, participating in organisationally sponsored community development, and expressing positive emotions about one's organisation to outsiders (Organ, 1988).

*Sportsmanship* refers to the willingness of an employee to tolerate less than ideal circumstances and temporary personal inconveniences without making a fuss, 'to avoid complaining, petty grievances, railing against real or imagined slights, and making federal cases out of small potatoes' (Organ, 1988, p. 11). Being a good sport includes not only the absence of complaint when faced with unfavourable conditions or behaviours from others, but also maintaining a positive attitude and tolerance of the rejection of one's ideas (Podsakoff *et al.,* 2000). Examples include not consuming a lot of time complaining about trivial matters and not always finding fault with what the organisation is doing.

*Courtesy* refers to actions taken to help prevent problems of work associates. It involves preventing problems by keeping others informed of your decisions and actions which may affect them, and passing on information to those who find it useful. Examples include consulting with others before taking action, not abusing the rights of others, giving advance notice, reminders, passing along information, and being mindful of how one's behaviour affects other peoples' jobs (Organ, 1988; Podsakoff *et al.*, 1990).

These behaviours are important in several ways including: enhancing individual and group productivity; freeing up resources for more productive purposes; increasing

coordination; enhancing the stability of organisational performance; and assisting in the maintenance of a favourable work climate (Podsakoff *et al.*, 2000). Organ's (1988) five-dimension framework described above has been the subject of vigorous empirical research, and is used throughout this present research for at least three reasons. First, Organ's research has a long history and he has been influential in the organisational behaviour literature. Second, Podsakoff *et al.* (1990) provided a sound measure of Organ's five dimensions, which has since been used as a basis for many empirical studies. Finally, it is used because other organisational citizenship behavioural frameworks have not been applied as often.

### 2.5.3   In-role Behaviour versus Organisational Citizenship Behaviour

An employee's in-role behaviour refers to the work that the employer has to do when at work (e.g., fulfilling responsibilities specified in his/her job descriptions). Extra-role behavior (OCB) on the other hand, refers to voluntary behaviour on the part of the employee (e.g., helping other employees who have heavy work loads). Katz (1964) raised the distinction between in-role behaviours (IRBs) and extra-role behaviours (OCBs) over 40 years ago. Several studies provide evidence related to the distinction between IRB and OCB dimensions of performance. For example, Williams and Anderson (1991) demonstrated that OCBs or extra-role behaviours could be distinguished from in-role activities. The authors performed a factor analysis of survey data collected from 127 supervisors of employees of various organisations from a midwestern city in the U.S. The employees were from a primarily technical/professional background who were attending evening MBA classes at local universities. Three classes of employee behaviours were measured, including 7 items measuring OCB-I, 7 items measuring OCB-O and 7 items measuring employee performance of in-role behaviour (IRB). The factor pattern loadings for this data (responses to the 21 items) indicated that in all cases the items had the highest loading on the appropriate factor, with the exception of one of the OCB-O items, which was excluded from further analysis. Thus, the remaining 20 items were used to form IRB, OCB-I and OCB-O scales, which had reliabilities of 0.91, 0.88, and 0.75 respectively. In addition, the intercorrelations among these three variables were 0.52, 0.55, and 0.56, thus supporting distinguishable constructs.

In essence, in-role behaviour represents those activities people are hired to perform and have been referred to numerously as core job performance, individual task proficiency, task performance and technical proficiency (Campbell *et al.,* 1993; Conway, 1999). However, organisations cannot expect employees to engage in core tasks only and hope to remain competitive (McAllister, 1995). Instead, employees must perform a number of organisational citizenship behaviours that promote the effective functioning of the organisation and may contribute to organisational success. In the present program of research, OCB was examined as a possible outcome attributable to high commitment human resource management practices.

## 2.6  Intention to Quit

The final outcome that will be examined in this study is intention to quit. Lee and Mitchell (1994) suggested that as organisations invest substantial resources in their employees over time, establishing what causes turnover is of interest to both researchers and practitioners. Unfortunately, since using actual turnover, as a dependent variable is rather difficult to measure, this thesis follows Coverdale and Terborg's (1980) recommendation by examining the concept of intention to quit rather than actual turnover. While the concept of intention to quit is not identical to that of actual turnover, the two concepts are very much related. For example, Mobley, Griffeth, Hand and Meglino (1979) indicated that in many studies, it has been consistently shown that intentions to quit are related to turnover. In addition, empirical research has provided support for Fishbein and Ajzen's (1975) proposition that behavioural intentions represent the most immediate determinant for actual behaviours (Michaels and Spector, 1982; Williams and Hazer, 1986). For instance, Steel and Ovalle's (1984) meta-analysis suggested that turnover intentions and turnover are related, and that turnover intentions are better predictors of turnover than variables such as job and career satisfaction. Another reason for using intention to quit instead of actual turnover in this thesis is because the costs associated with collecting turnover intentions statements is modest compared to generating data about actual turnover (Bluedorn, 1982). Further, collecting data on employees' intentions to quit is much easier than observing turnover behaviour.

It is assumed that employees with a strong intention to withdraw from an organisation, will subjectively assess that they will be leaving the organisation in the

near future (Mowday *et al.,* 1982; Vandenberg and Nelson, 1999). Although actual employee turnover is a much-studied phenomenon (Shaw, Delery, Jenkins and Gupta, 1998), there is no standard explanation for why people choose to leave an organisation (Lee and Mitchell, 1994). This is worth mentioning because it is typically the incidents where people choose to leave (i.e., voluntary as opposed to involuntary turnover) that concern organisations and organisational theorists. This voluntary turnover process is usually the result of intentions to quit.

A wide range of variables has been useful for interpreting employee turnover across different organisational and occupational settings. These include: various forms of commitment (Meyer, 2001); equity (Aquino, Griffeth, Allen and Hom, 1997); and psychological contracts (Morrison and Robinson, 1997). For example, employees who are highly committed to their organisation are less likely to leave than those who are relatively uncommitted (Shore and Martin, 1989). Therefore, by understanding that some variables such as affective commitment are important in retention, management can focus on strategies that will enhance these variables and attach individuals to the organisation. Finally, researchers have suggested that when employees are treated unfairly, this can adversely affect their work related attitudes and behaviours such as their intentions to stay with the organisation (Brockner, 1988; Tombaugh and White, 1990; Konovsky and Brockner, 1996).

## 2.7  Organisational Justice

### 2.7.1  Introduction

The concept of justice or fairness has received significant attention in the literature. In this context, justice is a cognitive evaluation of fairness that is in the eye of the beholder. Thus an individual's perceptions of justice may not actually reflect reality as it is perceived by others. While perceptions of justice and injustice take place in everyday life (e.g., Mikula, Petri and Tanzer, 1989), a substantial amount of research has been committed to studying justice in the workplace – referred to as organisational justice. Organisational justice has been researched across different areas such as criminology, management and organisational psychology.

Beer *et al.* (1984) particularly stress employee perceptions of organisational fairness and suggest that unless employees believe they have been and will be treated fairly,

they will not be committed to the organisation. In a recent review of the causes of justice effects, Cropanzano, Rupp, Mohler and Schminke (2001, p. 42) summarised an often-mentioned explanation for these effects:

> From a justice perspective, fair treatment (among other causes) is posited to create close, open-ended social exchange relationships. These types of relationships produce obligations for the employee to repay the supervisor or the organisation. Hence performance, OCB, and so on are likely to result.

According to Robinson and Morrison (1995), to behave as a good organisational citizen, an individual must believe that they are respected and treated fairly. Further, fairness perceptions are arguably central to the state of the psychological contract, and employee perceptions about the fairness or unfairness of any HRM practice will have a major influence on how they relate to the organisation overall (O'Donnell and Shields, 2002). Researchers have recently suggested that the strength of the emotional and behavioural reactions that follow a contract breach may be moderated by how fairly an individual is treated by the organisation (Morrison and Robinson, 1997; Kickul, Lester and Finkl, 2002).

It is important to note that there are three types of organisational justice. Organisational justice refers to an employee's perceptions of fairness regarding: (1) the outcomes they receive from the organisation called distributive justice (Folger and Konovsky, 1989), which deals with the distribution of rewards or resources to individuals (Homans, 1961) as it relates to perceptions of equity in both absolute and comparative terms; (2) the process by which a decision is made, i.e., the procedures used to make decisions known as procedural justice (Konovsky, 2000), and generally refers to the fairness used in making and implementing decisions and policies (Lind and Tyler, 1988); and (3) the quality of interpersonal treatment employees receive from a decision maker or authority during the application of organisational procedures, i.e., being given an adequate explanation for decisions and being treated with dignity and respect (interactional justice) (Bies and Moag, 1986; Tyler and Bies, 1990).

Although sometimes procedural and distributive justice could be highly correlated (Sweeney and McFarlin, 1997; Kim, Moon, Han and Tikoo, 2004), they are widely

used as separate dimensions. Distributive justice is concerned with the actual outcome of decisions (e.g., pay raise, bonus and promotion), whereas procedural justice tries to explain the outcome of those decisions based on what procedure this outcome has been reached. Psychological contract breach can be considered as a form of distributive injustice where specific promises and outcomes have not been fulfilled (Robinson and Morrison, 1995; Morrison and Robinson, 1997). Since this study uses a global assessment of distributive justice by examining perceived psychological contract breach as it pertains to a variety of psychological contract outcomes, it will focus on examining the roles of procedural and interactional justice in enhancing the impact of contract fulfilment on employee attitudes and behaviours. These two forms of justice are examined in greater detail below.

## 2.7.2   Procedural Justice

Thibaut and Walker (1975) defined procedural justice as an individual's perception of the fairness of procedures used to derive outcomes. That is, procedural justice refers generally to how an allocation decision is made. It examines how fair the means are that led to a particular outcome. According to Thibaut and Walker (1975), one important element in procedural justice perceptions is whether individuals feel that they have a say in the process that leads to outcome decisions by a third party. The authors demonstrated that when individuals received unfavourable outcomes, they were more satisfied with the outcomes if they believed the procedures that produced them were fair. Procedural justice refers to the extent to which fair procedures include input from affected parties, are consistently applied, suppress bias, are accurate, are correctable, and are ethical (Levanthal, 1980). This is consistent with Tyler's (1989) statement that employee perceptions of procedural justice are affected by whether the procedures are neutral and whether the employee had trust in the decision maker.

According to Folger and Greenberg (1985) the perceived fairness or equity of the procedures used in making decisions regarding the distribution of rewards is an important consideration for employees. Numerous studies have found that procedural justice has a significant effect on a number of variables such as job satisfaction, affective commitment, turnover intentions and performance (e.g., Konovsky and Cropanzano, 1991). Konovsky and Cropanzano explained that procedural justice

affects these measures of employee loyalty due to the fact that the use of fair procedures generates expectations of fair treatment in the long run. These expectations lead to a sense of respect for and affection towards the organisation. This is in accordance with Tyler and Lind's (1992) view that the use of fair procedures and systems enhance the feeling of being treated as a full and respected member of the organisation, which in turn reinforces the emotional bond to the group and/or the organisation.

### 2.7.3   Interactional Justice

Several researchers (Bies and Moag, 1986; Tyler and Bies, 1990) have proposed a category of justice revolving around judgements of the quality of interpersonal treatment a person receives from a decision maker or authority while acting out organisational procedures. These perceptions have been referred to as interactional justice (Bies and Moag, 1986; Tyler and Bies, 1990).

Interactional justice refers to the quality of interpersonal interaction between individuals. According to Brockner and Wiesenfeld (1996), interactional justice is most likely to occur when decision makers: (1) treat individuals with interpersonal dignity (Baron, 1993); and (2) provide subordinates with justifications for explanations (Bobocel, McCline and Folger, 1997). Thus, interactional justice perceptions arise from beliefs about sincerity, respectfulness and consistency of persons in authority (Bies and Moag, 1986).

There continues to be some debate over whether interactional justice is a form of justice that can be clearly distinguished from distributive and procedural justice (e.g., Alexander, Sinclair and Tetrick, 1995; Gilliland and Steiner, 1997). Some scholars believe that interactional justice is composed of components of both procedural and interactional justice (Greenberg, 1993). However, there appears to be growing evidence that interactional justice can be distinguished from procedural justice (Moorman, 1991; Barling and Phillips, 1993; Masterson, Lewis, Goldman and Taylor, 2000; Bies, 2001; Cropanzano, Prehar and Chen, 2002). Interpersonal elements, rather than the structural attributes of the procedures themselves, distinguish interpersonal from procedural justice judgments (Schappe, 1995).

## 2.8 Conclusion

In this chapter an overview has been provided of the variables of interest for this program of research: high commitment HRM practices; psychological contract fulfilment/breach; organisational affective commitment; OCB; and procedural and interactional justice based on conceptualisations and previous empirical studies.

As noted in Chapter 1, little empirical research has examined the impact of high commitment HRM practices on the actual commitment of employees (e.g., Agarwala, 2003), and what is needed is an understanding of the mechanisms by which these practices exert their influence on commitment (Meyer and Smith, 2000). In addition, much of the literature linking HRM with psychological contracts has been conceptual (Sims, 1994; Guzzo and Noonan, 1994). Furthermore, as little research has been done on how employees' perceptions of justice develop and affect their attitudes and behaviours, the present research will identify and clarify how different types of fairness or justice perceptions contribute to the attitudinal and behavioural effects of contract fulfilment. As such, this study will focus on addressing the void that exists in these research areas. The following chapter, (Chapter 3) presents the links between these variables, the theoretical underpinnings, the conceptual framework, research questions and the hypothesis being investigated.

# CHAPTER THREE
# CONCEPTUAL FRAMEWORK

## 3.1 Introduction

In this chapter the links between the variables under investigation and the theoretical underpinnings of the concepts examined in the previous chapter are provided. These links and concepts in turn are used to guide the development of a new conceptual model of High Commitment Management and Worker Outcomes (Figure 3.1). The research questions and hypotheses are derived from this model.

Although a substantial body of empirical evidence over the last decade establishes a link between high commitment management practices and firm performance, these studies devote attention almost entirely to identifying what types of practices might be bundled together to achieve higher organisational performance, with little attention paid to how employees may perceive, and react to, the implementation of HRM. Given that employees are generally more influenced by perceptions of the work environment than by objective reality (Weick, 1995b), investigations at the employee level are much needed in the study and analysis of HRM. Further, although researchers have devoted much effort to the subject of psychological contract breach, they have also emphasized the need to study the effects of psychological contract fulfilment. Unfortunately, little has been done so far in this direction.

This study takes an initial step in that direction by examining the effects of psychological contract fulfilment on the following outcomes: affective commitment, OCB, and intention to quit. Also, while several researchers have studied the effects of psychological contract breach on a number of different outcomes in various organisations (Robinson and Rousseau, 1994; Robinson, 1996), much remains to be examined. For example, Morrison and Robinson (1997) presented an extensive model describing how an employee moves from a cognitive recognition of unmet promises to feelings of breach, suggesting that it is quite possible for an organisation to break its promises and not be perceived as having breached the psychological contract. This study investigates these assertions by examining the potential

moderating effects of procedural justice and interactional justice in the context of psychological contract fulfilment.

In this chapter, a theoretical model of the high commitment management-employee outcomes relationship is developed in order to shed light on how progressive HRM practices might exert their influence on employee attitudes and behaviours. This model proposes that perceived psychological contract fulfilment plays an important mediating role in relating high commitment HRM practices to work outcomes. To this end, the model investigates HRM as an antecedent of employees' perceived psychological contract fulfilment, and thus adds to the literature on HR. More generally, it also aims to extend the literature by investigating the antecedents of employees' psychological contracts in which research, according to Liao-Troth (1999), is very limited. The model also examines the following potential moderators: procedural justice and interactional justice.

Section 3.2 below investigates the effects of HRM practices on affective commitment. Section 3.3 explores the link between HRM practices and fulfilment of the psychological contract. Section 3.4 describes the links between psychological contract fulfilment/breach and affective commitment. Section 3.5 looks into the links between psychological contract fulfilment/breach and organisational citizenship behaviours. Section 3.6 examines the linkages between psychological contract fulfilment/breach and intention to quit. Sections 3.7 and 3.8 discuss the relationships between affective commitment and OCB, and affective commitment and intention to quit respectively. Section 3.9 considers the role of procedural justice and interactional justice as moderators of psychological contract fulfilment-work outcome relationships. Section 3.10 provides the theoretical underpinnings supporting the conceptual model. Section 3.11 presents the proposed model and identifies the research questions and hypotheses, which form the basis for the investigation. Finally, Section 3.12 is a conclusion to the chapter.

## 3.2 The Effects of HRM Practices on Organisational Affective Commitment

The importance of researching the influence of HRM practices on organisational commitment is derived from the notion that organisational commitment is one of several key employee attitudes influencing the employment relationship (Judge,

Hanisch and O'Driscoll, 1995). Theoretically, it is assumed high commitment HRM practices create the conditions that encourage employees to become highly involved in the organisation and identify with its overall goals (Wood and DeMenzies, 1998), in other words, these practices increase employee commitment to the organisation (Whitener, 2001). Highly committed employees are expected to perform consistently at a high level, as well as show initiative and willingness to expend extra effort towards reaching organisational goals (Walton, 1985). In effect, commitment-oriented HRM practices influence the quality of the social exchange relationship between employees and the employing organisation. Based on social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), Eisenberger, Fasolo and Davis-La Mastro (1990) suggest that employees develop a sense of obligation to respond favourably (i.e., by performing well and remaining with the organisation) to amicable treatment from their employer.

HRM practices are one means by which an organisation is able to achieve employee commitment through demonstrating its assessment of, and commitment to its employees. For example, Agarwala (2003) reasoned that if an organisation's management supports the human resource department in continuously renewing HR practices, then employees are likely to perceive high degrees of organisational commitment and support to them. Studying the impact of HRM practices on organisational commitment, Ogilvie (1986, p. 340) argued that 'employees' perceptions of HRM practices reflect a sense of reciprocity and the level of concern that the organisation appears to have for employees'. Furthermore, Kinicki *et al.* (1992) hypothesized that an organisation's HR system affects employee perceptions of the organisation's commitment to HR effort, which in turn affect general work attitudes. Kinicki and colleagues pointed out that an organisation's HRM programmes indicate to employees the degree to which their organisation is committed to efforts focusing on human resources, and that this perception influences general employee attitudes, such as organisational commitment. Rousseau (1995, p. 180) also noted that 'certain HR practices tend to be used together...These practices encourage employees to develop organisation-specific skills, share cultural norms supporting good consumer relations, and retain people'.

According to Meyer and Allen (1997), an organisation's HRM practices influence the employee's perceived self-worth, which leads to the development of affective commitment. For instance, training may engender affective commitment if an employee perceives that it is intended to provide an opportunity for advancement, which reinforces his or her sense of self worth. Career development has also been used as a measure of the organisation's commitment to its employees and has been found to have a positive effect on organisational commitment (Gaertner and Nollen, 1989). Gaertner and Nollen (1989, p. 987) noted that, 'psychological commitment is higher among employees who believe they are being treated as resources to be developed rather than commodities to buy and sell'. Likewise, rewards such as, salary, incentives and promotions result in employees believing they are valued by a caring organisation (Meyer and Allen, 1997). Randall and O'Driscoll (1997) reported that such reward systems have significant effects on affective commitment. Further to this, Tsui, Pearce, Porter and Tripoli (1997) analyzed data from a sample of 10 organisations and over 900 employees and found that employee attitudes (especially employee commitment) were associated with the interaction of human resource practices (e.g. performance appraisal).

Aside from some researchers that relied on social exchange theory and the norm of reciprocity in developing hypotheses about the relationships among human resource practices and employee attitudes and performance (e.g., Ostroff and Bowen, 2000), studies that have explored these relationships remain limited. Following Ostroff and Bowen's (2000) argument that human resource practices shape workforce attitudes by shaping their perceptions of what the organisation is like, leading them to reciprocate through their attitudes and behaviours, this study hypothesises that high commitment HRM practices are significantly associated with employee affective commitment.

## 3.3 HRM Practices and Psychological Contract Fulfilment

The field of HRM has been defined as 'the branch of organisational science that deals with the entire employment relationship, along with all the decisions, actions, and issues involved in that relationship' (Dulebohn, Ferris and Stodd, 1995, p. 18). Many researchers have suggested that HRM practices contribute to creating and maintaining the psychological contract because they play an important role as

message senders, thus shaping the terms of the psychological contract (Rousseau and Greller, 1994; Rousseau and Wade-Benzoni, 1994). As Rousseau (1995, p. 196) argued, 'HR practices send strong messages to individuals regarding what the organisation expects of them and what they can expect in return'. Furthermore, Rousseau and Greller (1994, p. 383) stated, 'Behavioral events in which organisations and their representatives convey promises of future intent (to hire, promote, train) in exchange for some contribution (e.g., take the job, perform to standard, learn new skills) create the psychological contract'. Similarly, Guzzo and Noonan (1994) reasoned that an employees' assessment of the status of their psychological contract is a result of the systematic, deep processing of what HRM practices convey to these employees. Along these lines, several empirical studies of psychological contracts (e.g., Robinson, Kraatz and Rousseau, 1994; Robinson, 1996; Guest, 1998; Porter, Pearce, Tripoli and Lewis, 1998) have used employees' perceptions of HRM practices in measuring perceived breach of the psychological contract. In those studies, an employee's perception of the breach in terms of HRM practices was found to have significant effects on individual attitudes and behaviours.

Guest and Conway (2002) explored the application of high commitment human resource practices as part of the psychological contract among 1,306 UK employment relations' managers. They found an association between the application of these progressive practices and more positive employee attitudes and behaviour. Sels, Janssens and Van Den Brande (2004) drew a stratified random sample of 1106 employees from a population consisting of Belgium employees working in private, public, profit and non-profit organisations to develop a feature-oriented assessment of psychological contracts. They identified six dimensions that capture the nature of the psychological contract: tangibility, scope, stability, time frame, exchange symmetry and contract level. They validated this conceptualization by exploring the impact of both formal contract characteristics and HRM practices as antecedents of the psychological contract dimensions. Their results indicated the significance of formal contract characteristics and HRM practices including participation and internal career ladders (i.e., HR flows, job autonomy and reward systems) as two antecedents shaping the nature of psychological contracts.

Psychological contract fulfilment refers to employee perceptions of whether the level of perceived obligations is matched by delivered inducements (Coyle-Shapiro and Conway, 2005). Guzzo and Noonan (1994) argued that, 'much of the information employees rely on to assess the extent to which their psychological contracts are fulfilled comes from the HR practices of the employer' (p. 452). They further indicate that judgments about the adequacy with which their psychological contracts are fulfilled result from such systematic analyses, and these judgments have important effects on employee commitment. Guzzo, Noonan and Elron (1994) drew on direct quotations from responses of 148 expatriate managers to an open-ended questionnaire item from 43 US firms based in 36 countries around the world. They concluded that HR practices can be viewed as communications that influence psychological contracts and employee commitment. That is, the way employees interpret and make sense of their employer's HRM practices affects their psychological contract with their employer and, ultimately, their commitment to the employer.

In the practice of HR, 'organisations convey messages and commitments through events (during the hiring, socialization, promotion and developmental processes) that signal their intentions' (Sparrow, 1996, p. 487). Guest and Conway (1998) contend that progressive people management practices establish a belief that employers will deliver on the implicit deal. In agreement with these authors, this thesis argues that high commitment management practices including training and development, rewards and working in a team, signal the organisation's preference for relational contracts. Morrison and Robinson (1997) suggest that these relational contracts discourage exchanges where employee vigilance occurs (they defined vigilance as the extent to which an employee monitors how well the organisation has fulfilled the terms of the psychological contract), meaning that employees are more likely to perceive contract fulfilment. Furthermore, Aselage and Eisenberger (2003) reason that employees who perceive a high degree of support from their employer (as is the case when high commitment management practices are implemented), tend to give the employer the benefit of the doubt when evaluating the degree to which they believe obligations have been fulfilled. Thus, high commitment HRM practices may create a positive evaluation bias in the degree to which employees believe that their employers have fulfilled their obligations. Consequently, this thesis proposes that a

more positive notion of commitment management practices engenders higher perceptions of psychological contract fulfilment, which in turn stimulate positive commitment, improve organisational citizenship behaviours, and inhibit intention to quit.

Even though prior research suggests that HRM practices are significant antecedents shaping the nature of the psychological contract (e.g., Rousseau and Greller, 1994; Sels, Jensens and Van den Brande, 2004), evidence for this research was found to be largely conjectural. The present researcher is not aware of empirical research that has explicitly examined the role of employees' *perceptions of psychological contract fulfilment* as mediating the relationship between people-centred management practices and work outcomes. By examining these relationships, theories of employee work attitudes and behaviors can be refined, and organisations will be better able to understand and manage employees' reactions to changes organisations make in the way their workforce is managed. In this way, the present research attempts to address a gap in the literature by investigating these relationships according to a model of High Commitment Management and Worker Outcomes (see Figure 3.1).

## 3.4 Psychological Contract Fulfilment/Breach and Organisational Affective Commitment

In reviewing the literature, a substantial proportion of psychological contract research has focused on the consequences of employers failing to fulfill one or more of its obligations to employees – referred to as psychological contract breach or violation (Robinson and Rousseau, 1994; Morrison and Robinson, 1997; Turnley and Feldman, 2000). There has been less empirical research examining the consequences of psychological contract fulfilment. While most available literature focuses on the effects of breach (some of which is referred to in this thesis because psychological contract breach has relevance as the converse of psychological contract fulfilment), the focus of this study is on the important aspect of the effects of fulfilment.

Commitment is usually conceptualized in an exchange framework, whereby performance and loyalty are offered in return for material benefits and rewards. Of the three dimensions of organisational commitment discussed in Chapter 2, affective

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commitment is likely to be affected most by the individual's judgment of the psychological contract and specifically the relational contract. When an employee judges that he or she is valued and supported by the organisation, reciprocity develops and the employee responds positively with higher levels of loyalty and affectiveness (Millward and Hopkins, 1998; Meyer *et al.*, 1999). On this basis, it can be argued that contract breach decreases an individual's commitment because it decreases employees' beliefs that the employer will fulfill promises and contributions. A study into the relationship between psychological contract breach and employee commitment by Lester *et al.*, (2002) found that the greater the degree of psychological contract breach reported by subordinates, the less committed they were to the organisation. In addition, Johnson and O'Leary-Kelly (2003) found that there was a significantly negative direct relationship between psychological contract breach and job satisfaction and commitment. They also established that psychological contract breach predicted employees' behavioural responses such as reduced in-role performance and increased absenteeism.

As discussed in Chapter 2, the conceptualization of commitment from an affective perspective, which focuses on employees' sense of attachment, identification and affiliation with the organisation (Mowday *et al.*, 1979), has been adopted throughout the present program of research. Hence, it can be argued that psychological contract breach may decrease commitment because it signals to employees that the organisation may not value their contribution and cares little about their well-being. In addition, it can be argued that failing to receive valued benefits would make retention of an affective bond difficult. Conversely, it can be argued that perceived organisational fulfilment of the psychological contract might increase affective commitment by strengthening an employee's positive regard for and attachment to the organisation out of gratitude for the desired benefits it provides. Therefore, this thesis hypothesizes that perceived psychological contract fulfilment is positively related to affective commitment.

## 3.5 Psychological Contract Fulfilment/Breach and OCB

Although much workplace research has been conducted on OCB and psychological contract breach, few studies have considered the relationship between OCB and psychological contract fulfilment. To fully understand the effects of psychological

contract fulfilment in the workplace, existing studies into employee responses to both fulfilment and breach of the psychological contract are discussed in relation to the literature.

Robinson and Rousseau (1994) argue that one of the contributions of the psychological contract is that it focuses on both parties in the exchange process, something neglected in OCB literature. Organ (1990) and Rousseau (1995) believe that open-ended relationships motivate workers to contribute extra-role performance that benefits their employers. In agreement, Robinson and Morrison (1995) and Robinson (1996) found that when employees perceived that their organisation had failed to fulfill one or more its promised obligations, they were likely to retaliate by reducing their affective commitment and extra-role performance.

Rousseau (1995) theorised that psychological contracts are a key influence on behaviour at work, and that they are especially applicable and significant to OCB. Robinson, Kraatz and Rousseau (1994) provided empirical support for this relationship by establishing an association between psychological contracts and self-reported OCB. In a longitudinal study of business school alumni, they investigated changes in employment obligations as perceived by employees. Their findings suggested that citizenship may result from the employees' perceptions of their obligations to organisations and the degree to which they are reciprocated rather than from attachment, or satisfaction as has been frequently suggested (e.g., Organ, 1990). McLean Parks and Kiddler (1994) also linked some of the work on psychological contracts to citizenship behaviour and organisational justice. They argued that contract violations by employers might influence the extent and forms of citizenship behaviour displayed by employees. In addition, Ang, Van Dyne and Begley (2003) found that foreign Chinese workers in Singapore receiving fewer inducements than the traditional Chinese responded by lowering their OCB and work performance. Thus, Ang *et al.* point out that when psychological contract violations by employers become apparent, acts of OCB diminish. These findings are consistent with the social exchange theory where individuals from both sides of the exchange relationships strive for balance (Blau, 1964).

Coyle-Shapiro and Kessler (2000) examined the content and state of the psychological contract from both employee and employer perspectives, by conducting two surveys in a large local authority responsible for the provision of a wide range of public services in south-east Britain. Their key findings showed that the majority of employees had experienced contract breach. Overall, their results indicated that employees redress this imbalance through reducing their commitment and their willingness to engage in OCB. In addition, Kickul, Lester and Finkl (2002) found that employees from a range of organisations in the United States saw psychological contract breach as negatively related to job satisfaction, in-role performance and OCB, resulting in intentions to leave the organisation. These findings are consistent with previous research into psychological contract breach by Robinson and Morrison (1995) and Turnley and Feldman (1999).

Further to these studies into the negative results of contract breach, Robinson (1996) examined the theoretical and empirical relationship between employees' experiences of psychological contract breach by their employers and the civic virtue dimension of OCB using longitudinal research. She collected data from 125 newly hired managers over a two-and-a-half year period and found that psychological contract breach was negatively related to civic virtue behaviour. These findings both confirm and extend the study by Robinson and Morrison (1995) who conducted a longitudinal study in which 126 MBA alumni were surveyed at the time of hiring (T1), after 18 months (T2), and after 30 months (T3) on the job, relating perceptions of contract violation with OCB. They found support for their hypothesis that employees are unlikely to perform civic virtue behaviours when they perceive that their organisation has failed to fulfill relational obligations.

Other than the civic virtue dimension of OCB, empirical research has shown that the psychological contract has been linked to a number of other dimensions of OCB including: loyalty (Turnley and Feldman, 1999); helping behaviour (Van Dyne and Ang, 1998); courtesy and conscientiousness (Lewis-McClear and Taylor, 1998); and loyal boosterism (see Moorman and Blakely, 1995; Bowler, 2006). Additionally, Turnley, Bolino, Lester and Bloodgood (2003) used a sample of 134 supervisor-subordinate dyads to examine the relationships between in-role performance, organisational citizenship directed at the organisation, and organisational citizenship

directed at individuals within the organisation. Turnley *et al's* (2003) study suggests that the extent of psychological contract fulfilment is positively related to all three types of employee behaviour. Their study results indicated that psychological contract fulfilment is more strongly related to citizenship directed at the organisation, rather than that directed at one's colleagues. However, the data provided only limited support for the idea that employees are most likely to reduce their work effort when they perceive the organisation as having intentionally failed to live up to its commitments. The above-mentioned findings suggest that the psychological contract framework may predict a variety of citizenship behaviours rather than a particular dimension.

As noted earlier, when an employee feels that his or her organisation has failed to fulfill a contractual agreement, he or she feels less bound to the relationship and is less likely to contribute to it, particularly since there is doubt as to the reciprocation of future exchanges (Robinson and Morrison, 1994). While an individual might desire to decrease his or her job performance, such an action might lead to sanctions or dismissal. Therefore, the employee would more likely decrease those behaviours that extend beyond specific role requirements, are not directly or explicitly recognised by the formal reward system, and thus are less likely to result in sanctions. Organ (1990) made a similar argument noting that, when individuals believe they have been treated unfairly, one way for them to restore equity is to cut back on discretionary behaviours such as OCBs. Furthermore, McAllister (1995) argued that individuals who lose their good faith and trust in the organisation (e.g., as a result of contract breach) engage in excessive monitoring, which leaves them with little time and energy to spend on extra-role activities. Conversely, psychological contract fulfilment can possibly lead an employee to participate more in OCBs in hopes of continued reciprocation by the organisation. More specifically, employees' perceptions that their organisations have fulfilled the terms of their psychological contracts would likely engender a desire to reward these organisations. In summary, the literature provides some theoretical and empirical justifications for expecting psychological contract fulfilment to be positively related to organisational citizenship behaviours, as hypothesised in this study.

## 3.6  Psychological Contract Fulfilment/Breach and Intention to Quit

Psychological contract breach denies employees valued benefits that might be necessary for the accomplishment of their professional and financial goals, resulting in their belief that it is necessary to seek alternative employment in order to obtain valued benefits in the future. For example, Dunahee and Wangler (1974) suggested that psychological contract breach could result in many offsetting actions by the party that has experienced the breach including retaliation, quitting on the job and termination of the contract. Conversely, according to social exchange theory, employees who receive high levels of support from the organisation are inclined to repay the organisation (Blau, 1964). One essential way to reciprocate the organisation's favourable treatment is through continued participation (Allen, Shore and Griffeth, 2003). As Allen *et al.* (2003) argue, March and Simon's (1958) ground work on the inducements-contributions relationship between the organisation and employees also indicates that employees who receive more support as part of the inducements offered by the organisation, would have less desire to leave the organisation.

Several studies (e.g., Millward and Hopkins, 1998; Westwood, Sparrow and Leung, 2001) have shown that violations of psychological contracts result in several undesirable outcomes including lower trust towards the employer and a propensity to leave the organisation. Robinson and Rousseau (1994) found that the occurrences of psychological contract violation positively correlated with turnover and negatively correlated with intentions to remain with the organisation. They argued that when violation occurs, an employee has no guarantee that future outcomes will be distributed and is thus more likely to seek out a new organisation. On the other hand, consistent organisational psychological contract fulfilment could possibly lead individuals to believe that future exchanges will occur. Therefore, valued benefits are likely to be attained by continuing employment with the organisation. Accordingly, the present program of research hypothesises that perceptions of psychological contract fulfilment lessen an employee's intention to quit or leave the organisation.

## 3.7  Organisational Affective Commitment and OCB

Scholl (1981) and Weiner (1982) suggest that there are links between organisational commitment and OCB. Both their theoretical models of commitment describe it as an

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attitude that could promote personal sacrifice for the sake of the organisation. Following Organ's (1977) argument that job attitudes may be more strongly related to OCBs than in-role performance, organisational commitment has been studied as a plausible antecedent. Further, according to Schappe (1998), commitment should be related to OCB because it is an attitude that directs behaviour when there is no formal reward for that behaviour. Therefore, managers need to better understand how to manage and promote the relationship between commitment and OCB (Schappe, 1998).

Several researchers have demonstrated that organisational commitment is related to OCB (Bateman and Organ, 1983; Moorman, Niehoff and Organ, 1993; LePine, Erez and Johnson, 2002), and have provided support for a significant, positive relationship between the two constructs (Becker, 1992). Organ and Ryan (1995) conducted a meta-analysis review of 55 studies that investigated attitudinal and dispositional predictors of OCB. The authors chose the 55 studies by conducting a manual search of four major journals (Journal of Applied Psychology, Academy of Management Journal, Personnel Psychology and Organisational Behaviour Human Decision Processes), for the years 1983 to 1994. Their results indicated that satisfaction, fairness and organisational commitment were the only correlates of OCB in a sufficient number of studies to warrant inclusion in their meta-analysis. Schappe (1998) studied the same three factors (job satisfaction, perceptions of procedural justice and organisational commitment) collectively, to determine their effects on OCB. Although the three factors were individually correlated with OCB, Schappe's hierarchical regression analysis indicated that when all three variables are considered concurrently, only organisational commitment accounts for a unique amount of variance in OCB.

In another study, Graham (1986) collected survey data from 400 employees of four organisations (a firm in the financial services industry, a non-profit social service agency, a firm in the building products industry and a professional financial services firm). Information about satisfaction and commitment in Graham's study was obtained via self-reports from the employees, whereas evaluations of citizenship behaviours were obtained for 150 of these employees by their supervisors. The

results of Graham's study showed that both job satisfaction and organisational commitment were significantly correlated with OCB.

O'Reilly and Chatman (1986) conducted two studies that focused on the underlying dimensions of commitment to the organisation as antecedents to OCB. In one of these studies, using responses from 82 university employees, they found that identification was a significant predictor of self-reports of OCB. In the second study, using 162 undergraduate and MBA students, they found identification and internalisation to be significant predictors of self-reports of OCB. It is important to note that both identification and internalisation have been conceptualised as components of organisational commitment (Buchanan, 1974; Wiener, 1982) and are conceptually similar to affective commitment. Chatman (1989) concluded that people who share values with the organisation are 'more likely to contribute in constructive ways' (1989, p. 343). Mowday, Porter and Steers (1982) have also stated that organisationally committed individuals 'are willing to give something of themselves in order to contribute to the organisation's well-being' (p. 27).

Several empirical studies have suggested that the relationship between commitment and OCB depends on the type of commitment being examined. Meyer, Allen and Smith (1993) studied the relationship between different types of organisational commitment and OCB. They found a significant relationship between OCB and attachments such as affective and normative organisational commitment and a non-significant relationship between OCB and the attachment represented by continuance organisational commitment. Shore and Wayne (1993) also found affective commitment to be positively associated with OCB. Further, the meta-analysis conducted by Organ and Ryan (1995) revealed that affective organisational commitment was significantly related to both altruism and compliance dimensions of OCB.

However, despite the generally strong support for a relationship between commitment and OCB, some researchers found no support for such a relationship (e.g., Mathieu and Zajac, 1990; Williams and Anderson, 1991; Tansky, 1993; Settoon *et al.*, 1996). For example, Tansky (1993) found no significant relationships between organisational commitment and five OCB dimensions (altruism, courtesy,

sportsmanship, conscientiousness and civic virtue). In addition, Van Yperen *et al.* (1999) tested a model in which organisational commitment was presented as a mediator variable between participation in decision-making and OCB, on a sample of 124 employees from 10 departments of a medium-sized company in the Netherlands, and were unable to observe any link between commitment and OCB, thus rejecting the model.

Williams and Anderson (1991) have also challenged the finding that organisational commitment may be a predictor of OCB. They found that when the relationship between job satisfaction and OCB was controlled, no relationship was found between organisational commitment and OCB. However, when the relationship between organisational commitment and OCB was controlled, job satisfaction still explained significant variance in OCB. As a result, they concluded that the relationship reported between organisational commitment and OCB may be overstated. Puffer (1986) examined the relationships between several predictor variables and pro-social behaviour. Puffer used survey data from 141 sales persons associated with a retail chain selling high-ticket merchandise to measure the independent variables. Assessments of sales people's pro-social behaviours were obtained from store managers. Puffer found that the correlation of commitment with pro-social behaviour was 0.25 ($p < 0.01$). She then performed canonical correlation analysis and found high loadings for commitment on pro-social behaviours. However, when she performed regression analysis, commitment was not found to be a significant predictor of these behaviours.

Organ (1990) may have provided the explanation for this situation when he argued that other variables might actually predict OCB better than organisational commitment, since 'the connections from attitudes to intentions to behaviour are far from perfect' (Fishbein and Ajzen, 1975, p. 51). Nevertheless, Williams and Anderson (1991) explicitly note that 'organisational commitment deserves further consideration, because there is strong theoretical support for its impact on OCB' (p. 616). Furthermore, in the Podsakoff *et al.* (2000) meta-analysis, organisational commitment significantly correlated with citizenship behaviour with a meta-analytic $r = 0.32$. These findings suggest that citizenship is strongly related to positive employee attitudes such as organisational commitment.

Some researchers argue that the explanation for the conflicting results is that studies showing relationships between OCB and organisational commitment used self-report measures while studies finding no support for this relationship were assessed by judgments of supervisors. However, that was not always the case. For example, Shore and Wayne (1993) found affective commitment to be positively associated with OCB using supervisor-report ratings to assess OCB. Tansky (1993) suggests that OCB ratings by the employee may be more appropriate for examining this type of relationship, because the employees may see themselves exhibiting behaviours that the supervisor does not observe. Pond, Nacoste, Mohr and Rodriguez (1997) also question the wisdom of always limiting the assessment of OCB to supervisor ratings alone and propose that OCB should be measured by self-report ratings so that the measure reflects perceptions, dispositions and cognitions of the employee rather than those of his or her supervisor. As discussed in Chapter 4, for the purpose of the present program of research, self-report measures of OCB were utilized to test the hypothesis that affective commitment is positively related to OCB. Taking into consideration the conflicting results of the relationship between commitment and OCB, further considerations and tests of this relationship are justified especially since OCB relates to organisational efficiency, effectiveness and adaptability (Brennan, and Skarlicki, 2004), and hence has important implications for the success of any organisation.

## 3.8 Organisational Affective Commitment and Intention to Quit

Several models of employee turnover (e.g., Mobley, 1982; Tett and Meyer, 1993) show that organisational commitment influences whether employees stay or leave. In the organisational behaviour literature, some research suggests that lower commitment may lead to increased intention to quit (e.g., Mowday *et al.,* 1982; Mathieu and Zajac, 1990). Randall and Cote (1991) suggested that withdrawal intentions from the organisation should be affected by organisational commitment. Allen and Meyer (1990) also suggested that highly committed employees are less likely to quit than those who are less committed. This is supported by a study conducted by Meyer *et al.* (1993) with a sample of nurses, where it was reported that organisational commitment accounted for the variation in the intention to leave the organisation. Seabright *et al.* (1992) found that commitment decreases the likelihood that relationships will dissolve. In addition, Carmeli and Gefen (2005) tested the

relationships between continuance and affective commitment and withdrawal from the organisation, and found that affective commitment had a higher correlation with withdrawal intentions from the organisation than did continuance commitment ($r = -0.049$, $p < 0.001$). Hence, the working assumption of this study is that employee intention to quit from an organisation can be predicted by affective commitment. This study also proposes a direct negative relationship between affective commitment and intention to quit.

While it is proposed that increasing perceptions of high commitment HRM practices lead to raised perceptions of fulfilment of the psychological contract resulting in positive effects on important work outcomes, it is possible that these positive effects may be further enhanced by an individual receiving fair treatment from his/her organisation. The next section discusses the moderating role of organisational fairness/justice, particularly, procedural justice and interactional justice.

## 3.9 Moderating Role of Procedural and Interactional Justice

Evidence suggests that fair treatment is associated with favourable work attitudes and higher job performance (Konovsky and Cropanzano, 1991; Konovsky, 2000). As a consequence of these and other benefits, various human resource management practices are being re-examined (Folger and Cropanzano, 1998). Individuals care about the procedures used and how they are treated within an organisation. If employees believe that they are being treated fairly, this reaffirms their beliefs that they are valued members in the organisation. Conversely, Tyler (1989) reasoned that when individuals neither receive equitable outcomes nor believe the procedures will lead to equitable outcomes in the future, their reactions become increasingly negative.

Research indicates that when the decision procedure is fair and when individuals are dealt with in an equitable and honest manner, employees are more likely to accept the outcome of the decisions and trust leadership (Korsgaard, Scweiger and Sapienza, 1995). For example, Deutch (1975) suggested that the perception of unfairness in decision making is one of the most significant forms of injustice. He suggested that, if a process is perceived as fair, there is a greater likelihood that the outcomes resulting from the process will be considered fair. Also, Brockner, DeWitt,

Grover and Reed (1990) reported that when managers provided a relatively clear explanation of reasons for a layoff, survivors (i.e., remaining employees) showed greater organisational commitment especially when the layoff was perceived to be unexpected. Therefore, while employees' perceptions of psychological contract breach are likely to have a significant impact on employee attitudes and behaviours, organisational justice (specifically procedural and interactional justice) may also influence these outcomes. A study by Rousseau and Aquino (1993) supported these arguments as they found that outcomes of breaches were less severe when the offending party appeared to have been procedurally just.

Rousseau (1989) argues that the intensity of how an individual responds to contract breach 'is directly attributable not only to unmet expectations of specific rewards or benefits, but also to more general beliefs about respect of persons, codes of conduct and other patterns of behaviour associated with relationships involving trust' (p. 129). This implies, the level of organisational justice perceived in management decisions concerning the implementation, alteration and/or withdrawal of high commitment HRM practices will be directly related to the quality of the resulting social exchange relationships between employees and their employing organisation (Tekleab, Takeuchi and Taylor, 2005).

Robinson and Rousseau (1994) explained the consequences of violations using distributive and procedural justice. They reasoned that contract violations cause perceptions of distributive injustice resulting in employees becoming less willing to provide their organisations with discretionary inputs. In addition, they argued that unfulfilled promises elicit judgments about the quality of the treatment received, which is an issue of procedural justice. According to Rousseau (1995), fair procedures should reduce aversive reactions to contract breaches. Procedural justice would demonstrate that, despite contract breach, employees remain valued and important members of the organisation (Rousseau, 1995). For example, Turnley and Feldman (1999) found that procedural justice lessened the impact of perceived contract breach on employee turnover intentions. In addition, McDowall and Fletcher (2004), and Rousseau, Hui and Lee (2002) stated that procedural justice would be significantly and positively correlated with organisational commitment.

In their model of the development of the psychological contract violation, Morrison and Robinson (1997) incorporated the existing justice literature into their explanations of how violations occur and the consequences of these violations. They predicted an interaction between psychological contract breach and perceptions of fairness. That is, the negative feelings that result from breach of the psychological contract will be influenced by judgments concerning the procedures implemented and the quality of the interpersonal treatment received from the organisation. Thus, Morrison and Robinson (1997) suggest that procedural and interactional fairness mitigate against a psychological contract breach. Although a few researchers have begun to examine these relationships (Kickul, Lester and Finkl, 2002; Lo and Aryee, 2003), further research is required to clarify how these types of justice perceptions contribute to the attitudinal and behavioural effects of psychological contract breach and also whether they contribute to enhancing attitudinal and behavioural effects of contract fulfilment. This is consistent with Grant and Shields' (2002, p. 326) observation that the greatest potential of the organisational justice literature is 'the insights which it offers on the contribution of fairness perceptions to shaping the direction and strength of the psychological contract'. As such, it is proposed in this study that positive reactions resulting from psychological contract fulfilment may be enhanced by procedural and interactional justices (i.e., fair procedures and interpersonal treatment when altering specific high commitment HRM practices and the promises implicit within them).

## 3.10 Theoretical Underpinnings

This section provides the theoretical framework underlying the conceptual model presented in Figure 3.1. Weick (1995a) notes that theory is devised to analyze, predict, or otherwise explain the behaviour of a specified phenomenon. This thesis draws upon social exchange theory and the norm of reciprocity to explore relationships among high commitment HRM practices, psychological contract fulfilment, affective commitment, OCB, intention to quit, procedural justice and interactional justice.

### 3.10.1 Social Exchange Theory and the Norm of Reciprocity

According to Blau (1964), processes of social associations can be conceptualized following Homan's lead, 'as an exchange of activity, tangible or intangible, and more

or less rewarding or costly, between at least two persons' (Homans, 1961, p. 13). Blau states that the basic principle of any exchange is that, 'an individual who supplies rewarding services to another obligates him. To discharge this obligation, the second must furnish benefits to the first in turn' (1964, p. 89). Blau (1964) refers to social exchange as 'voluntary actions of individuals that are motivated by the returns they are expected to bring and typically do bring from others' (p. 91). He then argues that the exchange partners will strive for balance in the relationship, and if imbalance occurs, attempts will be made to restore the balance. Furthermore, if exchange partners value what they receive from the other, and if they find the perceived benefit to be at least equal to the cost, then the exchange process will continue, otherwise it will cease.

Social exchange theory is based on Gouldner's (1960) norm of reciprocity, wherein he discussed reciprocity as a 'mutually contingent exchange of benefits between two or more units' (p. 164). Gouldner (1960) argues that the norm of reciprocity is universal, and is based on two interrelated and minimal demands: (1) people should help those who have helped them; and (2) people should not injure those who have helped them. Therefore, the basic assumption of this theory is that the need to reciprocate is universal yet contingent upon the receipt of benefits. Gouldner (1960) states, 'when one party benefits another, an obligation is generated' (p. 174). Gouldner then points out that the need to reciprocate for benefits received in order to continue receiving them serves as a 'starting mechanism' of social interaction and group structure. He suggests that:

> The norm obliges the one who has first received a benefit to repay it at some time; it thus provides some realistic grounds for confidence, in the one who first parts with his valuables that he will be repaid. Consequently, there may be less hesitancy in being the first and a greater facility with which the exchange and the social relation can get underway. (Gouldner, 1960, p. 177)

Gouldner (1960) argued further that reciprocity has developed in human societies as a moral norm that surpasses egoistic motivation. That is,

> One who fails to repay debts may benefit individually; however, such action is likely to cause conflict and a breakdown of reciprocity, and thus threaten the stability of

the social group. The norm of reciprocity inhibits such exploitation, and serves to maintain the social system. (Deckop, Cirka, and Andersson, 2003, p. 103)

The norm of reciprocity suggests that if help or support is received from others, then they must be compensated. Moreover, the greater the aid received, the greater the following compensation. Further, social exchange theory predicts that, given certain conditions, people seek to reciprocate those who benefit them (Bateman and Organ, 1983, p. 588). The universal norm of reciprocity describes the natural response and universal reactions of those receiving help and benefits, while social exchange explains the overall relationship of two entities sharing favours (i.e., the state of the relationship). Blau (1964) suggests that an individual would prefer a feeling of positive imbalance to that of indebtedness. Such desire to remain out of debt and to avoid feeling obligated to another leads to increased exchange of favors or gifts.

3.10.2 Social versus Economic Exchange

Blau (1964) was among the first to differentiate social exchange from economic exchange. Blau explains that the basic and most crucial distinction between these exchange ideologies is that social exchange entails unspecified obligations. Moreover, the standards for measuring contributions of social exchange relationships are often unclear. Blau further indicates that only social exchange tends to cause feelings of personal obligation, gratitude and trust, whereas economic exchange does not. It is important to understand that both types of exchange ideology are based on the expectation of some future return, and the principle that the benefit provided to another will be repaid. However, social exchange and economic exchange differ in the means and timing of the expected repayment.

An economic exchange is based on quid pro quo, calculation based transactions, where relationships and expected returns are specifically defined in advance, allowing individuals to assess potential benefits and deficits associated with the exchange and, accordingly, balance or alter their contributions. Witt (1991) refers to economic exchange as being comprised of fairly explicit obligations that take place at a specific time and are enforced by formal contract. Furthermore, the responsibilities of both parties in an economic exchange are finite and enforceable

(Organ, 1990). An example of an economic exchange is the pay cheque an employee receives for performing his or her job duties at an agreed upon minimum level.

Social exchanges, on the other hand, are driven by self-interest, and relationships based on social exchange develop between two parties through a series of mutual exchanges that yield a pattern of reciprocal obligation in each party (Blau, 1964). Social exchanges create diffuse obligations for both parties and leave the means of reciprocation to the obligated party's discretion (Blau, 1964). Accordingly, organisational researchers argue that employer and employee exchange involves not only impersonal resources such as money and services, but also socio-emotional resources such as approval, respect and support (Eisenberger, Armeli, Rexwinkel, Lynch and Rhoades, 2001).

Tsui, Pearce, Porter, and Tripoli (1997) state that:

> ...in a social exchange relationship, the inducements an employer offers go beyond short-term monetary rewards. They include an extended consideration of an employee's well-being as well as an investment in the employee's career within the firm. In exchange, the employee's obligations and contributions include working on job assignments that fall outside of prior agreements or expertise ...The employee is also willing to learn firm-specific skills that are not readily transferable to other employers because he or she trusts that such investments will be reciprocated over the long run. (p. 1092)

Such relationships are based on individuals trusting that the other parties to the exchange will fairly discharge their obligations in the long run (Holmes, 1981). In social exchange relationships, relational trust leads employees (Rousseau, Sitkin, Burt and Camerer, 1998) to believe that if they give above minimum expectations, they will receive some form of reciprocity from the organisation at an unspecified future date (Gouldner, 1960). That is, trust and gestures of goodwill are reciprocated (Settoon, Bennett and Liden, 1996) in such relationships. Trust is imperative, especially in the short run, to the development and maintenance of social exchange relationships. An individual, must trust that benefiting the other party now, although it results in short-term inequity, will lead to future repayment. Without trust, the relationship will degrade to one of economic exchange. In other words, the parties in a social exchange relationship simply come to trust, based on prior experience, that

the other side will live up to their side of the bargain at some point in the future (Organ, 1990).

More relevant to this research are social exchange relationships. These relationships tend to be longer-term and are more likely to involve less tangible and more symbolic or socio-emotional resources, such as recognition or esteem (Rupp and Cropanzano, 2002). Organ (1990) summarized the differences between economic and social exchanges as follows:

> Economic exchange has a contractual character; the respective parties (e.g., the employee and the employer) agree in terms of a specific quid pro quo, over an articulated domain of behaviour and a precise time span; the respective obligations are finite and do not depend on trust, since the terms are enforceable by third parties. Social exchange, by contrast, involves diffuse, ill-defined expectations in terms of the nature, value, and timing of the benefits rendered and received by the parties. (p. 63)

### 3.10.3 Social Exchange Theory, High Commitment HRM Practices, Psychological Contracts, Organisational Justice/Fairness, and Employee Attitudes and Behaviours

Social exchange theory highlights the importance of understanding employees' motivation and its relation to the achievement of organisational goals (Aselage and Eisenberger, 2003). Levinson (1965) noted that actions by agents of the organisation are often viewed as indications of the organisation's intent rather than solely as actions of a particular individual. Levinson further indicated that employees personify their relationships with their employing organisation. As a result, he suggested that employees would view favorable or unfavorable treatment by agents of the organisation as indicative of the organisation's favorable or unfavorable orientation toward them. Settoon *et al.* (1996) used social exchange theory to study the relationship between an organisation and its employees and they predicted that '...positive, beneficial actions directed at employees by the organisation and/or its representatives contribute to the establishment of high quality exchange relationships...that create obligations for employees to reciprocate in positive, beneficial ways' (p. 219). Their study provides support for this theory, finding that social attachments such as leader-member exchanges exert a direct and positive effect on organisational citizenship behaviour. Building on Gouldner's (1960) idea of

reciprocity and social exchange theory (Blau, 1964), Eisenberger, Fasolo and Davis-LaMastro (1990) suggest that the frequency and sincerity of praise and approval, as well as other rewards, such as pay, promotions and influence over policies, may all contribute to an employee's affective attachment to the organisation if those rewards are seen as representing the organisation's evaluation of the employee. Hence, they argued that a worker's perception of an organisation's support and commitment to him or her, and the extent to which the organisation values his/her contributions, is an important correlate of the worker's behaviour and affective states.

Rousseau's (1989) definition of the psychological contract as 'an individual's beliefs regarding the terms and conditions of a reciprocal exchange agreement between the focal person and another party. Key issues here include the belief that a promise has been made and a consideration offered in exchange for it, binding the parties to some set of reciprocal obligations' (p. 123), falls within the domain of social exchange and the norm of reciprocity. Social exchange theory posits that a social element exists in contractual relationships (Whitener, Brodt, Korsgaard and Werner, 1998). For example, when psychological contracts contain a large number of inducements from an organisation, individuals have positive relationships with the organisation, and they may reciprocate by higher levels of affective commitment, increased OCB and lower intention to quit. In contrast, when the psychological contract is viewed as less positive, employees may reciprocate by lowering their commitment, engaging in less OCB and increasing their intentions to leave the organisation.

Rousseau (1995) indicated that employees derive the terms of their psychological contract in three main ways. First, when being recruited, prospective employees may receive persuasive communications in the form of either implicit or explicit promises from recruiters or interviewers. Second, employees' observations about how their co-workers and supervisors behave and are treated by the organisation, act as social cues that inform employees of their contractual obligations. Third, the organisation provides signals through its compensation systems, performance reviews, handbooks and mission statements, all of which play a role in the creation of the employees' psychological contract.

The psychological contract often becomes an important influence on behaviour (McDonald and Makin, 2000). In studying and documenting changes to the psychological contract, organisational scholars often rely upon a social exchange perspective (Johnson and O'Leary-Kelly, 2003). Blau's (1964) social exchange theory is most applicable in settings in which two individuals, or an individual and his/her employing organisation, are in a direct exchange relationship with each other. Many researchers also suggest that psychological contracts help to define the terms of the social exchange that exist between employees and their organisations (Robinson and Morrison, 1995; Shore and Barksdale, 1998) and are also widely assumed to reflect an exchange process (Shore and Tetrick, 1994; Rousseau, 1995; Millward and Brewerton, 2000). According to Rousseau (1995) and Shore and Tetrick (1994), because of the pervasive norms of reciprocity that are a part of any exchange agreement between an individual and his/her organisation, an individual often creates a psychological contract as a means for understanding and representing the employment relationship with his/her employer.

Social exchange theory has also been commonly used as a means of explaining how employees might respond to psychological contract fulfilment or breach (Lester *et al.*, 2002; Turnley *et al.*, 2003). Employees are said to be motivated by a desire to maintain a reciprocal or balanced relationship with their organisation in terms of inducements and contributions (Blau, 1964). Should they believe that their organisation has not fulfilled its contractual obligations it will tend to undermine assumptions of fair dealing that underlie long-term employment relationships (Rousseau and McLean Parks, 1993).

A well-established stream of research has also applied social exchange theory in explaining a number of organisational attitudes and behaviours, such as commitment and OCB, for example (Eisenberger *et al.*, 1986; Eisenberger *et al.*, 1990; Organ and Ryan, 1995; Settoon *et al.*, 1996; Shore and Barksdale, 1998; Lynch, Eisenberger and Armeli, 1999; Podsakoff, MacKenzie, Paine and Bachrach, 2000; Rhoades and Eisenberger, 2002). Reciprocation within a social exchange can take many forms including increased commitment and organisational citizenship behaviour on the part of the employee, and increased support, resources and attention on the part of the organisation (Eisenberger, Huntington, Hutchison and Sowa, 1986; Konovsky and

Pugh, 1994). Many researchers have also suggested that organisational justice facilitates the formation of social exchange relationships (Lee, 1995; Moorman, Blakely and Niehoff, 1998). For example, Organ (1990) suggested that individuals engage in OCBs when they believe their organisations have treated them fairly. In other words, individuals reciprocate their organisations for equitable treatment by performing OCBs. Consequently, they withhold OCBs when they believe that their employers have not treated them fairly.

The relationships proposed in the present program of research can best be explained by social exchange theory, which posits that social exchanges are relationships that do not specify future obligations and are based on trust that others will fairly discharge their agreed upon benefits over time. For example, this theory provides a theoretical explanation as to why high commitment HR practices should result in positive employee attitudes and behaviours. Further, the present study draws upon this theory because it is most useful when explaining the formation and maintenance of the psychological contract between two parties and hence, provides a general approach for understanding how employees are likely to respond when they perceive that their psychological contracts have been fulfilled.

## 3.11 Conceptual Framework, Research Questions and Hypotheses

3.11.1 Conceptual Framework

Figure 3.1 presents the complete model of the relationships described in the previous sections. An advantage of the proposed model is that it provides a unifying framework, linking together related concepts such as commitment-oriented management practices, their fulfilment via contract perceptions and commitment itself. The model also provides an insight into the 'black box', providing a proposed set of explanatory mechanisms for the link between high commitment management and employee level outcomes like OCB and intentions to leave the organisation. Commitment is seen as an attitudinal consequence of perceived psychological contract fulfilment, preceding behavioural consequences like employee citizenship and intention to quit.

Figure 3.1

*Proposed Model of High Commitment Management and Worker Outcomes*

| *Management Influences* | *Perceptual Influences* | *Attitudinal Consequences* | *Behavioural Consequences* |
|---|---|---|---|
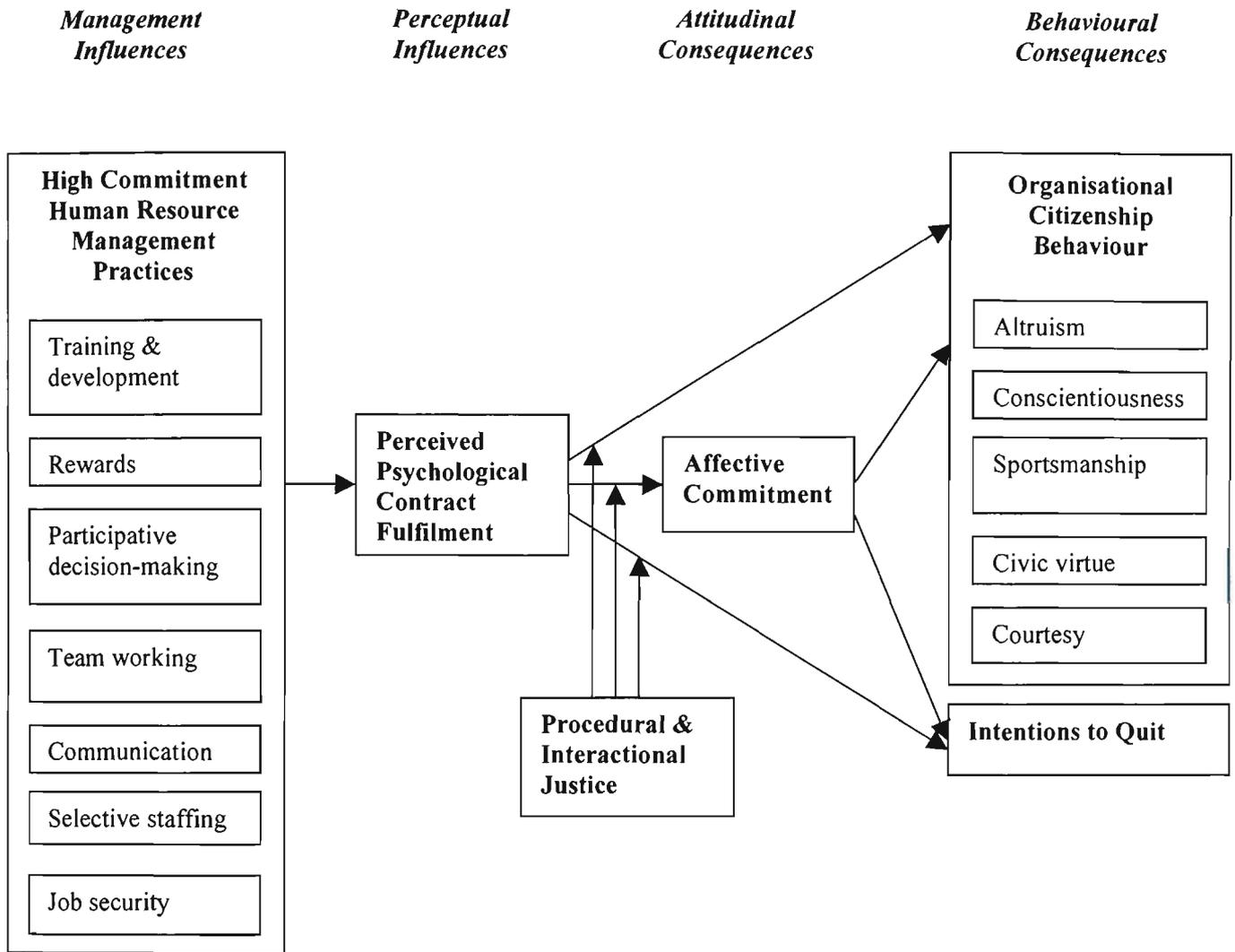


### 3.11.2 Research Questions

As mentioned earlier, although there is a growing body of evidence demonstrating positive effects of high commitment HRM practices on organisational performance, there is less evidence both for evaluating their effects on individual workers and explaining the mechanisms through which these practices actually influence employee level outcomes. This study seeks to address this gap by reporting the results of a staff survey on a cross-section of employees of a large Australian banking organisation. In summary, the major research agenda for the current program of research is twofold: (1) investigating a variety of HRM practices as antecedents to employee perceptions of fulfilment of the psychological contract, and further examining the mediating role of this fulfilment the HRM-worker outcome relationship; and (2) testing the interaction effects of procedural and interactional

justices and perceived psychological contract fulfilment on important work outcomes.

Hence, the present study addresses the following two main research questions.

1. If there is indeed an impact of high commitment HRM practices on work-related outcomes, how do these effects occur? That is, what are the mechanisms through which these effects manifest themselves or does perceived fulfilment of the psychological contract mediate the relationship between high commitment HRM practices and employees' affective commitment, OCB and intention to quit?

2. How does psychological contract fulfilment interact with both procedural justice and interactional justice to determine attitudes and reactions to changes that occur within the employee employer relationship? In other words, do procedural and interactional justices moderate the relationship between psychological contract fulfilment and employees' affective commitment, OCB, and intention to quit?

### 3.11.3 Hypotheses

Subsequent to the discussions put forth in this chapter and based on the explanations provided in the preceding sections, the following hypotheses regarding high commitment HRM practices, psychological contract fulfilment, affective commitment, OCB, intention to quit, procedural justice and interactional justice were developed:

Hypothesis 1. Employee perceptions of high commitment HRM practices are positively associated with perceptions of psychological contract fulfilment.

Hypothesis 2. Employee perceptions of high commitment HRM practices are positively associated with affective commitment.

Hypothesis 3. The relationship between employees' perceptions of high commitment HRM practices and affective commitment to the organisation is mediated, at least in part, by perceived psychological contract fulfilment.

Hypothesis 4. Employee perceptions of psychological contract fulfilment are positively associated with affective commitment.

Hypothesis 5. Affective commitment is positively associated with OCB.

Hypothesis 6. Affective commitment is negatively associated with intention to quit.

Hypothesis 7. Employee perceptions of psychological contract fulfilment are positively associated with OCB.

Hypothesis 8. Employee perceptions of psychological contract fulfilment are negatively associated with intention to quit.

Hypothesis 9. The relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of procedural justice. That is, employee affective commitment will be higher following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

Hypothesis 10. The relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of procedural justice. That is, employee OCB will be higher following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

Hypothesis 11. The relationship between perceived psychological contract fulfilment and intention to quit is moderated by perceptions of procedural justice. That is, employee intention to quit will be lower following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

Hypothesis 12. The relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of interactional justice. That is, employee affective commitment will be higher following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

Hypothesis 13. The relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of interactional justice. That is, employee OCB will be higher following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

Hypothesis 14. The relationship between perceived psychological contract fulfilment and intention to quit is moderated by perceptions of interactional justice. That is, employee intention to quit will be lower following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

## 3.12 Conclusion

In this chapter, how psychological contract theory may help to illuminate the linkages between high commitment management and individual level outcomes has been articulated. Drawing upon social exchange theory, a model is proposed which suggests a sense of perceived psychological contract fulfilment is created under high commitment management conditions, and leads in turn to increased organisational commitment, decreased intentions to quit by employees, and greater engagement in organisational citizenship behaviours.

To this end, the conceptual framework for the empirical research has been delineated. It described the proposed linkages and relationships among variables, and presented the theory underlying the conceptual model. Finally this chapter concluded with the research questions, conceptual framework and hypotheses for the present program of research. This framework was applied to one of the four major banking organisations in Australia and forms the foundation for the research and the methodology to be undertaken in this study. In the following chapter the methodological issues are discussed as they serve to quantify each of the constructs discussed in this chapter and included in the conceptual model. The research process, data collection methods, data analysis and issues related to the quality of the research are also outlined.

# CHAPTER FOUR

# METHODOLOGY

## 4.1 Introduction

In the previous chapter the conceptual framework, research questions and hypotheses for the model used in this empirical research were established. Following on from this, in the present chapter the methodology used in the thesis to examine and test the model presented in Chapter 3 is developed. The material discussed in chapters 2 and 3 has implications for the methodology and assists with the determination of the appropriate research design to collect data and to test the research hypotheses resulting from the proposed model. This introductory material also has relevance for the development of the survey instrument.

Quantitative surveys were developed to test the relationships between high commitment HRM practices, psychological contract fulfillment, affective commitment, OCB, intention to quit, procedural justice and interactional justice. The study used employees of one of the four largest banking organisations in Australia as subjects. The research process, literature search, research design, research setting, selection of subjects, procedures, instrumentation and scale development, data analysis methods, research validity and reliability, and ethical considerations are discussed in the following sections.

## 4.2 The Research Process

The current program of research advances through six steps as illustrated in Figure 4.1. These include: the literature search; research design; research procedures; identification of institutions and respondents suited to the study, data collection; data recording and screening; quantitative data analysis; and interpretation of results.

Figure 4.1

*The Research Process*

| **Literature Search** | **Research Design** | **Procedures** |
|---|---|---|
| Printed and electronic sources including, books, journals, reports, conference proceedings, online databases and websites to specify the domain of constructs and generate a sample pool of items | Devising a conceptual framework (variables clearly identified) Deciding on research questions & generation of hypotheses Deciding on appropriate research design (quantitative) | Human research ethics for confidentiality Questionnaire design (operational definitions, items, scaling) & pre-testing |

| **Data Analysis and Interpretation** | **Data Recording and Screening** | **Data Collection & Deduction** |
|---|---|---|
| Feel for Data, Goodness of Data Frequencies (SPSS) Reliabilities (SPSS) Exploratory Factor Analysis (SPSS) Structural Equation Modeling (AMOS) Interpretation and reporting of findings | Coding in SPSS Data Screening | Surveys Hypotheses sustained? Research questions answered? |

## 4.3 Literature Search

The present program of research reviews a broad expanse of literature relating to the constructs of interest. The search involved a secondary analysis of available information including books, journal articles, conference proceedings, reports, postgraduate theses, newspaper editorials articles, articles in popular magazines, and online material.

Databases for accessing journal articles included: (1) ABI/INFORM; (2) Emerald full text; (3) PsycINFO; (4) PsycArticles; (5) EBSCOhost for Academic Search Elite, Business Source Premier, Ebscohost Online Citations, Educational Resource Information Center (ERIC), World Magazine Bank, and Newspaper Sourc; (6) Wiley InterScienc; (7) Australian Digital These; (8) Digital Dissertations – Proquest; (9) Dissertation Abstracts; (10) Blackwell Synergy; (11) Factiva; and (12) Expanded Academic Index.

## 4.4 The Research Paradigm

Creswell (1994) noted that a research design must be developed with consideration given to epistemological and methodological issues. Therefore, in order to establish the basis used to develop and test the contribution to knowledge offered by this study, a

brief discussion of the epistemological and methodological approach used in this study is presented below.

### 4.4.1  Epistemological Positioning

According to Easterby, Thorpe and Lowe (1991), epistemology is the theory of method or grounds of knowledge. An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline. Although there are four principle paradigms that can be used (positivism, constructivism, critical theory and realism paradigms – see Table 4.1 for a brief overview), the positivism paradigm (sometimes called the quantitative paradigm) is the epistemological position that provides the basis for theory testing that is best suited for use in this study. This paradigm advocates application of natural science methods in the study of social reality and beyond.

Positivism, with its central thesis that 'the social world exists externally, and that its properties should be measured through objective methods, rather than being inferred subjectively through sensations, reflection or intuition' (Easterby, Thorpe and Lowe, 1991, p. 22), has been considered the oldest and most popular philosophical approach in the physical and social sciences for the past four centuries (Denzin and Lincoln, 1994). This means that positivists take a deterministic position and believe in the existence of a single objective reality that needs to be discovered. If a theory exists about how things work, then data is sought to provide an objective test of that theory (Gabriel, 1990; Guba and Lincoln, 1994). Within this paradigm results are seen as true, replicable and characterized by objectivity (Hunt, 1991). From this viewpoint, as in the present research, positivism uses quantitative and experimental methods to test hypothetical-deductive generalizations of the theory. This view starts with the theory or hypothesis, and then seeks data that will confirm or refute that theory.

The reasoning process involved in testing a theory or hypothesis is called deductive reasoning or deductive research (De Vaus, 2002). The deductive approach involves the process of arriving at conclusions by interpreting the meaning of the results of data analysis, whereas, with an inductive approach, the researcher begins with data in hand

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and generates hypotheses and theories from the ground up (Selltiz, Wrightsman and Cook, 1981); that is, it is the process by which explanations are developed by moving from observations to theory (De Vaus, 2002). According to Easterby, Thorpe and Lowe (1991), 'the main practical advantage of the *hypothesis testing* approach is that there is initial clarity about what is to be investigated, and hence information can be collected speedily and efficiently' (p. 36). In the present program of research, hypotheses were presented and then tested by gathering data on the concepts of high commitment HRM practices, perceived psychological contract fulfillment, affective commitment, OCB, intention to quit, and procedural and interactional justice prior to conducting the data analysis.

Table 4.1

*Principle Research Paradigms*

| | Positivism Paradigm | Constructivism Paradigm | Critical Theory Paradigm | Realism Paradigm |
|---|---|---|---|---|
| Epistemology | Observer is separate from the research process; findings are value-free and may be generalized to entire population. Theory-free, findings true | Researcher and respondent create findings jointly; researcher and research subject are mutually interactive | Interactive link between researcher and research object. Reality is based on perceptions held by group of individuals | Researcher is part of research process, but remains as objective as possible. Findings are probably true |
| Common methodologies and processes | Experimental; verification of hypotheses; chiefly quantitative methods such as experiments/surveys | Depends on a researcher being a 'passionate participant' in research processes; dialogues. Principally qualitative | Depends on the interpretative ability of scholar who is a 'transformative intellectual'; focus groups. Principally qualitative | Depends on triangulating several perceptions of reality to capture a better picture of the phenomenon. Modified experimental/manipulative; case studies, convergent interviewing. Principally quantitative, but may include qualitative techniques |

Source: Perry, Reige and Brown (1999); Perry, Alizedah and Reige (1997); Guba and Lincoln (1994); Hunt (1993); and Lincoln and Guba (1985).

### 4.4.2 Quantitative Research

Guided by the epistemological underpinning of the positivism paradigm and based on the idea that research questions should interact with the methods used to conduct the research (Punch, 1998), a quantitative approach was carried out to test the hypotheses and formulate the questionnaire used in the present program of research. An overview of the methods research design is presented in Figure 4.2.

Figure 4.2

*Overview of the Methods Research Design*



Quantitative Research

Quantitative Instrument & Data Collection — Create survey instrument / Administer instrument to staff using random sampling

Data Analysis — Determine factor structure of items / Conduct reliability analysis for scales / Perform SEM analysis on model

Results — Examine relationships among constructs / Assess model fit
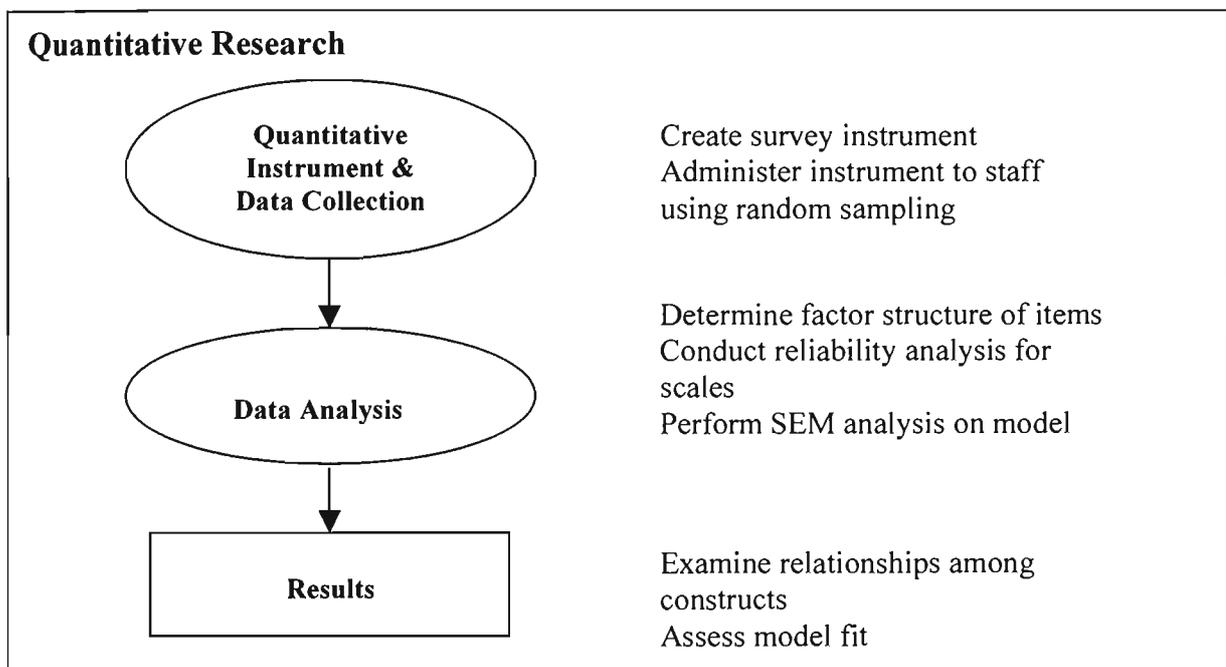
Neuman (2000) describes quantitative data techniques as data condensers, enabling the researcher to see the big picture. Quantitative research is considered appropriate when studying relationships between several variables (Lincoln and Kalleberg, 1990). As the present program of research focuses on testing a model positing relationships amongst many variables, a quantitative method has been employed.

Quantitative research, 'an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity' (Neuman, 1997, p. 63), tests the hypotheses, predicts behaviour and identifies probable

causes in the present study, using surveys that have been controlled by the researcher and aim at verification or negation of the theoretical hypotheses, in accordance with researchers such as Zikmund (1997), Gliner and Morgan (2000) and Neuman (2000). Even though the quantitative method has been criticized for its inability to generate theory or provide in-depth explanations of qualitative enquiry, Amaratunga *et al.* (2001) and Cavana *et al.* (2001) emphasize that it can verify hypotheses and provide strong reliability and validity. Further, similar studies in the HRM and organisational behaviour literature (see Vandenberg *et al.*, 1999; Van Dyne and Pierce, 2004; Bartel, 2004; Frenkel and Orlitzky, 2005; Garazo and González, 2006; Vanhala, Kaarelson and Alas, 2006) have widely adopted this approach. Hence, this approach was deemed very appropriate for establishing the casual relationships among variables used in this study (Lincoln and Kalleberg, 1990; Churchill, 1995; Clarke, 1999; Punch, 1998). A quantitative approach also meant that informative strategies could be implemented (including a brief introduction with study objectives, confidentiality and privacy issues provided on first page of questionnaire) ensuring participatory knowledge and anonymity for the respondents.

According to Canava *et al.* (2001), 'measurement of the variables in the theoretical framework is an integral part of research and an important aspect of quantitative research design' (p. 186). In this study, a quantitative technique using a carefully structured web-based survey questionnaire methodology was applied to measure and collect data. This approach allowed the creation of concrete numerical descriptions of respondents' perceptions on a number of constructs, and also permitted the relationships between constructs to be examined using several statistical techniques as discussed in the following sections.

### 4.4.3   Survey Methodology

The survey method mentioned above has been selected as the most appropriate research technique to fulfill the purposes of this study for the following reasons (see Table 4.2 for a summary of these reasons):

1. *Form of overall research question.* This is the first condition for differentiating among various research strategies. Yin (1994) suggests that 'how' and 'why' question types are more appropriate to the case study methodology while 'who', 'what', 'how much', and 'to what extent' questions are appropriate for surveys. The nature of the research questions being investigated in this study, for example 'what are the mechanisms through which high commitment HRM practices impact on work related outcomes?' is appropriate for the use of survey-based research design.

2. *The extent of control the researcher has over behavioral events.* According to Yin (1994), survey-based methods are the preferred research tool when the investigator does not require or has little control over behavioral events, as is the case within the present program of research.

3. *The degree of focus upon contemporary as opposed to historical events.* The survey approach is preferred in investigating contemporary events as opposed to historical events (Yin, 1994). This research focuses on the ongoing, contemporary issues of HRM practices, psychological contracts and employee attitudes and behaviours.

Table 4.2

*Research Techniques*

| Research strategies | Research questions | Requires control over behavioral events | Focuses upon contemporary events |
| --- | --- | --- | --- |
| Experiment | How, why | Yes | Yes |
| Survey | Who, what, where, how many, how much | No | Yes |
| Archival Analysis | Who, what, where, how many, how much | No | Yes/No |
| History | How, why | No | No |
| Case Study | How, why | No | Yes |

Source: Adopted from Yin (1994).

Survey research is a widely used strategy developed within the positivist approach to science (Neuman, 2003). For the current program of research, survey questionnaires

were used to collect data in order to test theoretically derived propositions using appropriate statistical procedures. The use of surveys is both a legitimate and widely accepted means of collecting data in applied organisational psychological research (Schwarz, 1999). This has been a predominant data collection method in high commitment management research (Delery and Shaw, 2001) and has been a widespread means of investigating relationships between HRM practices and organisationally relevant outcomes. It has also been the prevailing means of collecting data when investigating the relationships between psychological contract breach and work outcomes.

As noted in the theoretical framework, the foci of this study are the employees' perceptions of the experience of commitment HRM practices and the fulfillment of the psychological contract, and the use of self-report measures of affective commitment, OCB and intention to quit rather than objective measures of outcomes of attitude and behaviour changes. The survey method enables information on beliefs, attitudes and motives to be collected (Burns, 2000). Moreover, survey research is designed to deal more directly with the nature of people's thoughts, opinions and feelings (Shaughnessy and Zechmeister, 1997) making it highly suitable for collecting the type of data required to test the theoretical model put forth in the present research. The usefulness of the survey methodology for quantitative hypotheses testing has been extensively considered (Creswell, 1994; Babbie, 2000). A survey method using questionnaires for data collection provides a quantitative description of a fraction of a population and enables the researcher to draw conclusions about generalizing the findings from a sample of responses to a population (Creswell, 1994). Surveys also provide quick, inexpensive, efficient and accurate means of assessing information about a population and can also be administered to a large sample (McClelland, 1994; Churchill, 1995; Zikmund, 1997; Sekaran, 2003).

However, as with other research strategies, the survey is not without its limitations. For example, in using a survey approach, it is assumed that individuals possess the ability to accurately introspect and report their own thoughts and feelings (Conner and Waterman, 1996). This may present some difficulties in the present research as motives can be

unconscious or implicit and people may have difficulty expressing their reasons for involvement in particular activities (Pintrich, 2003). This methodology is also criticized for its reliance on self-report data (Spector, 1987, 1994). This is particularly problematic when both the independent and dependent variables are assessed within the same instrument (Campbell, 1982). Therefore, this methodological strategy may raise questions about the validity of any conclusions drawn for a number of reasons, including systematic response distortion, and the reliability and validity or psychometric properties of the measures used in survey instruments. To counter to some extent these types of problems, a number of strategies were implemented in the present program of research. For example, to minimize the potential for response distortions (e.g., respondent tendency to respond positively regardless of the content of a questionnaire item), the survey instrument included both positively and negatively worded items (Churchill, 1979; Spector, 1992; Anastasia and Urbina, 1997). In addition, close attention was paid to the reliability and validity of the measures used in this program of research by choosing pre-existing and validated measures wherever possible. Issues relating to reliability and validity of the current program of research are discussed in more detail in Section 4.8 of this chapter.

### 4.4.4 Cross-Sectional Survey Research

The most popular form of survey research utilizes a cross-sectional design (Zikmund, 2003). Cross-sectional surveys involve the collection of data from a sample drawn from a specified population at a specific point in time (Babbie, 2000). These surveys are frequently used (Visser, Krosnick and Lavrakas, 2000), and in practice most surveys fall into this category (Zikmund, 2003). As cross-sectional surveys provide the opportunity to assess relations between variables (Reis and Judd, 2000), this survey format will be used in the present study.

### 4.4.5 Web Surveys

In 2001, it was estimated that there were over 423 million individual Internet users worldwide (US Government Working Group on Electronic Commerce, 2001). Sheehan and Grubbs-Hoy (1999) projected that because 'Internet traffic doubles every 100 days, by the year 2005, one billion people worldwide may be online'. Such rapid expansion of

the Internet has led a growing number of social science researchers to utilise the Internet as a tool for using email and web-based surveys (Cobanoglu, Warde and Moreo, 2001).

A cross sectional survey method using a web-based questionnaire was chosen to collect data in the present research program. The survey was designed, managed, distributed, tracked and exported online to the software Statistical Package for Social Sciences (SPSS v.12) for analysis. Using web-based surveys meant that respondents provided data directly and with ease. Submission of the data was very easy for respondents who only had to click on a SUBMIT button. That is, they were not required to take any further action such as putting the completed survey in a pre-paid envelope to post in the mail. There was no delay between when the survey was completed and its arrival, as is the case with mailed surveys. After receiving all responses, the data were directly exported into a database, thereby avoiding data entry errors that may occur in paper-and-pencil surveys. Not only did this eliminate the possibility of such errors, it also saved the researcher many hours of data entry work.

With electronic surveys, marginal costs of collecting and communicating data are relatively lower than the costs of interviewing, telephoning and sending questionnaires through the mail. For example, 20 to 40 per cent of the total computing costs in conducting a survey may derive from transforming data collected off-line onto a form, which can then be processed by a computer (Ferrara and Nolan, 1974, p. 27). Using electronic surveys eliminates this cost, making them attractive for economic reasons (Cook, Heath and Thompson, 2000). Another advantage is that the researcher need not be physically present to deliver or administer questionnaires (Sproull, 1986). Other strengths of electronic surveys include convenience, and speed of delivery and response. Further to this, it offers: ease of data cleaning and analysis (Watt, 1997; Sheehan and Grubbs-Hoy, 1999); lower respondent error; broader stimuli potential through the inclusion of colour, graphics and sound; flexibility in the form of adaptive questioning; and even greater enjoyment (Kehoe and Pitkow, 1996; Forrest, 1999). In addition, the web-based survey for the current program of research was designed so that respondents could not provide more than one response to an item, thus eliminating the problem of multiple responses as encountered in the pre-test of this study.

Having identified the advantages of using on-line surveys, it is important to note that Internet research is not without its methodological concerns. One of the potential weaknesses of a web-based survey is that there is no social presence creating pressure to respond, therefore, response rates may be lower than in face-to-face interviews (Sproull, 1986). Other weaknesses include technological issues in deployment of the research tool and concerns over Internet security (Sills and Song, 2002). Differences in response rates have been noted when comparing Internet and postal mail surveys of the same or similar populations. While one study found higher response rates in email than in postal surveys (Brennan and Hoek, 1992), others have reported the opposite (e.g., Tse *et al.*, 1995). Response rates in Internet surveys have been reported to be as high as 70 percent (Brennan and Hoek, 1992) and as low as 0 percent (Pradhan, 1999).

Aoki and Elasmar (2000) argued, 'though there are still limitations to be overcome if the Web is used for general population surveys, the Web will present advantages over traditional modes of data collection if it is used for specific populations that are known to be Internet savvy' (p. 3). In addition, 'for special populations that regularly use the Internet in their daily lives, the new medium has been found to be a sensible means of achieving meaningful results' (Sills and Song, 2002, p. 23). The rapid rise in the use of the Internet and the World Wide Web is widely recognized (Cook *et al.*, 2000), and is becoming increasingly important in the banking and finance industry, which necessitates that banking employees be web-savvy in a relatively computer-intensive environment. As the nature of the workplace under investigation (i.e., a large banking organisation) requires constant use of computers and the Internet as a work tool, this provided the ideal environment for using an on-line survey as a data collection tool. Further, because the fundamental nature of both an electronic and a self-administered paper questionnaire is answering questions presented via text, responses to an electronic survey are expected to be much like responses to a paper survey (Kiesler and Sproull, 1986).

Research comparing computerized surveys and the more traditional paper-and-pencil surveys suggests that computerized surveys not only provide measurement equivalence and comparable item variability and covariance patterns (Stanton, 1998; Donovan, Drasgow and Probst, 2000), but also may have less social desirability distortion and

substantially avoid the occurrence of missing values (Stanton, 1998; Richman, Kiesler, Weisband and Drasgow, 1999). Accordingly, it was concluded that web-based surveys would provide quality, useful data for the current program of research.

### 4.4.6  Unit of Analysis

'The unit of analysis refers to the level of aggregation of the data during subsequent analysis' (Sekaran, 1992). The unit of analysis for this study is the individual. Although organisational practices are examined as antecedents of perceived psychological contract fulfillment, it is individual employees' perceptions about how these practices are implemented that influence their perceptions of this fulfillment. Additionally, the outcome variables examined in this study are individual employees' attitudes and behaviours in the organisation as a response to perceived psychological contract fulfillment. Consequently, it is appropriate to measure all the variables in the conceptual model at the individual level of analysis through a survey questionnaire. Hence, the researcher will be looking at the data gathered from each individual employee, and treating each employee's response as an individual data source.

## 4.5  Questionnaire Development

### 4.5.1 Questionnaire Design and Presentation

Sekaran (2000, p. 233) noted that 'a questionnaire is a preformulated written set of questions to which respondents record their answers, usually within rather closely defined alternatives'. It is an important instrument in a survey when the researcher is familiar with the variables that need to be measured (Bailey, 1994), and is well suited to obtaining sensitive information such as that relating to the personal behaviour, perceptions and background of respondents, as in the case of this study. As a questionnaire has been adopted in the present research, an appropriate degree of respondent anonymity can be assured (Parasuraman, 1991). This type of instrument is one of the most frequently used for data collection (Clarke, 1999; Saunders *et al.,* 2003) due to its effectiveness in gathering empirical data from large samples (McClelland, 1994). Hence, another reason for considering a questionnaire as the most appropriate technique of data collection in this study is that a relatively large sample was needed to

achieve the statistical degree of freedom required for empirical hypotheses testing. This was due to the research questions and hypotheses posed in the present program of research involving a wide range of variables (see Chapter 3).

The conceptual framework described in Chapter 3 presents a concise way of organizing the questionnaire. The sequencing of questions can influence the nature of the respondents' answers and can be a cause of errors in analysis (Kinnear and Taylor, 1996). Thus, an attempt has been made to fulfill the requirement of Tull and Hawkins (1990) that the overall questionnaire should reflect the goals of the research and move from one topic to another in a logical manner, with all questions focusing on one topic completed prior to moving on to the next. In addition, different arguments have been proposed regarding the length of questionnaire. For example, Frazer and Lawley (2000) recommend that an instrument of up to twelve pages in length is generally considered appropriate, whereas, Zikmund (2000, p. 203) suggests, 'a general rule of thumb is that a mail questionnaire should not exceed six pages'. Following Zikmund's suggestion and to reduce non-response rate, the survey in this study was limited to six pages, one page for each section. Questions classified under the same topic were also grouped together in order to aid the dynamics and flow of the survey.

The survey instrument for this study included: the purpose of the study; the importance of the study; assurance of complete confidentiality; directions on responding to each question; appreciation for the subject's participation; and the actual questions. The questionnaire started with a cover letter introducing the study and its aims, while clearly disclosing the identity of the researcher and promising confidentiality and anonymity for the respondents. The cover page ends on a courteous note, thanking the respondent for taking time to respond to the survey. Considerable attention was given to developing clear, unambiguous and useful questions before distributing the questionnaire and gathering the primary data. This was important because designing questions, which respondents can easily and accurately answer will reduce non-response and measurement errors (De Vaus, 1995). In the questionnaire, questions were presented in six sections as follows.

*Section 1      High Commitment Human Resource Management Practices*

This section included 43 items relating to 7 different HRM practices: participative decision making, training and development, rewards, communication/information sharing, team working, selective staffing, and job security.

*Section 2      Your Feelings about Working for the Organisation*

This section presented 6 questions relating to affective commitment, and 3 questions relating to intention to quit.

*Section 3      About Your Work Behaviour*

This section required the respondents to answer 24 questions pertaining to their extra-role or organisational citizenship behaviours.

*Section 4      Organisational Fairness/Justice*

This section was concerned with employees' perceptions of the fairness or justice of the organisation's procedures (procedural justice: 6 questions) and interpersonal treatment (interactional justice: 9 questions).

*Section 5      About Your Work*

This section contained 18 questions about employees' work and the extent to which their organisation has honoured its promises to them.

*Section 6      Background Information*

The final section posed 7 questions about employees' gender, age, educational qualifications, tenure, whether they worked on a permanent or casual basis, position within the organisation, and income group.

In relation to Section 6 of the questionnaire, Oppenheim (1986; 1992) advised that it is better to locate personal information at the end of the questionnaire, reasoning that by the time the respondent reaches the end, he or she may have been convinced of the genuineness of the inquiry made by the researcher. In agreement with Oppenheim, Frary (2001) argues that if such questions appear early in the questionnaire, potential

respondents may become too disaffected to continue, resulting in no return. However, if they reach the last page and find these questions and remain reluctant to complete them, they may perhaps return the questionnaire with these sensitive questions unanswered. Because personal questions such as age or position can be embarrassing or threatening to respondents at the beginning of a survey (Malhotra, 1996), and to help reduce respondent bias and enhance the response rate (Janes, 1999; Cavana, Delahaye, and Sekaran, 2001; De Vaus, 2002), Section 6 relating to demographic information including income, educational level and age has been presented at the end of the questionnaire. Sections 1 to 5 of the questionnaire include the questions used for eliciting information relevant to the variables in the model used in this study (see Chapter 3). The following subsection develops: the variables and scale items used to measure constructs in the proposed model; discusses the considerations that have been made in choosing the correct items to test each construct in the study; and pretests the questionnaire to determine any problems it may present.

### 4.5.2 Scaling Decisions

#### 4.5.2.1 *Measures*

In accordance with Nunnally (1978), Churchill (1979) and Peter (1979), multi-item scales of the independent variables (high commitment human resource practices), mediating variable (perceived psychological contract fulfillment), moderating variables (procedural justice and interactional justice), and dependent variables (affective commitment, OCB, and intention to quit) were used to provide a comprehensive evaluation of the constructs. In agreement with Peter (1979), multi-item scales were also used because they are considered necessary for valid measurement of factorially complex constructs. These aided the researcher to avoid shortcomings implicated in the use of single-item measures. In addition, all items in the questionnaire, except for a few measuring psychological contract fulfilment, were adopted from pre-existing valid and reliable measures within the literature (see Appendix A). Besides demographic questions, most measures were proposed in the form of statements using a 7-point Likert scale asking respondents to indicate the extent of their agreement with the statements, ranging from (1) 'strongly disagree' to (7) 'strongly agree'. This type of scale has been

selected because it requires less interviewer skills, takes less time and is easy to answer (Churchill, 1995; Frazer and Lawely, 2000).

Likert scales are commonly used in business research in order to make valuable and meaningful conclusions (Sekaran, 1992), because they allow participants to respond with degrees of agreement or disagreement with a statement related to a certain issue (Kerlinger, 1986; Zikmund, 2003). Thus, they enable the rating of a single attribute along a continuum of perceived equi-distant intervals (Nunnally and Bernstein, 1994; Zikmund, 1997). From the data gathered, responses can be combined, allowing for differences amongst responses about the subject to be examined (Wren, 1997). Many notable researchers have used Likert and similar scales in business research (see Moser and Kalton, 1972; Ghauri, Gronhaug and Kristianlund, 1992).

In this study, a number of items were also rated on a seven-point scale with (1) assigned to a value rated as lowest 'not at all fulfilled', and (7) assigned to a value rated as highest 'very well fulfilled'. The use of longer scales (i.e., 7-point scales) were employed because these are believed to have an advantage over 5-point scales, in that they allow for greater discrimination and finer differences between people (Alwin, 1997; De Vaus, 2002). Bollen and Barb's (1981, p. 238) research supports the general view that 'the more categories the better'. In addition, their research suggests that a minimum of five or six categories should be used. Zikmund (2000) also argues that, the sensitivity of a scale (i.e., a measurement instruments' ability to acutely measure variability in stimuli or responses) can be increased by allowing for a greater range of possible scores.

In accord with Labovitz (1967, 1970, 1972) and O'Brien (1979) who were advocates for treating ordinal data (e.g., Likert scales) as interval, Neuman (2000) considers Likert scales as a very popular type of interval scale. In support of this view, Bollen and Barb (1981) analysed simulated data and examined differences in the correlation between two normally distributed continuous variables and the same two variables collapsed into a small number of categories. They found that when five or more categories are used to approximate the continuous variables, the collapsed variables' correlations and standard deviations become considerably closer to that of the continuous variables. Therefore, in

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this study, constructs were measured as continuous variables. Measurements pertaining to these constructs are discussed accordingly.

*High Commitment Human Resource Management Practices*

A thorough review of the literature was carried out to identify HRM practices that have been associated with high commitment management and identified within previous studies. Meyer and Allen (1997) observed that employees' perceptions of 'reality' are likely to influence their performance more than formal policy documentation. Therefore, employees' perceptions of seven high commitment human resource practices were investigated: training and development, participative decision making, information sharing/communication, rewards, selectivity in hiring, team working, and job security. Use of these and other practices in combination is consistent with recent work on configurations of high commitment HRM practices (Snell and Dean, 1992; Vandenberg *et al.*, 1999; Meyer and Smith, 2000; Whitener, 2001).

Thus, the researcher has chosen to define and measure HRM, not in terms of a specific bundle of practices, but rather in terms of a set of broader practices informed by previous work in this field. Respondents were asked to indicate the extent of their agreement with each item on a 7-point Likert-type scale. Specifically, a 43-item instrument was employed to elicit employee perceptions and attitudes towards the seven following HRM practices (see Appendix A, Table A1).

Training and Development. Training and development was measured using a 5-item scale from Gaertner and Nollen (1989). This measure evaluates the extent to which employees feel that they receive adequate training and development opportunities within the organisation. This scale was originally used in a sample of employees from a Fortune 100 manufacturing firm, where Gaertner and Nollen (1989) reported an alpha coefficient of 0.805. This scale was used with only minor change in which the word 'company' was replaced by 'organisation'. The items for this scale were: 'Training is regarded as a way to improve performance', 'I have the opportunity to expand the scope of my job', 'I have been well trained by this organisation for my job', 'I have the opportunity to improve

my skills in this organisation', and 'This organisation has not trained me well for future jobs'.

Participative Decision Making. Participative decision-making was measured using Vandenberg *et al.*'s (1999) 7-item 'power' scale. This scale was initially used on a sample of 3,570 employees from 49 life insurance companies located in the United States and Canada. Within each company, 20 percent of employees were randomly sampled using a stratified scheme so that all organisational levels were represented. Vandenberg *et al.* (1999) reported an alpha coefficient of 0.89. The items for this scale used in this study were: 'I have sufficient authority to fulfill my job responsibilities', 'I have enough input in deciding how to accomplish my work', 'I am encouraged to participate in decisions that affect me', 'I have enough freedom over how I do my job', 'I have enough authority to make decisions necessary to provide quality customer service', 'For the most part, I am encouraged to participate in and make decisions that affect my day-to-day activities', and 'All in all, I am given enough authority to act and make decisions about my work'.

Information Sharing/Communication Information sharing/communication was measured using a 10-item 'information' scale developed by Vandenberg *et al.* (1999). These items assess the extent to which communication exists within the organisation. Vandenberg *et al.* (1999) reported an alpha coefficient of 0.88 for this scale. Their scale was used with only minor changes, with the word 'company' being replaced by 'organisation'. The items were: 'Organisation policies and procedures are clearly communicated to employees', 'Management gives sufficient notice to employees prior to making changes in policies and procedures', 'Most of the time I receive sufficient notice of changes that affect my work group', 'Management takes time to explain to employees the reasoning behind critical decisions that are made', 'Management is adequately informed of the important issues in my department', 'Management makes a sufficient effort to get the opinions and feelings of people who work here', 'Management tends to stay informed of employee needs', 'The channels of employee communication with top management are effective', 'Top management communicates a clear organisational mission and how each

division contributes to achieving that mission', and 'Employees of this organisation work toward common organisational goals'.

Reward. Reward was measured using a 7-item scale developed by Vandenberg *et al.* (1999) who reported an alpha coefficient of 0.86. These items were: 'My performance evaluations within the past few years have been helpful to me in my professional development', 'There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise', 'There is a strong link between how well I perform my job and the likelihood of my receiving a raise in pay/salary', 'There is a strong link between how well I perform my job and the likelihood of my receiving high performance appraisal ratings', 'Generally, I feel this organisation rewards employees who make an extra effort', 'I am satisfied with the amount of recognition I receive when I do a good job', and 'If I perform my job well, I am likely to be promoted'.

Team Working. Team working was measured using a 6-item scale developed by Lawthom, Patterson, West and Maitlis (1992). This scale gauges the extent to which working in teams is supported and compensated within the organisation. This scale was adopted with only minor changes in which the word 'company' is replaced by 'organisation'. The items for this measure were: 'This organisation encourages people to work in teams', 'Working in teams is considered very important in this organisation', 'There is a commitment to training people to work in teams in this organisation', 'Management organises work so that most people work in teams', 'People here work individually rather than as members of teams', and 'Teamwork exists in name only here'.

Selective Hiring. Selective hiring was assessed using a 5-item scale developed by Knight-Turvey and Neal (2003). These items are used to evaluate employee perceptions of an organisation's selection process based upon the suitability of newly hired staff members to complete assigned tasks. Knight-Turvey and Neal (2003) reported an alpha coefficient of 0.84. This scale was adopted with only minor changes in which the word 'company' is replaced by 'organisation'. The items for this scale were: 'This

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organisation often hires people who do not have the necessary skills to work here', 'In my work unit, I believe we hire people who can do the job', 'New staff members often lack the competence to do their job well', 'This organisation does a good job of hiring competent people', and 'This organisation strongly believes in the importance of hiring the right people for the job'.

Job Security. Perceived job security of employees was measured using three items adopted from Helgren and Sverke (2003). These items were phrased: 'I am worried about having to leave my job before I would like to', 'There is a risk that I will have to leave my present job in the year to come', and 'I feel uneasy about losing my job in the near future'. They have been used to measure job insecurity, and were reverse-coded in this study to capture employees' perceptions of job security. Hellgren and Sverke, M. (2003) reported a satisfactory internal consistency for this measure, with a coefficient alpha of 0.78 at time 1 and 0.79 at time 2.

*Perceived Psychological Contract Fulfillment*

According to Rousseau and Tijoriwala (1998), 'the individual is the direct source of information regarding the contract because it is the *perception* of mutuality, not mutuality in fact, that constitutes a psychological contract' (p. 680). Thus, Rousseau and Tijoriwala (1998) indicate that self reported measures are the most direct source of information on the nature and content of the psychological contract. They also conclude that assessments focusing on promises are preferred forms of measures when operationalising the psychological contract.

The first measure of perceived psychological contract fulfilment utilized in the present program of research was an overall global measure to assess the general extent to which the organisation has lived up to its promises and obligations. Measuring perceived contract fulfilment as a global perception is consistent with existing conceptualizations of psychological contract fulfilment as an evaluation of how well an individual's contract has been fulfilled by his/her employer (Rousseau, 1989; Robinson, 1996). Robinson and Morrison (2000) argued that this measure is consistent with current psychological contract literature in which fulfillment or breach is viewed as an overall

estimation of employer-kept promises (Rousseau, 1989; Robinson, 1996). Further, the majority of research in this sense has measured perceptions of overall psychological contract fulfillment/breach rather than fulfillment/breach of specific contract terms (Cassar, 2000). Perceived psychological contract fulfillment in this study has been operationalised using a self-reported 5-item Likert scale reporting high reliability (alpha = 0.92) adapted from Robinson and Morrison (2000). Johnson and O'Leary-Kelly (2003) also used this scale rating items on a 7-point Likert scale ranging from 'strongly disagree' to 'strongly agree', and reporting an alpha score of 0.94. Perceived psychological contract fulfillment in this study has been measured as a continuous variable using a 7-point scale.

The items for psychological contract fulfillment using the global measure by Robinson and Morrison (2000) were: 'Almost all promises made by my employer during recruitment have been kept so far', 'I feel that my employer has come through in fulfilling the promises made to me when I was hired', 'So far my employer has done an excellent job of fulfilling its promises to me', 'I have not received everything promised to me in exchange for my contributions', and 'My employer has broken many of its promises to me even though I've upheld my side of the deal'. To capture perceived fulfillment of the psychological contract, the negatively worded items were reverse coded.

Perceived psychological contract fulfillment was also measured using a content oriented measure (also referred to as a dimensional measure). This type of measure focuses on contract terms and obligations such as 'pay' and 'job security', composites (i.e., indices made of several items characterizing the psychological contract), and classifications of the psychological contract as 'relational' or 'transactional' (Rousseau and Tijoriwala, 1998).

Two approaches to the measurement of psychological contract fulfillment or breach exist within a content-approach. The first approach, referred to as the explicit contract fulfillment measure, has been adopted in a number studies (Robinson and Morrison, 1995; Turnley and Feldman, 2000; Craig and Tetrick, 2001; Sutton and Griffin, 2004).

This involves explicitly asking respondents to indicate the degree to which the employer has fulfilled obligations along a scale ranging from 'not at all fulfilled' to 'very well fulfilled'. The second approach, referred to as the discrepancy measure, involves separately measuring obligations and the degree to which they are fulfilled and using these to assess the gap between what is obligated and what is provided, also used in a number of studies (e.g., Robinson, 1996; De Vos *et al.*, 2003; Coyle-Shapiro and Conway, 2005). Coyle-Shapiro and Kessler (2000) adopted both measures in their study to test whether the type of measure would result in different outcomes. They found the two measures to be broadly consistent. Further, they suggested, in view of their results and the methodological issues regarding the use of difference scores (see Edwards and Parry (1993) for a discussion), that in examining the consequences of the psychological contract, the explicit contract fulfillment measure may be more appropriate. Therefore, for the purpose of the present thesis, the explicit contract fulfillment measure approach has been implemented.

In this study, questionnaire respondents were asked to indicate the extent to which they believed their employer had fulfilled a list of thirteen obligations. The instructions read: 'Employers make implicit and explicit promises during recruitment which obligate them to give certain things to their employees in exchange for their employees' contributions to the organisation. Employers vary in the degree to which they subsequently fulfill those promises and obligations to their employees. Using the scale below, please indicate the extent to which your employer has fulfilled the following obligations...'. Participants indicated their responses on a 7-point Likert-type scale, with anchors ranging from 'not at all fulfilled' to 'very well fulfilled'.

In measuring psychological contract fulfillment using the explicit approach, six of the thirteen obligations were adapted from Rousseau's (1990) measure of psychological contracts. These included: information on important developments; involvement in decision making; freedom to do job well; pay increases to maintain standard of living; fringe benefits that are comparable to what employees doing similar work in other organisations get; and reasonable pay in comparison to employees doing similar work in other organisations. The last item replaced 'fair' with 'reasonable' in response to

recommendations suggested in the pre-test. A further five items were adapted from Robinson, Kraatz and Rousseau (1994), and included: long-term job security; training; career development; rapid advancement; and pay based on the current level of performance. The last two obligations were developed by the researcher to reflect the remaining HRM practices under investigation in the present research: teamwork, and hiring competent people. The thirteen selected obligations were chosen both for their importance to employees and because they are consistent with the relational and transactional classifications of psychological contracts as discussed in previous research (see Chapter 2). Finally, a high score on this scale indicated high perceived fulfilment, and a low score indicated little or no perceived fulfilment on the part of the employer to provide these obligations.

In summary, the fulfillment of psychological contracts has been measured in this study in two ways: a global measure that assesses employees overall judgment as to the degree to which their contract has been fulfilled; and an explicit contract fulfillment measure that assesses the extent to which an obligation was fulfilled. Further, although most researchers tend to agree with the reciprocal nature of psychological contracts, most empirical studies have focused on assessing only the individual's perceptions regarding employer obligations rather than mutual obligations of both parties to the relationship (e.g., Robinson, 1996; Porter, Pearce, Tripoli and Lewis, 1998; Lester, Turnley, Bloodgood and Bolino, 2002). Consistent with most research on psychological contracts, this study has assessed only perceived employer obligations.

*Affective Commitment*

In this thesis, affective commitment was assessed using Meyer, Allen and Smith's (1993) 6-item Affective Commitment Scale. This is a widely used and established instrument (see Rhoades, Eisenberger and Armeli, 2001; Kickul, 2001; Liden, Wayne, Kraimer and Sparrowe, 2003; Johnson and O'Leary-Kelly, 2003; Armstrong-Stassen, 2004). This measure is a modified version of the Affective Commitment Scale (ACS) reported by Allen and Meyer (1990). Previous research supported the scale's unidimensionality and reported that it forms a single factor with high reliability (Allen and Meyer, 1990; Meyer, Allen and Gellatly, 1990; Hackett, Bycio and Hausdorf, 1994).

Meyer, Stanley, Herscovitch and Topolyntsky (2002) conducted a meta-analysis study in which they assessed the reliability of the ACS. They found that the average reliability was an alpha score of 0.82, based on 144 studies with a total number of 47,073 respondents. Meyer *et al.*'s (1993) modification of the ACS included elimination of two items found to have the weakest loading on the relevant factor in a confirmatory analysis reported by Meyer, Allen and Gellatly (1990). These items were excluded more for the sake of brevity than because they were inappropriate. Meyer *et al.* (1993) reported high reliability estimates (coefficient alpha = 0.87) for the 6-item affective commitment scale. In addition, in regard to the validity of the scale, Meyer *et al.*'s (1993) study and other research (e.g., Ko, Price and Mueller, 1997) have shown that the 6-item scales have generally acceptable psychometric properties in terms of convergent and construct validity. It is also important to note that Allen and Meyer (1990) reported that the Affective Commitment Scale correlated 0.83 with the Organisational Commitment Questionnaire. As explained earlier in this section, this study measures affective commitment as a continuous variable.

In the ACS scale of Meyer *et al.* (1993), three of the six items were negatively worded. However, in accordance with Idaszak and Drasgow (1987) and Schmitt and Stults (1985), who suggest reverse-scored items tend to cause inconsistencies in factor analyses when only a small subset of a scale's items are reverse-scored, this study has rewritten the reverse-scored items in a positive direction (see Appendix A, Table A3). Thus, the items for affective commitment were: 'I would be very happy to spend the rest of my career with this organisation'; 'I really feel as if this organisation's problems are my own'; 'I feel a strong sense of 'belonging' to my organisation'; 'I feel 'emotionally attached' to this organisation'; 'I feel like 'part of the family' at my organisation'; and 'This organisation has a great deal of meaning for me'.

*Organisational Citizenship Behaviour (OCB)*
Various measures of OCB are found in the literature on organisational behaviour (see Smith, Organ and Near, 1983; Podsakoff, MacKenzie, Moorman and Fetter, 1990; Van Dyne, Graham and Dienesch, 1994; Moorman and Blakely, 1995; Konovsky and Organ, 1996). In this study, OCB was assessed using a modified version of the Organisational

Citizenship Behaviour Scale developed by Podsakoff and MacKenzie (1989). The modified version of the measure was used and validated by Podsakoff *et al.* (1990) in their study researching the effects of leadership style on citizenship behaviours. The scale consists of 24 items designed to measure five aspects of OCB (altruism, conscientiousness, sportsmanship, courtesy, and civic virtue) proposed by Organ (1988) using a 7-point Likert scale. Respondents indicated the relative strength of their agreement or disagreement with responses ranging from (1), 'strongly disagree', to (7), 'strongly agree'.

Podsakoff and MacKenzie (1989) and Podsakoff *et al.* (1990) were among the first researchers to operationalize Organ's (1988) five dimensions. They used the definitions provided by Organ and generated items that were then subjected to a Q sort and a confirmatory factor analysis. The internal consistency reliability they reported for all five subscales exceeded 0.80, except for civic virtue (alpha = 0.70). Moorman (1993) obtained similar results, with alpha scores of 0.81 (altruism), 0.87 (courtesy), 0.87 (sportsmanship), 0.83 (conscientiousness) and 0.77 (civic virtue). Podsakoff *et al.'s* (1990) scale also evidenced an adequate level of discriminant validity. This scale served as the basis for OCB measurement in a large number of empirical studies, where it was also shown to possess good validity and very acceptable levels of internal consistency and reliability (example Moorman, 1991, 1993; Konovsky and Pugh, 1994; Konovsky and Organ, 1996; Diendroff, Brown, Kamin and Lord, 2002; Tepper, and Taylor, 2003; Hui, Lee and Rousseau, 2004).

LePine, Erez and Johnson (2002) suggested in a meta-analysis study they conducted that the five dimensions of OCB suggested by Organ (1988) are most often measured by using scales such as those developed by Podsakoff and his colleagues (see Podsakoff, MacKenzie, Moorman and Fetter, 1990). Researchers have also consistently found the five dimensions to be correlated and it was also suggested these dimensions form an integral construct (LePine *et al.*, 2002). Additionally, Lam, Hui and Law (1999) commended that the Podsakoff *et al.* (1990) instrument could be used across different international samples, as they tested this instrument across the United States, Australia, Japan and Hong Kong and found it to have acceptable psychometric properties across

the four international samples. Further, many researchers measured several extra-role or organisational citizenship behaviours using a modified version of the scale reported by Podsakoff *et al.* (1990) (Podsakoff, MacKenzie and Fetter, 1993).

Podsakoff *et al.'s* (1990) used the Organisational Citizenship Behaviour Scale to ask supervisors to rate the extent to which they agreed that employees engaged in the behaviour. Many researchers used supervisor-rating measures of OCB (see Smith, Organ, and Near, 1983; Farh, Podsakoff and Organ, 1990; Williams and Anderson, 1991; Tansky, 1993; Moorman, 1993; Moorman, Niehoff and Organ, 1993, Shore and Wayne, 1993; Konovsky and Pugh, 1994; Podsakoff and MacKenzie, 1994; Konovsky and Organ, 1996; Moorman, Blakely and Niehoff, 1998; VanYperen, Van den Berg and Willering, 1999; Diendroff, Brown, Kamin, and Lord 2002; Ang, Van Dyne and Begley, 2003; Van Dyne and Pierce, 2004). Many others however, have used self-report measures of OCB (Williams, 1988; Moorman and Blakely, 1995; Robinson and Morrison, 1995; Pond, Nacoste, Mohr and Rodriguez, 1997; Schappe, 1998; Abraham, 2000; Cardona, Lawrence and Bentler, 2004). Table B1 in Appendix B provides an overview of some studies measuring and collecting OCB data using different dimensions and measures and different sources of data (i.e., different rating appraisal processes). For the current study, each item was reworded to fit with the self-report nature of the research question. Rather than have supervisors rate subordinates on the frequency of observed OCBs, employees were be asked to directly rate their own behaviour. Furthermore, the word 'company' was replaced with 'organisation' (see Appendix A, Table A4).

The methodological and conceptual advantages and disadvantages of supervisor ratings and self-ratings of OCB have been described well in Organ (1988) and Schnake (1991). Both of the rating methods have been validly criticized. Both Organ (1988) and Schnake (1991) noted that self-report measures might inflate correlations with other variables (common method variance). Put simply, any bias (social desirability: a tendency for individuals to present themselves in a way that makes them appear positive) in the respondent's rating is likely to cut across measures. Social desirability may influence the measures in three ways: (1) it may produce spurious correlations between variables; (2)

it may suppress a true correlation between variables; or (3) it may serve as a moderator variable between dependent and independent variables (Ganster, Hennessey and Luthans, 1983). However, Ganster *et al.* (1983) examined these three potential types of contamination and noted that social desirability contamination did not appear to be widespread. Organ (1988) and Schnake (1991) also indicate that supervisor ratings may be biased or deficient because citizenship is so difficult to observe. Additionally, Organ (1988) notes the most serious problem that using supervisor ratings of OCB might present is that having the supervisor rate the OCB of subordinates runs the risk of compromising the very essence of the concept of OCB.

According to Spector and Fox (2002), most studies of OCB have avoided the potential mono-method limitation by having OCB assessed by supervisors rather than subjects themselves. This may help minimize certain biases that might distort correlations of the OCB measure with other subject-reported variables. However, supervisors are not necessarily in the best position to know about all the OCB done by their subordinates, and thus their reports may not be very accurate (see Frese and Zapf, 1988). They then recommend that a variety of methods be used to assess OCB from a variety of sources. Additionally, Organ and Konovsky (1989) indicate that much genuine OCB may escape the supervisor's notice and thus the measure may capture mainly those gestures intended to impress the supervisor. Van Dyne and Lepine (1998) found that OCB is characterized differently by self, peers and supervisors. They advised that different rating sources might be appropriate for different purposes. Specifically, they suggested that 'self-reports would be appropriate for studies involving self-conceptualization, self-image and self-representation, but observer reports would be appropriate for research on behaviour in organisational settings, where perceptions of others are critical determinants of feedback, promotions, transfers and merit increases' (p. 118).

There is good reason to be focusing on employee self-perceptions of OCB. A review of the current literature shows that recent OCB theory and research focuses on issues such as investigating OCB in relation to organisational commitment (Moorman, Niehoff and Organ, 1993; Shore and Wayne, 1993), and issues of social exchange (Organ and Konovsky, 1989; Konovsky and Pugh, 1994). Clearly, this research is being conducted

in part to more fully understand employees' motives behind their performance of extra-role behaviours. But current measures of OCB that depend only upon supervisory ratings limit the extent to which this kind of understanding can be obtained. The main goal of the current program of research was to document patterns among a key set of employees' perceptions of high commitment HRM practices, psychological contract fulfilment, affective commitment and work-relevant behaviours. Self-report data allows the researcher to explore such patterns. Therefore, a self-report measure of OCB was deemed more appropriate for this study. OCB was measured as a continuous variable.

The items for altruism were: 'I help others who have been absent', 'I help others who have heavy work loads', 'I help orient new people even though it's not required', 'I willingly help others who have work related problems', and 'I am always ready to lend a helping hand to those around me'.

The items for conscientiousness were: 'My attendance at work is above the norm', 'I do not take extra breaks', 'I obey organisation rules and regulations even when no one is watching', 'I am one of the most conscientious employees in the organisation, and 'I believe in giving an honest day's work for an honest day's pay'.

The items for sportsmanship were: 'I consume a lot of time complaining about trivial matters', 'I always focus on what's wrong, rather than the positive side', 'I tend to make "mountains out of molehills"', 'I always find fault with what the organisation is doing', and 'I am the classic "squeaky wheel" that always needs greasing'. All of the items for sportsmanship were negatively worded items (reverse coded).

The items for courtesy were: 'I take steps to try to prevent problems with other workers', 'I am mindful of how my behaviour affects other people's jobs', 'I do not abuse the rights of others', 'I try to avoid creating problems for co-workers', and 'I consider the impact of my actions on co-workers'.

The items for civic virtue were: 'I attend meetings that are not mandatory, but are considered important', 'I attend functions that are not required, but help the organisation

image', 'I keep abreast of changes in the organisation', and 'I read and keep up with the organisation announcements, memos, and so on'.

Organ and Ryan (1995) reasoned that the correct measure of OCB is an aggregate measure rather than a measure of several specific behaviours when the directions of the relationships are expected to be similar across all dimensions. Accordingly, a second-order model of OCB, rather than a breakdown of the five factors was performed because it was a reflection of the stated conceptual premises of this study. Consequently, a higher score on the higher order OCB construct represented more frequent occurrences of helpful behaviours.

*Intention to Quit*

Employee intention to quit was measured with two items taken from Cammann, Fichman, Jenkins and Klesh (1979, cited in Cook, Hepworht, Wall and Warr 1981) and one item from the Overall Job Satisfaction scale from the Michigan Organisational Assessment Questionnaire (Seashore, Lawler, Mivris and Cammann, 1982). Tekleab and Taylor (2003) used the first two items to measure employee intent to quit or leave, and reported a 0.85 cronbach's alpha. The items were 'It is likely that I will leave my employment with this organisation within a year', 'I intend to keep working at this organisation for at least the next 3 years' (reverse coded), and 'I frequently think about quitting my job'.

*Procedural Justice*

Procedural justice was assessed using a 6-item measure developed by Niehoff and Moorman (1993). This measure mirrors the six procedural items recognised by Leventhal (1980), particularly, that procedures are used consistently over time, are free from bias, are based on accurate information, provide an opportunity to reverse bad decisions, represent the concerns of those affected, and adhere to prevailing ethical standards. This scale measured the degree to which job decisions included mechanisms that ensured the gathering of precise, truthful and unbiased information, an employee voice, and an appeals process. Individuals were asked to indicate the extent to which they agree with the 6 statements using a 7-point Likert scale (1 = strongly disagree, and

7 = strongly agree). An example item was 'All job decisions are applied consistently across all employees'. The internal consistency of this scale (cronbach's alpha) was 0.85. Minor changes were made to this scale where 'general manager' was replaced with 'organisation'. This is consistent with other research that used Niehoff and Moorman's measure (Kickul *et al.*, 2002). Furthermore, the word 'affected' was removed from item number 5, as it does not apply to this study (Appendix A, Table A6).

*Interactional Justice*

Interactional justice was measured using a 9-item measure also developed by Niehoff and Moorman (1993). This scale measured the degree to which employees felt their needs were considered in job decisions, and adequate explanations were made (e.g., 'My organisation explains very clearly any decision made about my job'). All items used a 7-point response format. This scale had an internal consistency of 0.92. These items are listed in Appendix A, Table A6.

*Background Information*

The demographic information centres on issues categorising respondents. Eight questions were used, the first two sought the gender and age whilst questions 3-8 covered issues in terms of educational qualifications, period in present job, and further categorisation related to respondents' jobs (e.g., whether they worked on a casual or permanent basis, position within the organisation, and income). The major purpose of gathering demographic information was to determine whether typical respondents could be characterised. The demographic questions considered in this study are provided in Appendix A, Table A7.

*4.5.2.2   Scale Pre-test*

The questionnaire used in this study was developed to measure all variables of interest, following an extensive review of the literature. Subsequently, a pre-test was conducted to trial the usefulness of the survey prior to the main study. Reynolds and Diamantopoulos (1998) maintain that pre-testing is an integral part of the questionnaire development process. As Hunt *et al.* (1982, p. 270) pointed out, the researcher needs to ask: 'Will the instrument provide data of sufficient quality and quantity to satisfy the

objectives of the research?'. Numerous researchers have confirmed the benefits of carrying out a pre-test prior to conducting the main survey (e.g., Churchill, 1995; Reynolds and Diamantopoulos, 1998; Zikmund, 2003). In this context, Zikmund (2003, p. 229) defines a pre-test as 'a trial run with a group of respondents used to screen out problems in the instructions or design of a questionnaire'. Accordingly, as recommended by Sekaran (1992), the purpose of the pre-test in this study has been to assess the applicability of measures used, to test whether questions have been properly designed, identify ambiguous questions, refine the questionnaire to facilitate employees' comprehension of the items, and check for construct reliability. The pre-test was also useful for the purpose of establishing a completion time.

Although there is broad agreement on the need for pre-testing, there is little agreement on the subject of the sampling size (Hunt *et al.*, 1982). For example, Zatalman and Burger (1975) did not specify a size, simply recommending a 'small' sample, while others indicated that a sample of 20 is adequate (Boyed *et al.*, 1977). Lucas *et al.* (2004) point out that a size of 50 respondents allows the researcher to conduct proper statistical testing procedures. In agreement with Zaltman and Burger (1975) and Boyed *et al.* (1977), the pre-test of the present program of research involved checking the content validity of items using a 2-stage process. The first stage included a convenience panel of seventeen educators in Business Administration from several universities in Melbourne, Australia, to assess any misunderstandings or ambiguities of expression in the questionnaire. These people were asked to provide feedback on clarity, applicability and contextual relevance of items, with a view to amending the questionnaire. The second stage included fifteen DBA and PhD students enrolled at Victoria University, Melbourne, who were working in a range of organisations. These people were asked to complete the questionnaire and provide comments on such matters as instructional clarity, item clarity, relevance and time needed for completion. Both groups of respondents provided minor comments and suggestions, prior to amendment of the questionnaire.

In summary, the research instrument used in this study was based on validated scales, and as a result of pre-test, a few minor changes and adjustments in the wording and

structure of questions were made to ensure that questions were readily understandable to all respondents (Zikmund, 2003). Great care was taken by the researcher to guarantee that the design of the instrument was attractive and that all instructions were easy to follow. This was considered crucial in obtaining quality survey results (Zikmund, 2003).

## 4.6. Research Setting, Sampling Frame, Sample Size and Procedures

### 4.6.1 Research Setting

In accordance with Sekaran (1992), who referred to correlational studies done in organisations as field studies, the hypothesized model in this study was tested in a field setting. Various factors were examined in the natural setting in which events normally occur with minimal researcher interference. As Brewer (2000) suggested, research conducted in natural field settings is often associated with greater external validity and generates more robust, representative and relevant findings. In this study, field survey research was conducted, gathering primary data via web-based questionnaires to identify and measure the strength and direction of the interrelationships among the constructs under investigation, and to examine the mechanisms through which commitment management practices influence employee attitudes and behaviours.

### 4.6.2 Sampling Frame

The sampling frame of this research consisted of a large banking organisation in Australia. This section justifies the choice for the study sample. It addresses the questions related to *who* to survey and *why* they constitute a suitable sample population.

Although, the population of interest for this research could have included any employee working for any organisation with a human resource department, there are a number of considerations which point to the banking and finance industry as an-appropriate choice. The examination of relationships has become particularly important in the services literature (Iacobucci and Hopkins, 1992; Iacobucci and Ostrom, 1996), and since this research investigates relationships between employees' perceptions of people centered management practices, their perceptions of fulfillment of the psychological contract, and their evaluation of their attitudes and behaviours, this study was limited to the services industry. More specifically, the banking and finance sector within the services industry

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was selected because given sets of jobs are relatively stable and common across this sector. These common jobs provide some control for between-job variation across banks. This advantage of the banking and finance industry was thought to compensate for the loss of generalisability that could result from restricting the study to a single industry. In this context, Morgan and Hunt (1994) consider that the focus is not on generalisability when testing an initial theoretical model since the important issue is that the sample is an appropriate context for testing the model. Also, the importance of information richness exceeds the issue of representativeness (Patton, 1990; Stake, 1994). Further, as already discussed in Section 4.4.6 of this chapter, the constant use of computers and the Internet as a work tool in banks provided the ideal web-savvy environment for the on-line survey mode of data collection used in the present program of research. Therefore, selection of the banking and finance industry was deemed to be appropriate for this study.

Convenience samples are the most common form of sampling design in social research (Mohr, 1990). In agreement with Eisenhardt (1989), Perry (1998) suggests that the purposeful selection of categories or dimension (for example choosing a specific industry) enables the researcher to apply replication logic in what is referred to as a 'convenience sample'. Thus, the selection of the banking organisation examined within the current program of research was based on a convenience sample. Several national banking organisations were contacted and invited to participate in this study. This was a cumbersome and time-consuming process. Of the contacted banking organisations, only one agreed to be the sampling frame for this research, thus resulting in the administration of the questionnaire to a sample of this bank's employees. The choice of a single organisation for research in the areas of HRM, psychological contracts and organisational behaviour is not uncommon. Some examples of this are: Gaertner and Nollen (1989), and Schalk, Campbell and Freese (1998) in the human resource management literature; Coyle-Shapiro and Kessler (2000), Atkinson (2002), Maguire (2002), Pate *et al.* (2003), and Johnson and O'Leary-Kelly (2003) in the psychological contract literature; and Meyer *et al.* (1989), Podsakoff *et al.* (1990), Moorman, Niehoff and Organ (1993), Konovsky and Pugh (1994), Moorman and Blakely (1995), Shore, Barksdale and Shore (1995), Irving, Coleman and Cooper (1997), and Van Yperen *et al.*

(1999) in the organisational behaviour literature. Furthermore, although this study pertained to only one banking organisation, this bank is one of the four major banks dominating the Australian banking industry, and thus, it is likely that the analysis presented in the present program of research can be considered as representative of the Australian banking industry as a whole.

### 4.6.3 Sample Size and Procedures

Confidential web-based surveys were administered in company time to a simple random sample selection of 4000 of the selected bank's employees. Simple random sampling has the advantage of having the least bias and offering high generalisability of findings (Sekaran, 1992). As obtaining support from management is helpful for gaining support from the respondents, confirming the purported use of the surveys, and increasing the probability of returning the questionnaires (Roth and BeVier, 1998; Dillman, 1978, 2000), approval to conduct the survey was obtained from the HR manager and the Group Surveys department. This department provided an endorsement email containing the link to the survey, which was sent to the randomly selected staff. This email included information about the research, assured staff that their responses would be kept confidential and that results would be grouped together so that no individual's responses could be identified, and that results would be analysed at Victoria University. The email also advised employees to be accurate and honest while responding to the questionnaire, and to take as long as they needed to complete the questionnaire. The questionnaire was administered on the 19th of December 2005, and employees were given three weeks to respond.

### 4.7 Analytic Techniques

As stated by Coorley (1978, p. 13, cited in Maruyama, 1998) 'The purpose of the statistical procedures is to assist in establishing the plausibility of the theoretical model and to estimate the degree to which the various explanatory variables seem to be influencing the dependent variables'. The present program of research employed the following methods of analysis: preliminary data analysis such as frequencies, means, standard deviations, and checking for outliers using SPSS (Statistical Package for the Social Sciences); exploratory factor analysis (Principal Components Analysis Method)

using SPSS; and structural equation modelling (SEM) using AMOS (Analysis of Moment Structures).

SPSS is a widely accepted program for data analysis (Malhotra, 1996; Zikmund, 1997; Tabachnick and Fidell, 2001). It was utilised at the data cleaning stage, and also to report descriptive analysis and undertake exploratory factor analysis and reliability tests. AMOS was used to examine the constructs (i.e., measurement models using One-factor Congeneric Models and Confirmatory Factor Analysis) and the overall structural model, and has been recognised as one of the main software programs used to assess structural models (Byrne, 2001; Ullman, 2001).

### 4.7.1 Preliminary Data Analysis

Prior to conducting exploratory factor analysis and to investigating the substantive hypotheses, data was screened and preliminary data analysis including frequencies, means and standard deviations were reported in order to get primary information about respondents. This was considered necessary as it provided database profiles.

### 4.7.2 Exploratory Factor Analysis: Principal Components Analysis Method

Factor analysis is best suited to identifying the interrelationships among a set of items in a scale, all designed to measure the same construct. Further, factor analysis is based on correlations and, if the correlations are small, the data are inappropriate for factor analysis. Exploratory factor analysis was used in this study to determine, in a concise and interpretable form, the underlying influences on the set of observed variables (Hair, Anderson, Tatham and Black, 1995). Information about the nature of these variables was gained and quantified by examining the extent to which each observed variable was associated with an underlying dimension or factor (Tabachnick and Fidel, 2001). Thus, the factors described the data through a reduced number of concepts that replaced the original set of variables and were used for further statistical analyses (Hair *et al.,* 1995).

For reliability of factor analysis it is essential that the sample size should be sufficiently large. The factor analysis literature includes a range of recommendations regarding the minimum sample size necessary to obtain factor solutions that are adequately stable and

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that correspond closely to population factors. As such, researchers have put forward different arguments as to what the sample size should be. Kline (1979) recommended that sample size, $N$, should be 100 or larger. Hair *et al.* (1998) supported this recommendation. Spector (1992) suggests sample sizes from 100 to 200. Kline (1994) suggested a minimum of 2:1 ratio of subjects to variables (items) and a minimum total of 100 subjects. Guilford (1954) argued that $N$ should be at least 200, and Catell (1978) claimed the minimum desirable $N$ to be 250. Others suggest a minimum of 5:1 ratio of subjects to variables (e.g., Gorusch, 1983). Comrey (1973, cited in Tabachnick and Fidell 1989, p. 603) noted 'sample sizes of 50 as very poor, 100 as poor, 200 as fair, 300 as good, 500 as very good, and 1000 as excellent…others suggest that a sample size of 100 to 200 is good enough for most purposes'. DeVellis (1991, p. 78) points out that small sample sizes may cause instability in covariance estimates and states that 300 is a good, general sample size. DeVellis (1991, p. 106) further indicates that 'the likelihood of a factor structure repeating is at least partially a function of the sample size used in the original analysis'. In addition, as sample size increases, the variability in factor loadings across repeated samples will decrease (i.e., standard errors decrease as N increases) (Archer and Jennrich, 1976; Cudeck and O'Dell, 1994). Velicer, Peacock and Jackson (1982) also observed that recovery of true structure improved with larger $N$. Velicer and Fava (1998) replicated these findings and also found the influence of sample size to be reduced when factor loadings and communalities were higher (the communality of a variable is the portion of the variance of that variable that is accounted for by the common factors). The present program of research had 488 responses, sufficiently large enough for exploratory factor analysis.

Principal components analysis (PCA) is a technique for maximally summarising the information contained in a number of variables of a data set into a smaller set of linear combinations (Pallant, 2001). In the present study, PCA was the EFA method performed using the SPSS software (version 12.0) for exploratory purposes in order to identify the likely number of factors. The reasons for conducting the principal component analysis were: (1) to group variables in order to derive principal factors for comparisons; and (2) to measure the strength of the relationship between each variable and its associated factor.

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The constructs of the present program of research (e.g., high commitment HRM practices, perceived fulfilment of the psychological contract, and OCB) were factor analysed using a principal components analysis with Varimax rotation. It is usual that an initial solution of factor analysis does not make it clear which variables belong to which factors (Kline, 1994), and hence the need for factor rotation. A rotation will make high loadings even higher and make moderate and small loadings smaller. The goal of Varimax rotation is to test the distinctiveness of the measures and to simplify factors by maximizing the variance of the loadings within factors, across variables. The spread in loadings is maximised, such that, loadings that are high after extraction become higher after rotation and loadings that are low become lower. Consequently, interpreting a factor becomes easier because it is obvious which variables correlate (Neter, Kutner, Nachtsheim and Wasserman, 1996).

The appropriateness of factor analysis was assessed by checking the correlation matrix and ensuring that there are correlations of at least $r = 0.3$ (Tabachnick and Fidell, 1996). The suitability of factor analysis was also assessed using the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO), Bartlett's test of sphericity, and reliability alpha to ensure that the factor analysis was appropriate to the data. The KMO is a statistic, which indicates the proportion of variance in the variables, which is common variance (i.e., which might be caused by an underlying factor). The KMO varies between 0 and 1, and Kaiser (1974) offers the following guidelines: in the 0.90's marvellous, in the 0.80's meritorious, in the 0.70's middling, in the 0.60's mediocre, in the 0.50's miserable, and less than 0.50 unacceptable. Others have suggested 0.60 and above are necessary for good factor analysis (e.g., Tabachnick and Fidell, 1996). Bartlett's test of sphericity tests the null hypothesis that there are no correlations amongst the variables. The hope is to reject this hypothesis; that is the significance figure is preferably very small, which would mean that there are some significant correlations to be analysed. Small values (less than 0.05) indicate that the data do not produce an identity matrix and hence, are suitable for factor analysis.

The criteria for the number of factors to be extracted were based on eigenvalue, scree plots, percentage of variance, significance of factor loading, and assessment of structure. As noted by Pillai, Schriesheim and Williams (1999), the optimal number of variable factors are determined by the following rules: all principal component eigenvalues must be greater than one; and scree plots must support the number of variable factors extracted as being appropriate. Factors retained that exceed an eigenvalue of one are known to be more readily interpretable than factors with eigenvalues less than or equal to one (Turner, 1991). The rationale for the eigenvalue being greater than one is that any individual factor should account for the variance of at least a single variable if it is to be retained for interpretation purposes. The scree test (Catell, 1978) can also be used after the initial factor extraction to select the correct number of factors for factor rotation. According to Kline (1994), in large matrices, the 'eigenvalue greater than 1' criterion greatly overestimates the number of factors and may split a major factor into several trivial factors. Thus, many authors propose that Catell's scree test is a good solution to select the correct number of factors (e.g., DeVellis, 1991; Norusis, 1993), where the line suddenly changes slope, that is, where a distinct beak occurs between the steep slope of the large factors and the gradual trailing off of the rest of the factors. For example, if the slope begins at the *kth* factor, then *k* is the appropriate number of factors.

Only the factors with eigenvalues equal to or greater than one and with scree plots that supported these factors were considered significant for this study; others were considered insignificant and were disregarded. Furthermore, while there is no one rule for judging the significance of factor loadings (Hair *et al.,* 1988), a variable was considered of practical significance and included in a factor in the present study when its factor loading was equal to or greater than 0.4. This criterion is above Tabachnick and Fidell's (1996) recommended minimum of 0.32. Hair *et al.* (1998) noted a factor loading of 0.3 is considered to meet the minimum level; loadings of 0.40 are considered more important, and loadings 0.5 or greater as practically significant. They further suggested that a factor loading of 0.40 is considered appropriate for a sample size of 200, 0.35 for 250 and 0.30 for a 350-sample size. To ensure a high significance factor level, it was decided that 0.40 is appropriate for the sample size (N = 488) of the present program of research. Hence, items that did not load on any factor (0.40 or above), and items that

loaded highly on multiple factors, were excluded from further analysis. In addition, the cumulative percentages of the variance extracted by factors were also used in this study to decide the significance of the derived factors. For each construct investigated in this program of research, a cumulative percentage of variance of 50 or more was regarded as indicative of satisfactory results for the exploratory factor analysis, following Joreskog and Sorbom's (1993) suggestion. Furthermore, the variables were retained when they made sense and disregarded when they became uninterpretable. Following construction of those scales that possessed unique factor and substantive factor loadings, scale reliability was assessed using Cronbach's alpha coefficient.

Following the approach taken by previous researchers (e.g., Brown, 1997; Kraemer *et al.*, 2001), the path model in this study containing the direct and mediated effects was examined via structural equation modeling using the AMOS program (Arbuckle, 2003). The interaction effects of procedural justice and interactional justice were also tested in AMOS using a multi-group analysis (for a discussion of interactions involving continuous variables see Jaccard and Wan, 1996; Bollen and Paxton, 1998; Schumacker and Marcoulides, 1998; Moulder and Algina, 2002).

### 4.7.3 Structural Equation Modeling

Structural equation modeling (SEM) is a method of assessing measurement quality at the same time as theory fit (see Fornell and Larcker, 1981; Anderson and Gerbing, 1988; Bagozzi and Yi, 1988). Hence, SEM analysis includes investigations of both structural and measurement models. The structural model is the path model, which relates the independent to the dependent variables. Structural model analysis is an essential tool for the identification of the relationships between several constructs in which separate multiple regression equations are estimated simultaneously. The measurement model allows the researcher to use several variables for a single independent or dependent variable, and assesses the contribution of each scale item as well as incorporating how well the scale measures the concept into the estimation of the relationship between the dependent and independent variables (Hair *et al.*, 1998).

SEM is a statistical methodology that tends to take a confirmatory approach, that is, hypothesis-testing approach, to the analysis of a structural theory (Byrne, 2001) and provides 'a comprehensive means for assessing and modifying theoretical models' (Anderson and Gerbing, 1988, p. 411). Variables in the structural equation system may be either directly observed variables (results of survey questions) or unmeasured latent variables (PCA) that are not directly observed, but relate to the observed variables. The residual errors within the equation system are associated with dependent variables and are not associated with the independent variables. Furthermore, it is possible for one dependent variable to act as an independent variable with respect to another dependent variable.

Structural equation modeling is a very popular method of analysis (Bollen, 1989; Kline, 1998; Byrne, 2001) that allows for exploring various possible models which could explain the data structures (Joreskog and Wold, 1982). It is an efficient analytical method that has improved upon, and superseded, other tools such as multiple and multivariate regression, or recursive path analysis (Fornell, 1982; Holmes-Smith, 1999). SEM overcomes all the problems associated with other analytical tools. For example, SEM can distinguish between latent and observed variables. It can also estimate the nature of measurement error associated with the observed variables, and also allows unequal weightings for the multiple indicators of a latent construct (Holmes-Smith, 1999).

In essence, the primary purpose of SEM is to explain the pattern of a series of inter-related dependence relationships simultaneously between a set of latent or unobserved constructs, each measured by one or more obvious observed variables (Hair et al., 1995; Schumacker and Lomax, 1996). SEM is based on the assumption of causal relationships where a change in one variable (x1) is supposed to result in a change in another variable (y1). Not only does SEM aim to analyze latent constructs and causal links between these constructs, but also it is efficient for other types of analyses including estimating variances and covariances, testing hypotheses, conventional linear regression, and confirmatory factor analysis (Jöreskog and Sörbom, 1996). All the aspects of SEM must be supported by the theory in order to develop and modify the model. All of the above

considerations make SEM applicable to meet the purpose of the present program of research.

For the purpose of this program of research, the structural model and measurement model were analysed separately. The separate examination of the structural and the measurement components of the model allows for the inspection of measurement problems independent from the inspection of structural problems (Bagozzi, 1983). This allows for a comprehensive assessment of construct validity and reliability (Anderson and Gerbing, 1988; Hair *et al.*, 1998). Once exploratory factor analysis was performed, and key factors extracted, each factor's consistency was calculated using Cronbach's alpha and named in accordance with the theory. One-factor congeneric models and confirmatory factor analyses using AMOS were used in order to explore the statistical relationships among the items of each factor and between the factors.

Confirmatory factor analysis was used prior to testing the proposed structural relationships, to assess the soundness of the measurement properties of the conceptual model using 'fit' statistics calculated from comparing its factor structure with sample data. Confirmatory factor analysis has been treated in more recent years as a useful and alternative approach to assessing scale properties (Ullman, 2001). Based on the approach developed by Anderson and Gerbing (1988), the following process was undertaken in the present research program to ensure adequacy of the measurement models of individual constructs. Indicators were checked to ensure they had substantial loadings on the factors to which they belonged. Indicators were also checked to ensure there were no significant cross-loadings on other factors, or have large, positive correlated residuals with an item of another factor. The measurement error terms associated with measured variables were also checked to ensure that none were significantly correlated. When any of the above criteria were negatively flagged, the option chosen was to delete the problem indicators (Kline, 1998) parsimoniously to avoid any substantial threat to the content validity of a latent factor (Kelloway, 1995). The result of this process is a reduced set of reliable and unidimensional items (Brady, 1997) with which the researcher conducted structural equation analyses. Maximum likelihood method was used as this has been shown to be the method of choice for thorough factor refining

(Hoelter, 1983; Ullman, 2001). Therefore, testing the measurement model provides a method of final item purification for the present research program.

Once the scales were created following CFA, Structural equation modeling (SEM) was used to test the hypothesized path model based on theoretical considerations, where the researcher made clear the predictors within the proposed model. SEM was also used to estimate interaction effects across multiple groups.

There are many major advantages to using SEM. Firstly, this approach gives the researcher the ability to explore more than one relationship within the model at one time (Hair, Anderson, Tatham and Black, 1998). That is, the causal processes under study are represented by a series of structural (regression) equations, which indicate the strength of the relationships between constructs. Secondly, confirmatory factor analysis allows an assessment of whether or not a model developed from the literature is a good fit to the observed data (Hair *et al.,* 1998). Thirdly, statistical estimation is improved as SEM makes allowance for measurement error in the observed data (Bentler, 1995; Hair *et al.*, 1998). Furthermore, the structural relations can be modeled pictorially, using diagrams and directional arrows, to enable a clearer conceptualization of the theories under study (Byrne, 2001).

*Model-data Fit Examination*

Testing with SEM serves to evaluate how well the model being tested is supported by the sample data. The primary task in this model-testing procedure is to determine the goodness of fit between the proposed model and the sample data. Hair *et al.* (1995, p. 640) define goodness-of-fit as 'a measure of the correspondence of the actual input covariance matrix with that predicted from the proposed model'. That is, the aim is to find out if the parameter estimates in the model are consistent with theory-based expectations, and if the estimates statistically imply 'goodness of fit'. There are three types of goodness of fit measures listed below that need to be used.

1. Absolute fit measures assess the overall model fit, with no adjustment for over fitting by considering whether the residual (unexplained) variance is appreciable (Maruyama, 1997).

2. Incremental fit measures assess the incremental fit of a model compared to a null model.

3. Parsimonious fit measures adjust the measures of fit to compare models with different numbers of coefficients, and determine the fit achieved by each coefficient (Reisinger and Turner, 2000).

Bollen and Long (1993) and Hair *et al.* (1995) consider that measures from each type should be reported to provide the best overall picture of model fit. This research adopts some measures and guidelines recommended by Marsh and Hocevar (1985), Browne and Cudeck (1993), Joreskog and Sorbom, (1996), Hair *et al.* (1998, p. 660-661) and Kline (2005) to measure the goodness-of-fit. Table 4.3 shows the types of measures and level of acceptable fit followed in this research (also see Chapter 6 for a detailed discussion of these goodness-of-fit measures).

Table 4.3
*Goodness-of-fit Measures*

| Measures | Level of Acceptable Fit |
|---|---|
| *Absolute fit measures* | |
| Likelihood ratio Chi-square ($\chi2$) statistics ($\rho$) | Statistical test of significance (at least $\rho>0.001$) |
| Root mean square error of approximation (RMSEA) | Under 0.08, preferably under 0.05 |
| Standardised Root mean square residual (SRMR) | The smaller the better – close to zero, values less than 0.10 indicate a good model fit |
| *Incremental or comparative fit measures* | |
| Tucker-Lewis index (TLI) | The closer to 1.0, the better. Recommended higher than 0.90 |
| Comparative fit index (CFI) | The closer to 1.0, the better. Recommended higher than 0.90 (Values close to 1.0 indicate perfect fit) |
| *Parsimonious fit measure (model parsimony)* | |
| Normed Chi-square (CMIN/DF) (also considered as an absolute fit measure) | Recommended level: lower limit 1.0, upper limit 3.0 or as high as 5 ($1.0 \leq \chi2/df \leq 5.0$) |
| Akaike Information Criterion (AIC) | The model that fits with the smallest value of AIC is the most parsimonious fitting model |

*Model Modification*

After performing the SEM analysis, the fit of the structural model is assessed and the modification indices are examined. In the AMOS program, the list of significant and non-significant parameters can be easily examined, so a decision can be made as to whether any of the non-significant parameters can be eliminated from the model without substantial loss of fit (Arbuckle and Wothke, 1999). Then, the initial model is modified and tested using the same data and using modification indices until a theoretically parsimonious model is achieved. As each path in the model represents a hypothesized relationship, hypothesis testing is achieved by assessment of the significant parameter estimates. This results in a final empirically derived structural model. According to Joreskog (1993), modification may be either theory or data driven, and the ultimate objective is to find a model that is both substantively meaningful and statistically well fitting. Hence, it is important that any modification is theoretically justifiable (Schumacker and Lomax, 1996; Kline, 1998).

*Sample Size*

Lastly, to run SEM, sample size should be taken into account as it determines the accuracy of estimates and interpretations of the results (Hair *et al.*, 1995). Structural equation modeling is based on covariances; and covariances and correlations are less stable when estimated from small samples (Tabachnick and Fidell, 1996, p. 715). There are no clear-cut rules or definitive recommendations when it comes to the necessary sample size to obtain reliable solutions and parameter estimates in structural equation models. While using very large sample sizes to estimate parameters in structural equation models with latent variables will lead to a degree of confidence about such statistics, the asymptotic statistical theory underlying parameter estimation gives no clue as to how large a 'large' sample needs to be (Holmes-Smith, 1999). Kline (2005) proposes that sample sizes that exceed 200 cases could be considered 'large' (p. 15). Several considerations have been noted (Dilalla, 2000), and different rules of thumb have been suggested among scholars about what sample sizes are considered appropriate for SEM analysis.

Boomsma (1983, p. 184) examined the effect of sample size on the stability of parameter estimates and suggested, as a general rule across a number of model types, 'that the estimation of structural equation models by maximum likelihood methods be used only when sample size are at least 200' to give parameter estimates with any degree of confidence. While supporting Boomsma's conclusion about the lack of stability in parameter estimates when samples under 100 were used, Gerbing and Anderson (1985) found that fairly robust estimates could be achieved with fewer than Boomsma's recommended sample size of 200. Also, while Fan and Wang (1998) consider sample sizes of 200 or less relatively small for SEM, Guadagnoli and Velicer (1988) indicate that a sample size as low as 50 could be adequate if the latent loadings of factors are above 0.80. In addition, a recent study by MacCallum and Austin (2000) of about 500 applications in SEM published in 16 different journals between the years 1993 to 1997 found that about 20 percent of these studies used samples of less than 100 cases. Arbuckle (1997) also gave a number of examples with sample sizes less than 100. Further, Anderson and Gerbing (1988) observed that a sample size of 150 should be adequate for most studies, yet other authors agree with a minimum sample size of 200 (e.g., Hair *et al.,* 1995; Ulman, 2001) especially when the researcher uses the maximum likelihood method to estimate SEM (Boomsma, 1983). Furthermore, more complex models such as mediational models require even larger sample sizes (Kline, 1998). Sandler *et al.* (1997) suggested that sample sizes of around 500 are optimally required for mediational analyses of program effects. The latter guideline has been adopted in the current program of research (N = 488) for SEM analyses.

*AMOS 5.0 Software*

The software program AMOS 5.0 (Analysis of Moment Structures) (Arbuckle, 2003) was selected to explore the statistical relationships among the items of each factor and between the factors of independent and dependent variables. AMOS 5.0 provides the researcher with powerful and easy-to-use structural equation modeling (SEM) software. It also helps to create more realistic models than when standard multivariate statistics or multiple regression models are used. In addition, using AMOS, the researcher can specify, estimate, assess, and present the model in an intuitive path diagram to show

hypothesized relationships among variables. The use of both AMOS and SPSS has allowed the researcher to investigate the reliability and validity of this study.

## 4.8 Reliability and Validity

Przeworski and Teune (1970) indicate that an instrument is equivalent across systems to the extent that the results provided by the instrument reliably describe with (nearly) the same validity a particular phenomenon in different 'social systems' (p. 106). When undertaking any form of research, it is necessary to ensure the reliability and validity of the research findings. This can be achieved by both emphasising the adequacy of the research design and the quality of the measurement procedures employed (Krausz and Miller, 1974; Sethi and King, 1991; Neuman, 2000).

Kirk and Miller point out that 'the language of validity and reliability was originally developed for use in quantitative social science, and many procedures have been devised for assessing different facets of each' (1986, cited by Easterby, Thorpe and Lowe, 1991, p. 40). One criterion for evaluating the rigour of a research method is reliability; whether a particular technique applied repeatedly to the same object yields the same result each time. Another major criterion for assessing research quality is validity; the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration. An instrument is valid if it measures what it is supposed to measure, and reliable if it is consistent and stable (Sekaran, 1992). Hence, both validity and reliability are important in establishing truthfulness, credibility or believability of social research findings (Peng, 2001). To ensure the quality of the findings and conclusions of the present research, both reliability and validity are examined.

### 4.8.1 Reliability

Reliability concerns the extent to which a measurement of a phenomenon provides stable and consistent results (Carmines and Zeller, 1979). That is, reliability refers to the extent to which a scale produces consistent results if repeated measurements are made on the variables of concern (Malhotra, 2003). Most measurement procedures are subject to error (John and Bennet Martinez, 2000), and one way for estimating error is through a measure of reliability. Reliability represents the consistency or stability of a measure, so

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that the numerical results do not change because of characteristics of the measurement process or measurement instrument (Neuman, 2003). Besides, reliability and error are related reciprocally, so that the larger the reliability, the smaller the error (Punch, 1998).

Internal consistency is a dimension of reliability that is concerned with the homogeneity of the items within a scale and used as an important verification measure of the ability of a scale item to correlate with other scale items intended to measure the same variable (DeVellis, 2003). One of the most common forms of measuring reliability, and the one used in the present program of research, is the statistical measure Cronbach's (1951) coefficient alpha (Bollen, 1989; Anderson and Weitz, 1990; DeVellis, 2003). According to Churchill (1979), the Cronbach alpha coefficient is considered to be *absolutely the first measure* one should use to assess the reliability of a measure scale. This technique requires only one administration of the instruments to provide an estimation of internal consistency reliability (Pallant, 2001). Advantages in using Cronbach's alpha are that it is easily calculated by computer and it provides a conservative estimate of a measure's reliability (Carmines and Zeller, 1979).

Cronbach's alpha estimates the degree to which the items in a scale are representative of the domain of the construct being measured (Pedhazur and Schmelkin, 1991). It was utilized in this study as a verification of the reliability of the composite items comprising each scale for each construct. According to Nunnally (1978), internal consistency values should be in excess of 0.70, which is the lower bound for an acceptable value in research. A coefficient alpha value lower than 0.70 indicates that the sample of items does not capture the construct and is not shared in the common core of the construct. In this study, Cronbach alpha was calculated for the constructs of high commitment HRM practices, perceived psychological contract fulfillment, affective commitment, organisational citizenship behaviour, intention to quit, procedural justice and interactional justice. The results for all coefficient alphas are presented in the next chapter.

Another method used for testing internal reliability and employed in this study is confirmatory factor analysis (CFA). CFA provides a statistical method to evaluate both

the reliability of each item in the scale, as well as any potential cross-loading issues with other items or scales. Hinkin (1995) recommended that a confirmatory approach be used to examine the stability of the factor structure in scale construction.

The objective of the test of reliability is to ensure that if a later investigator followed exactly the same procedures as in this research, they would arrive at the same findings and conclusions. The goal of reliability is to minimize the errors and biases in a study (Yin, 1994). More specifically, Churchill (1979, p. 65) points out that 'a measure is reliable to the extent that independent but comparable measures of the same traits or construct of a given object agree'. It was important to ensure that the measures employed in this thesis are reliable because unreliable measures lead to decreased correlation between measures. If no significant relationship exists between constructs, it would be impossible to know whether the results are true or are due to the unreliability of the measure (Peter, 1979).

To increase reliability in the present program of research, a number of strategies were used. To start with, constructs were clearly conceptualized so measures used were precise measures of the defined constructs. Further, where possible, known measures of interest were employed in the questionnaire.

Moreover, all constructs included in the study were measured using multi-item measures as opposed to single item measures. According to Peter (1979), most single-item measures have a uniqueness or specificity that demonstrates a low correlation within a construct and little relation to other constructs. Churchill (1979) indicates that single-item scales have more measurement errors and lower reliabilities than multi-item scales because the item is unlikely to be checked in sequential use of the measurement items. In addition, many constructs are considered too complex to be measured effectively with a single-item scale.

Multi-item measurement scales, on the other hand, exhibit high reliability and validity resulting in a higher standard of research (Finn and Keyande, 1997). Using multi-item measures for the constructs of this study is one suggested way of improving reliability

and decreasing error as it allows for greater distinctions to be made between groups, compared to a single-item measure used to categorise items into a relatively small number of groups (Peter, 1979). Another method used to increase the reliability of the results involved pre-testing questionnaires (Babbie, 2000; Neuman, 2003).

As mentioned earlier, the draft questionnaire was pre-tested and emphasis was given to the achievement of clear, simple and easy flow of words, such that questionnaire items were easy to read and understand, free from ambiguity and bias, and relevant to the selected sample. Further, because the level of standardization in a self-administered questionnaire (i.e., using a questionnaire to ask exactly the same questions to all participants) enhances reliability since all participants are required to answer the same questions in a fixed format (Thomas, 1999; Leedy and Ormrod, 2001), participants of this research were presented with standardized questionnaires to eliminate the unreliability or bias in observations made by the researcher. Moreover, the questionnaire included only closed questions as opposed to open-ended questions.

Using closed questions with clear and unambiguous wording is assumed to be a quick and easy form of answering for respondents, and tends to reduce the participants' own unreliability (Babbie, 2000). In addition, Frary (2001) suggested that open-ended questions should be avoided in most cases indicating that a major reason relates to variation in willingness and ability to respond in writing, and that unless the sample used is very homogeneous with respect to these two characteristics, response bias would be likely. Hence, as suggested by many researchers (e.g., Neuman, 1994), reliability of the present program of research was improved through the adoption of the measurement process procedures explained above.

## 4.8.2 Validity

In this research, the validity of a scale is defined as 'the extent to which differences in observed scale scores reflect true differences among objects on the characteristics being measured, rather than systematic or random error' (Malhotra, 1996, p. 306). Here, in accordance with Punch (1998), validity refers to the relationship between a construct and its indicators. Measurement validity means the extent to which an instrument measures

what it is claimed to measure, and an indicator is valid to the extent that it empirically represents the theoretical concept it is supposed to measure. Neuman (2003) maintains that the better the fit between the conceptual and operational definitions, the greater the measurement validity. In agreement with Bollen (1989) and Punch (1998), three main approaches to the validation of the instrument of this study have been adopted. These include: face or content validity (i.e. the agreement among professionals that the scale is measuring what it is supposed to measure); construct validity (i.e., establishing correct operational measures for the concepts being studied; the ability of a measure to confirm a network of related hypotheses generated from a theory based on the constructs); and criterion-related validity (i.e., the degree of correspondence between a measure and a criterion variable, usually measured by their correlation). Further to these three types of validity that refer to the internal validity of the scales and their respective items, external validity, concerned with the generalisability of the research findings, was discussed.

*Content Validity*

The first approach to assessing validity in this study focuses on whether the full content of a conceptual description is represented in the measure. A conceptual description is a space, holding ideas and concepts, and the indicators in a measure should sample all ideas in the description (Neuman, 1994). According to Nunnally (1967), content validity is defined as the degree to which measures adequately represent a specified domain. It is a subjective but systematic assessment of the content to which a scale measures a construct (Malhotra, 1996). Due to its subjective nature, content validity is not a sufficient measure of how valid a scale is; however, it is often the first check for validity of a measure and a precursor to construct validity. Further, content validity is not typically assessed statistically because it hinges on the process used to construct measures. Thus, in accordance with Davis and Cosenza (1993) and Cooper and Schindler (1998), the present program of research uses the following procedures in ensuring content validity: the identification of the existing scales from the extant literature; consultation with a panel of experts to independently assess and test items for performance; and the pre-test methods detailed earlier in this chapter.

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*Construct Validity*

The second approach used to validate the instrument of this study is referred to as construct validity. This type of validity refers to establishing correct and adequate operational measures for the concepts being tested (Kidder and Judd, 1986; Yin, 1994; Cooper and Emory, 1995; Malhotra *et al.*, 1996) and addresses directly the question of what the instrument is actually measuring (Churchill, 1995). According to Malhotra (2003), this type of validity lies at the very heart of construct development and involves consideration of theoretical questions about why the scale works and what deductions can be made on the basis of theory.

Construct validity is addressed by analyzing both convergent validity (assesses whether the measures of the same construct are highly correlated with one another; i.e., the items and the constructs that are supposed to be correlated with one another actually are) and discriminant validity (assesses whether the measures of a construct correlate lowly with other constructs; i.e., the items and constructs that are not supposed to be correlated with one another are not).

A variety of methods have been used to test the construct validity of this study. Exploratory factor analysis, correlation, and more advanced procedures including confirmatory factor analysis and path analysis are methods for investigation of convergent and discriminant validity (Schmitt and Stults, 1986). For example, to test for convergent and discriminant validity, Kim and Frazier (1997) use a confirmatory factor model, whereas Heidi and John (1988) use correlation and regression analysis.

In the present program of research, the researcher carefully developed research hypotheses and appropriately selected variables for testing the concepts presented in Chapter 2. Confirmatory factor analysis (see Chapter 6) provided assessment of construct validity. The results showed that all the constructs demonstrate strong convergent validity as the final measures load strongly on one factor, and strong discriminant validity as they load lowly on the other factors. Moreover, following recommendations by Nunnally (1978) and Churchill (1979) the psychological contract

fulfillment construct was measured using two different scales in order to enhance convergent and discriminant validity of that construct.

*Criterion Validity*

In this third approach referred to as criterion validity, an indicator was compared with another measure of the same construct in which the researcher has confidence (Punch, 1998). Criterion validity can be categorized into concurrent and predictive validity. This measure of validity used to be popular (Peter, 1981), however, its popularity has diminished with the increasing use of construct validity. Zikmund (1997) argues that this is probably because criterion validity is synonymous with convergent validity and assessment of the latter would imply that the former was satisfied. Therefore, the presence of convergence validity discussed in the previous section establishes that criterion validity was also accounted for.

*External Validity*

The final approach for establishing the validity of this study is referred to as external validity. While the above discussion of validity relates to the internal validity of the scales and their respective items, external validity is concerned with establishing a domain to which the study's findings can be generalized. External validity is concerned with the generalisability of the cause-and-effect relationships of the research findings (Yin, 1994). That is, it is concerned with the generalisability of findings to other cases (Zikmund, 2003). The external validity of this research was enhanced by the use of real-life settings and the use of a representative sample (Leedy and Ormrod, 2001).

## 4.9 Ethical Considerations

Ethics in business research refers to 'a code of conduct or expected societal norm of behaviour [adhered to] while conducting research' (Sekaran, 2000, p. 17). The review of the literature on research methodologies has confirmed that the issue of ethics is an important concern in any research that employs human subjects (Babbie, 1990; Cooper and Emory, 1995; Bodgan and Biklen, 1998). The primary purpose of research ethics is to protect all parties involved (e.g., the organisation and employees participating in the

present research) from harm and adverse consequences resulting from the involvement in research (Emory and Cooper, 1991).

According to Polonsky and Waller (2005), the researcher should understand the basics of ethical research and how this might affect the research project. In accordance with this, and prior to conducting the fieldwork, the proposal was submitted to the Faculty of Business and Law Human Research Ethics Committee at Victoria University whose approval is sought for projects involving human participants. The application addressed issues of participant privacy and confidentiality, potential risks associated with the project, and the information provided to potential participants as part of the informed consent process.

Ensuring confidentiality of the data was not only important to retain the privacy of the respondents but also to encourage respondents to provide accurate and honest responses to questions. Protection of participants' confidentiality rights was given the highest priority throughout this investigation. Accordingly, in order to maximise participation and create an environment of candour, the participants were guaranteed confidentiality and non-disclosure provisions of the research, and the availability upon completion of aggregated research findings to all participants, should they request it. The fact that information from the survey material was only presented in aggregate form helped assure participants that information provided remained confidential and anonymous (Neuman, 2000).

Subjects were informed of all aspects of the research, particularly that their participation was entirely voluntary and that they could withdraw their consent to take part in the study at any time. This followed Zikmund's (2000) suggestion that subjects be informed of their right to be left alone or to break off their participation at any given time. Further, participants who wanted more information about the research project before taking part in it were able to contact a Victoria University representative (an ethics officer) to obtain that information.

Although a demographic section existed in the questionnaire, the process of de-identification used in the present study meant that no identifiers such as names or codes were used on the data. Hence, there was no way of knowing which staff members had completed the questionnaires. The name of the participating organisation was also left confidential and was not described in a way that allows it to be identified. Further, once the data were collected, it was retained in a safe place so as to limit its access to unauthorized persons (access to raw data collected was limited to a number of users; namely the researcher and associate investigators). Lastly, the researcher ensured that research results were used solely for the purpose of academic research. As a result of the above considerations, the Ethics Committee at Victoria University granted its approval for this research to be conducted.

## 4.10 Conclusion

An overview of the research process and a discussion of the theoretical paradigm required to provide a sound philosophical base has been presented. It has rationalised adoption of the quantitative research design used in the present program of research to provide a sound basis for testing the theory and addressing the research objectives. Soundness and appropriateness of techniques used to analyse the data have been discussed and evaluated. Issues relating to reliability and validity of the research were also discussed, as was the application of ethical principles to the research program.

In order to investigate the impact of high commitment HRM practices on employee attitudes and behaviours (e.g., affective commitment, organisational citizenship behaviour, and intention to quit), through examining the interrelationships of these constructs as well as the psychological contract, procedural and interactional justice constructs, the methods of analysis used in this thesis are discussed and applied in the following chapters 5 and 6. The discussion with issues relating to data screening, examination of descriptive statistics and demographic characteristics of the chosen sample, and examination of the results pertaining to exploratory factor analysis and scale reliabilities is commenced in Chapter 5.

# CHAPTER FIVE
## DATA ANALYSIS AND RESULTS: DESCRIPTIVE STATISTICS AND PRINCIPAL COMPONENTS ANALYSIS

## 5.1 Introduction

The research methodology adopted to collect and analyse data for the present program of research was described, discussed and justified in Chapter 4. The purpose of this chapter is to summarise and present the results of the descriptive statistics and exploratory factor analyses.

The chapter encompasses six sections. Section 5.1 serves as an introduction, while Section 5.2 explains the process of data coding. Section 5.3 discusses the data screening process including missing data, outliers, and univariate and multivariate normality and Section 5.4 presents the response rate and outlines the characteristics of the respondents. It also examines and summarises the descriptive statistics means and standard deviations, percentages and frequencies in order to give an indication and feel for the respondents' reactions to each item in the questionnaire. Section 5.5 aims at applying exploratory factor analysis using a principal components technique, and Cronbach's alpha analysis to the data acquired from a web-based survey questionnaire as noted in Chapter 4. This allows the researcher to study the interrelationships among variables attempting to find a new set of variables to summarise information in a more concise way, describe the constructs of the present program of research and discuss the reliability of these constructs. Finally, Section 5.6 presents a conclusion to this chapter.

## 5.2 Coding

After the collection of questionnaires, data was prepared for further analysis by coding the responses into SPSS. Coding was used as a primary procedure to assign numbers to each answer to a question (Malhotra, 1996). This allows the transference of data from the questionnaire to SPSS. Such procedure can be undertaken either before the questionnaire is answered (pre-coding) or afterwards (post-coding) (De Vaus, 1995). The questionnaire used for the present program of research was pre-coded with numbers representing the various items, i.e., each item of the questionnaire was given an alphanumeric identity code based on the order it was

displayed in the questionnaire (for example, question 1 was coded q1 and so on). Furthermore, answers to questions rated on a 7-point Likert scale were coded in the following manner: 1 (strongly disagree) to 7 (strongly agree). For the demographic items, each variable was allotted a number. For example, the variable 'gender' was coded with 1 representing 'female' and 2 representing 'male'.

## 5.3 Data Screening

Data should be examined and descriptive statistics reported prior to any data analysis so the researcher can become familiar with the data set and relationships between the variables under investigation (Baumgartner and Homberg, 1996; Tabachnick and Fidell, 2001; Sekaran, 2003). Sethi and King (1991) found that data screening could greatly enhance the interpretability of the results of exploratory factor analysis. The data screening process involves examination of missing data, outliers and data normality. To this end, all data were initially analysed via SPSS.

### 5.3.1   Missing Data

Missing data is a common issue in research and is problematic because even small amounts of missing information on each variable may leave only a few cases with complete data on all variables (Graham and Schafer, 1999). Missing data usually occur when a respondent fails to answer one or more questions in a survey. As is common with many surveys, respondents may fail to respond to individual items on the questionnaire (Burns and Bush, 2003). Failure to respond may be of particular importance if it occurs at a rate in excess of 10 percent for any single item (Malhotra *et al.*, 2002). Since the on-line survey used for the present program of research did not allow non-response (i.e., respondents could not submit their responses unless they answered all the questions on the survey), and there were no 'I don't know' response scales (which would be viewed as missing data), this meant there were no missing values.

### 5.3.2   Outliers

The second step within the data screening process required checking for outliers. Outliers are observations with extreme values on single or combined variables that are noticeably different from other observations (Barnett and Lewis, 1995). Outlier cases can cause non-normality in data and hence distort statistics. Therefore, it was

necessary to screen the data for the presence of outliers using several steps within SPSS (Pallant, 2001). First, frequency analyses were conducted for each variable to determine out of range values. Second, following Coakes and Steed's (2003) suggestion, the tails of the distribution of histograms were inspected to make sure there were no data points sitting on their own, out on the extremes. Third, box plots were inspected to ensure that no points extended more than three box-lengths from the edge of the box (Coakes and Steed, 2003). Finally, checking for outliers also involved examining and comparing the mean to the 5% trimmed mean (Pallant, 2001) (to obtain this value, SPSS removes the top and bottom 5 percent of the range and recalculates a new mean value) and verifying these two values are not very different. Following these procedures, it should be noted that no outliers were detected. After that, the assumptions of univariate and multivariate normality were evaluated.

## 5.3.3    Normality

As factor analysis and structure equation modelling both require variables to be normality distributed, it was necessary to check the distribution of variables to be used in the analysis. In order to check any actual deviation from normality, a number of methods can be used.

One method is to use skewness and kurtosis. Assessment of the skewness and kurtosis of individual variables provided an indication of univariate normality (Tabachnick and Fidell, 2001). The respective criteria for assessing skewness and kurtosis adopted in the current program of research were absolute values not exceeding 3 and 10 (Kline, 2005). Kline advised that 'absolute values of the kurtosis index greater than 10.0 may suggest a problem and values greater than 20.0 may indicate a more serious one' (2005, p. 50). Diagnostic procedures conducted on the data, through SPSS generated indices for skewness and kurtosis, revealed that kurtosis was marked for two items which had values slightly higher than 10.0 (see Table 5.2). For large sample size (as is the case in this study), however, even small deviation from normality can be significant. In this context, Tabachnick and Fidell (2001) maintain that in a large sample, a variable with statistically significant skewness and kurtosis often does not deviate enough from normality to make a substantiative difference analysis. With reasonably large samples, the significance

level of skewness is not as important as the actual size and shape of the distribution, as generally the skewness level will not 'make a substantive difference in the analysis' (Tabachnick and Fidell, 1996, p. 73). Furthermore, underestimates of variance associated with positive and negative kurtosis disappear with samples of 200 or more (Tabachnick and Fidell, 1996, p. 73). The sample for the current program of research was 488; well above the 200, suggesting that underestimates of variance with positive and negative kurtosis would disappear and skewness will not make a noteworthy difference in the analysis. As such, these values were not considered grounds for significant departures from normality and thus transformation of these two variables were not regarded as necessary (Kline, 1998). Furthermore, McDonald and Ringo (2002) maintained that much social and behavioural science data are abnormal, where in most cases variables rarely conform to a classic normal distribution, and the maximum likelihood estimation (used in the present program of research) and the associated statistics seem fairly robust against violations of normality.

In addition to evaluating skewness and kurtosis, Tabachnick and Fidell (1996, p. 73) suggest that these values are too sensitive with large samples, and recommend inspecting the shape of the distribution using histograms to aid in further assessment of univariate normality. An inspection of histograms showed that the actual shape of the distribution of all variables included in the present program of research appeared to be reasonably normally distributed with a reasonably symmetrical bell shaped curve. This was also supported by an inspection of the normal probability plots. Consequently, checks of univariate normality revealed that none of the observed variables were found to be either significantly skewed or overly kurtotic.

In addition to checking univariate normality, it was also important to inspect multivariate normality, as it is a critically important assumption underlying multivariate analyses and SEM techniques. Multivariate normality means that: '(1) all the univariate distributions are normal; (2) the joint distribution of any pair of the variables is bivariate normal; and (3) all bivariate scatter plots are linear and homoscedastic' (Kline, 2005, pp. 48-49). In other words, the joint distributions of any combination of variables should also be normal (Tabachnick and Fidell, 1996). It is important to note that, even though it is a requirement in the analysis of covariance

and mean structures that the data have a multivariate normal distribution, several studies of robustness of the multivariate normality assumption (e.g., Amemiya and Anderson, 1990) found that the parameter estimates remain valid even when the data are non-normal.

Multivariate normality was checked in AMOS through the inspection of the multivariate value represented by Mardia's coefficient of multivariate kurtosis (Mardia, 1970). A Mardia's coefficient greater than 8 is an indication of violation of the assumption of multivariate normality. In such instances of multivariate non-normality, Bollenstine's bootstrap was invoked (Kline, 2005). Bootstrapping is a statistical resampling method (Diaconis and Efron, 1983), where the computer draws random samples from a probability density function with parameters specified by the researcher.

The Bollen-Stine option denotes a modified bootstrap method for the chi-square goodness-of-fit statistic and thus provides a means of testing the null hypothesis that the specified model is correct (Bollen and Stine, 1993). For a good fitting model, Bollen-Stine bootstrap $p$ should be less than 0.001. However, it is important to note that Bollen-Stine $p$ is affected by a large sample size and thus, in addition to Bollen-stine $p$, the researcher used other measures of fit as criterion for model acceptance or rejection (see chapters 4 and 7 for a detailed overview of these measures). For the present program of research, where issues with multivariate non-normality were evident, the researcher requested AMOS to perform a bootstrap on 500 samples, which was suggested by Byrne (2001) and Arbuckle (1996) as sufficient. The results of these bootstrap tests are presented in the next chapter.

## 5.4 Response Rate, Respondents' Characteristics and Descriptive Statistics

### 5.4.1 Response Rate

The survey was conducted in a large banking organisation in Australia. The web-based survey was sent via email to 4000 randomly chosen staff between 19 December 2005 and 11 January 2006. A total of 488 responses were received. The response rate was 12.2 percent. While this response rate was relatively low by some standards, it needs to be considered within the time frame of the solicitation (the research being conducted during the Christmas vacation period), and the number of

surveys in the field at the time. It should be acknowledged that the HR department of the participating banking organisation advised the researcher that three other surveys were administered in the bank within the two months prior to administering the survey for the present program of research. It was thought that this could have negatively influenced employees' inclination to respond to so many questionnaires in a short period of time. Further, the response rate of this study is in agreement with some studies suggesting that in populations with access to the Internet, response rates for e-mail and web surveys may not match those of other survey methods (Cook, Heath and Thompson, 2000; Couper, 2000). A number of studies have reported response rates for web surveys that are significantly lower than the response rates for comparable pencil-and-paper surveys (Sheehan and McMillan, 1999; MacElroy, 2000). In addition, to ensure anonymity of responses, no identification information (e.g., email addresses) was obtained from the intended sample. As such, it was not possible to send reminder notices to non-respondents. Hence, the response rate for this study needs to be considered within the context of zero reminder notices compared to single or multiple reminders.

The literature on surveys has suggested that reminders improve the overall response rate (Diamantopoulos *et al.,* 1991; Yammarino *et al.* 1991; Dillman *et al.,* 1993; Schaefer and Dillman, 1998; Kaplowitz, Hadlock and Levine, 2004). Malhotra *et al.* (1996, p. 170) has suggested that survey response rates are typically less than 15% when there is no pre-notification or post-notification. In addition, some studies have reported even lower response rates when no reminder is used (Angur and Nataraajan, 1995). Other studies have also reported a lower response rate even when the sample was sent an initial e-mail and non-respondents were sent up to two follow-up emails (Porter and Whitcomb, 2003). Tingling, Parent and Wade (2003) reported a 10.14% response rate to a web survey even though they sent two follow-up emails (14 days and 44 days after the initial solicitation) to all non-respondents. In addition, some US based management and organisational behaviour studies have reported response rates close to zero percent. For example, in an investigation of whether professional and organisational commitment moderate the relationship between discrepancies and job stress, Drimmer (1998) collected data from information systems professionals by distributing questionnaires using a variety of methods including e-mail, personal contacts and posted mail. Drimmer's (1998, p. 56) reported a low rate of response,

particularly for the email subjects where the return rate was 0.37% despite having sent an introductory announcement two days prior to the survey to inform the potential subjects of the research, as well as a follow up letter one week later thanking them for their cooperation and reminding them to respond.

Thus, the useable response rate for this thesis, at 12.2%, or 488 surveys, was consistent with Malhotra *et al.* (1996), Angur and Nataraajan (1995), Porter and Whitcomb (2003) and Tingling *et al.* (2003). Further, while the response rate was small, the sample size was large enough for the analysis. Although it is possible and likely that this sample is representative of organizations within the banking and finance industry (see Section 4.6 for a discussion), one should remain cautious about generalising these findings to other or more general populations.

## 5.4.2 Characteristics of Respondents

The demographic profiles of the sample population included gender, age group, education, tenure, position within the organisation, and income as presented in Table 5.1 and explained below.

Table 5.1

*Characteristics of Respondents*

| Characteristics | Categories | Number | Percentage (%) |
|---|---|---|---|
| Gender | Male | 215 | 44.1 |
| | Female | 273 | 55.9 |
| | Total | 488 | 100 |
| Age | 18-25 | 44 | 9 |
| | 26-35 | 155 | 31.8 |
| | 36-45 | 154 | 31.6 |
| | 46-55 | 117 | 24 |
| | 56 or more | 18 | 3.7 |
| | Total | 488 | 100 |
| Education | Secondary school | 193 | 39.5 |
| | Diploma or trade certificate | 86 | 17.6 |
| | Bachelor's degree | 117 | 24 |
| | Graduate diploma | 32 | 6.6 |
| | Postgraduate degree | 56 | 11.5 |
| | Other | 4 | .8 |
| | Total | 488 | 100 |
| Tenure | Less than 1 year | 60 | 12.3 |
| | 1-2 years | 63 | 12.9 |
| | 3-5 years | 96 | 19.7 |
| | 6-10 | 74 | 15.2 |
| | 11-15 | 60 | 12.3 |
| | 16-20 | 54 | 11 |
| | Over 20 years | 81 | 16.6 |
| | Total | 488 | 100 |
| Permanent vs. Casual | Permanent | 483 | 99 |
| | Casual | 5 | 1 |
| | Total | 488 | 100 |
| Position | Top management | 6 | 1.2 |
| | Middle management | 168 | 34.4 |
| | Supervisory | 76 | 15.6 |
| | Non-supervisory | 219 | 44.9 |
| | Other | 19 | 3.9 |
| | Total | 488 | 100 |
| Income | Less than $20,000 | 15 | 3.1 |
| | $20,000-$39,999 | 69 | 14.1 |
| | $40,000-$59,999 | 195 | 40 |
| | $60,000-$79,999 | 73 | 15 |
| | $80,000-$99,999 | 54 | 11 |
| | $100,000 and above | 82 | 16.8 |
| | Total | 488 | 100 |

Participants were 488 staff members of a large banking organisation in Australia. Of the respondent sample, 44.1% were male (215 in number) while females constituted 55.9% (273 in number) of the sample population. Thus, there was a balanced representation of both genders in the study.

The age distribution of the respondents showed about 40.8 percent were aged under 35 years, about 31.6 percent were aged between 36 to 45, about 24 percent between 46 to 55 years, and 3.7 percent on and above 56 years.

The educational analysis of the sample population recorded that 11.5 percent of respondents held a postgraduate degree, 6.6 percent held a graduate diploma, 24 percent held a bachelor degree, 17.6 percent held a diploma or trade certificate and 39.5 percent held a secondary school qualification.

The analysis of tenure of respondents showed that about 25.2 percent had worked in the organisation for less than 2 years. About 35 percent of the respondents had worked at the organisation between 3 and 10 years. About 23.3 percent had worked at the organisation between 11 and 20 years, and 16.6 percent worked at the organisation for over 20 years.

The sample population was composed of 483 (99 percent) staff employed in permanent positions, and 5 (1 percent) staff employed as casuals. The sample population included 1.2 percent who worked in top management, 34.4 percent in middle management, 15.6 percent who held supervisory roles, and 44.9 percent who held non-supervisory roles.

In terms of respondents' income, the sample contained 17.2 percent making less than $40,000 a year, 40 percent of respondents had an annual income between $40,000 and $59,999, 26 percent had an annual income between $60,000 and $99,000, and 16.8 percent made $100,000 or above.

5.4.3   Descriptive Statistics

Before running exploratory and confirmatory factor analysis, and before examining the hypotheses of the study, an analysis of the frequencies and descriptive statistics

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of all questionnaire items were performed. Table 5.2 displays descriptive statistics related to the questionnaire items for the main sample, such as, each item's mean, standard deviation, skewness and kurtosis. N size and valid response percent were 488 and 100% respectively across all items. Since items were measured using 7-point Likert scales, *means* could range from one to seven. Means approaching seven are considered as high and means approaching one are considered as low. A mean of four can be considered the midpoint. While no conclusions can be drawn from simply observing these means, it is important to note that the means for most of the items for the high commitment HRM practices, affective commitment, psychological contract fulfilment, OCB, procedural justice and interactional justice constructs, were higher than the midpoint. These appear to indicate that most employees tend to think highly of the organisation as a whole. It is also important to note that the means for items of the intention to quit construct were all less than three. Contrary to the other measures, lower scores on the intention to quit measure are indicative of favourable evaluations towards the organisation. Given that comparable means for other banking organisations are not readily available, it must be noted that meaningful/conclusive interpretations of the means presented in Table 5.2 are rather difficult.

Table 5.2

*Means, Standard Deviations, Skewness and Kurtosis for all Variables of the Study*

| Questionnaire items | Mean | SD | Skewness | Kurtosis |
|---|---|---|---|---|
| **Participative Decision Making** | | | | |
| I have sufficient authority to fulfil my job responsibilities. | 5.45 | 1.203 | -1.324 | 1.431 |
| I have enough input in deciding how to accomplish my work. | 5.59 | 1.157 | -1.576 | 2.629 |
| I am encouraged to participate in decisions that affect me. | 5.39 | 1.394 | -1.322 | 1.329 |
| I have enough freedom over how I do my job. | 5.48 | 1.308 | -1.258 | 1.282 |
| I have enough authority to make decisions necessary to provide quality customer service. | 5.37 | 1.385 | -1.180 | 0.802 |
| For the most part, I am encouraged to participate in and make decisions that affect my day-to-day activities. | 5.48 | 1.297 | -1.420 | 1.951 |
| All in all, I am given enough authority to act and make decisions about my work. | 5.41 | 1.296 | -1.309 | 1.360 |
| **Training and Development** | | | | |
| Training is regarded as a way to improve performance. | 5.56 | 1.274 | -1.524 | 2.287 |
| I have the opportunity to expand the scope of my job. | 4.95 | 1.536 | -0.866 | 0.001 |
| I have been well trained by this organisation for my job. | 4.91 | 1.525 | -0.882 | 0.122 |
| I have the opportunity to improve my skills in this organization. | 5.30 | 1.390 | -1.257 | 1.308 |
| This organisation has not trained me well for future jobs (R). | 4.39 | 1.666 | -0.215 | -1.025 |
| **Communication / Information Sharing** | | | | |
| Organisation policies and procedures are clearly communicated to employees. | 5.22 | 1.366 | -1.255 | 1.277 |
| Management gives sufficient notice to employees prior to making changes in policies and procedures. | 4.78 | 1.510 | -0.888 | 0.044 |
| Most of the time I receive sufficient notice of changes that affect my work group. | 4.93 | 1.441 | -0.925 | 0.080 |
| Management takes time to explain to employees the reasoning behind critical decisions that are made. | 4.66 | 1.554 | -0.793 | -0.302 |
| Management is adequately informed of the important issues in my department. | 5.10 | 1.325 | -1.237 | 1.158 |
| Management makes a sufficient effort to get the opinions and feelings of people who work here. | 4.73 | 1.597 | -0.871 | -0.139 |
| Management tends to stay informed of employee needs. | 4.71 | 1.524 | -0.780 | -0.169 |
| The channels of employee communication with top management are effective. | 4.47 | 1.625 | -0.553 | -0.628 |
| Top management communicates a clear organisational mission and how each division contributes to achieving that mission. | 5.00 | 1.491 | -0.953 | 0.181 |
| Employees of this organisation work toward common organisational goals. | 5.02 | 1.407 | -1.043 | 0.762 |
| **Rewards** | | | | |
| My performance evaluations within the past few years have been helpful to me in my professional development. | 4.54 | 1.619 | -0.598 | -0.606 |
| There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise. | 4.85 | 1.755 | -0.776 | -0.524 |

Table 5.2 (continued)

| | | | | |
|---|---|---|---|---|
| There is a strong link between how well I perform my job and the likelihood of my receiving a raise in pay/salary. | 4.78 | 1.794 | -0.706 | -0.672 |
| There is a strong link between how well I perform my job and the likelihood of my receiving high performance appraisal ratings | 4.92 | 1.716 | -0.839 | -0.372 |
| Generally, I feel this organisation rewards employees who make an extra effort | 4.71 | 1.694 | -0.720 | -0.506 |
| I am satisfied with the amount of recognition I receive when I do a good job | 4.45 | 1.748 | -0.548 | -0.917 |
| If I perform my job well, I am likely to be promoted | 3.86 | 1.731 | -0.021 | -1.024 |
| **Team working** | | | | |
| This organisation encourages people to work in teams | 5.40 | 1.158 | -1.343 | 2.120 |
| Working in teams is considered very important in this organization | 5.49 | 1.132 | -1.268 | 2.137 |
| There is a commitment to training people to work in teams in this organization | 4.78 | 1.440 | -0.639 | -0.177 |
| Management organise work so that most people work in teams | 4.90 | 1.333 | -0.674 | 0.115 |
| People here work individually rather than as members of teams (R) | 4.07 | 1.580 | -0.090 | -1.021 |
| Teamwork exists in name only here (R) | 4.74 | 1.599 | -0.544 | -0.695 |
| **Selective Staffing or Hiring** | | | | |
| This organisation often hires people who do not have the necessary skills to work here (R) | 4.10 | 1.567 | -0.148 | -0.839 |
| In my work unit, I believe we hire people who can do the job | 5.11 | 1.234 | -1.036 | 0.699 |
| New staff members often lack the competence to do their job well (R) | 3.99 | 1.490 | 0.036 | -0.957 |
| This organisation does a good job of hiring competent people | 4.74 | 1.292 | -0.778 | 0.127 |
| This organisation strongly believes in the importance of hiring the right people for the job | 5.17 | 1.320 | -1.076 | 1.019 |
| **Job Security** | | | | |
| I am worried about having to leave my job before I would like to (R) | 4.41 | 1.866 | -0.307 | -1.185 |
| There is a risk that I will have to leave my present job in the year to come (R) | 4.59 | 1.875 | -0.468 | -1.035 |
| I feel uneasy about losing my job in the near future (R) | 4.60 | 1.902 | -0.464 | -1.056 |
| **Affective Commitment** | | | | |
| I would be very happy to spend the rest of my career with this organization | 5.07 | 1.626 | -0.992 | 0.137 |
| I really feel as if this organisation's problems are my own | 4.10 | 1.626 | -0.227 | -0.939 |
| I feel a strong sense of "belonging" to my organization | 4.98 | 1.532 | -0.922 | 0.180 |
| I feel "emotionally attached" to this organization | 4.58 | 1.612 | -0.569 | -0.504 |
| I feel like "part of the family" at my organization | 4.59 | 1.559 | -0.621 | -0.424 |
| This organisation has a great deal of meaning for me | 4.78 | 1.532 | -0.653 | -0.253 |
| **Intention to Quit** | | | | |
| It is likely that I will leave my employment with this organisation within a year | 2.78 | 1.606 | 0.837 | -0.102 |
| I intend to keep working at this organisation for at least the next 3 years (R) | 2.65 | 1.524 | 1.067 | 0.662 |
| I frequently think about quitting my job | 2.90 | 1.754 | 0.716 | -0.587 |
| **Altruism** | | | | |
| I help others who have been absent | 5.82 | 0.875 | -1.207 | 2.573 |
| I help others who have heavy work loads | 5.85 | 0.906 | -1.640 | 4.553 |
| I help orient new people even though it is not required | 5.72 | 0.970 | -1.032 | 1.602 |
| I willingly help others who have work related problems | 5.99 | 0.754 | -1.304 | 5.451 |
| I am always ready to lend a helping hand to those around me | 6.11 | 0.675 | -0.538 | 0.894 |
| **Conscientiousness** | | | | |
| My attendance at work is above the norm | 5.83 | 1.166 | -1.221 | 1.540 |
| I do not take extra breaks | 5.84 | 1.193 | -1.406 | 1.890 |

Table 5.2 (continued)

| | | | | |
|---|---|---|---|---|
| I obey organisation rules and regulations even when no one is watching | 6.01 | 0.969 | -1.605 | 3.966 |
| I am one of the most conscientious employees in the organization | 5.31 | 1.293 | -0.568 | -0.218 |
| I believe in giving an honest day's work for an honest day's pay | 6.30 | 0.783 | -1.744 | 6.296 |
| **Civic Virtue** | | | | |
| I attend meetings that are not mandatory, but are considered important | 5.40 | 1.256 | -1.365 | 1.692 |
| I attend functions that are not required, but help the organisation image | 4.94 | 1.496 | -0.734 | -.219 |
| I keep abreast of changes in the organization | 5.57 | 0.935 | -0.938 | 1.877 |
| I read and keep up with the organisation announcements, memos, and so on | 5.73 | 0.882 | -1.235 | 3.173 |
| **Sportsmanship** | | | | |
| I consume a lot of time complaining about trivial matters (R) | 5.87 | 1.129 | -1.466 | 2.586 |
| I always focus on what's wrong, rather than the positive side (R) | 5.59 | 1.296 | -1.175 | 1.120 |
| I tend to make "mountains out of molehills" (R) | 5.93 | 1.078 | -1.472 | 2.866 |
| I always find fault with what the organisation is doing (R) | 5.70 | 1.177 | -1.164 | 1.244 |
| I am the classic "squeaky wheel" that always needs greasing (R) | 5.98 | 1.050 | -1.438 | 2.600 |
| **Courtesy** | | | | |
| I take steps to try to prevent problems with other workers | 5.33 | 1.231 | -1.213 | 1.751 |
| I am mindful of how my behaviour affects other people's jobs | 5.80 | 0.990 | -1.618 | 4.458 |
| I do not abuse the rights of others | 6.18 | 0.949 | -2.658 | 10.952 |
| I try to avoid creating problems for co-workers | 6.09 | 0.928 | -2.570 | 10.446 |
| I consider the impact of my actions on co-workers | 6.04 | 0.945 | -2.410 | 9.742 |
| **Procedural Justice** | | | | |
| Job decisions are made by my organisation in an unbiased manner | 4.46 | 1.502 | -0.547 | -0.591 |
| My organisation makes sure that all employee concerns are heard before job decisions are made | 4.02 | 1.583 | -0.261 | -0.914 |
| To make job decisions, my organisation collects accurate and complete information | 4.35 | 1.482 | -0.541 | -0.370 |
| My organisation clarifies decisions and provides additional information when requested by employees | 4.66 | 1.449 | -0.841 | 0.167 |
| All job decisions are applied consistently across all employees | 4.14 | 1.612 | -0.318 | -0.813 |
| Employees are allowed to challenge or appeal decisions made by the organization | 4.09 | 1.580 | -0.247 | -0.792 |
| **Interactional Justice** | | | | |
| When decisions are made about my job, the organisation treats me with kindness and consideration | 4.57 | 1.483 | -0.636 | -0.314 |
| When decisions are made about my job, the organisation treats me with respect and dignity | 4.70 | 1.476 | -0.739 | -0.146 |
| When decisions are made about my job, the organisation is sensitive to my personal needs | 4.54 | 1.521 | -0.610 | -0.392 |
| When decisions are made about my job, the organisation deals with me in a truthful manner | 4.69 | 1.463 | -0.752 | -0.073 |
| When decisions are made about my job, the organisation shows concern for my rights as an employee | 4.71 | 1.467 | -0.733 | -0.210 |
| Concerning decisions made about my job, the organisation discusses the implications of the decisions with me | 4.58 | 1.465 | -0.700 | -0.201 |
| The organisation offers adequate justification for decisions made about my job | 4.45 | 1.513 | -0.557 | -0.551 |

## Table 5.2 (continued)

| | | | | |
|---|---|---|---|---|
| When decisions are made about my job, the organisation offers explanations that make sense to me | 4.52 | 1.490 | -0.627 | -0.336 |
| My organisation explains very clearly any decision made about my job | 4.51 | 1.477 | -0.558 | -0.466 |
| **Psychological Contract Fulfilment** | | | | |
| Almost all the promises made by my employer during recruitment have been kept so far | 4.81 | 1.433 | -0.865 | 0.271 |
| I feel that my employer has come through in fulfilling the promises made to me when I was hired | 4.91 | 1.425 | -0.917 | 0.386 |
| So far my employer has done an excellent job of fulfilling its promises to me | 4.76 | 1.473 | -0.777 | 0.051 |
| I have not received everything promised to me in exchange for my contributions (R) | 4.59 | 1.581 | -0.382 | -0.695 |
| My employer has broken many of its promises to me even though I've upheld my side of the deal (R) | 5.14 | 1.425 | -0.711 | -0.133 |
| **Fulfilment of Relational Psychological Contract** | | | | |
| Fulfilment of 'Long-term job security' | 5.01 | 1.590 | -0.515 | -0.439 |
| Fulfilment of 'Training' | 4.77 | 1.547 | -0.397 | -0.514 |
| Fulfilment of 'Career development' | 4.47 | 1.603 | -0.320 | -0.653 |
| Fulfilment of 'Involvement in decision making' | 4.37 | 1.530 | -0.319 | -0.565 |
| Fulfilment of 'Freedom to do job well' | 5.14 | 1.332 | -0.683 | 0.147 |
| Fulfilment of 'Information on important developments' | 4.86 | 1.400 | -0.528 | -0.204 |
| Fulfilment of 'Rapid advancement' | 3.87 | 1.539 | -0.057 | -0.580 |
| Fulfilment of 'Team working' | 4.79 | 1.411 | -0.456 | -0.172 |
| Fulfilment of 'Hiring competent people' | 4.53 | 1.454 | -0.399 | -0.256 |
| **Fulfilment of Transactional Psychological Contract** | | | | |
| Fulfilment of 'Pay increases to maintain standard of living' | 4.68 | 1.588 | -0.599 | -0.267 |
| Fulfilment of 'Reasonable pay in comparison to employees doing similar work in other organisations' | 4.59 | 1.643 | -0.512 | -0.478 |
| Fulfilment of 'Pay based on current level of performance' | 4.60 | 1.626 | -0.593 | -0.410 |
| Fulfilment of 'Fringe benefits that are comparable to what employees doing similar work in other organizations get' | 4.49 | 1.590 | -0.387 | -0.554 |

Note: N=488. Valid percent = 100. SD = Standard Deviation. (R) = reverse scored. Scale items are based on a 7-point Likert Scale.

## 5.5 Principal Components Analysis and Reliability Results

While the dimensionality of the constructs investigated in the present study has been explored in previous research and is based on prior empirical work, the dimensionality of the same constructs applied to this research was unknown. Exploratory factor analysis (EFA) was conducted to determine, in a concise and interpretable form, the underlying influences on the set of observed variables (Hair *et al.*, 1995). Information about the nature of investigated variables was quantified by examining the extent to which each variable was associated with an underlying dimension or factor (Tabachnick and Fidell, 2001). The factors thus described the data through a reduced number of concepts that replaced the original set of variables and were used for further statistical analysis (Hair *et al.*, 1995) such as CFA and SEM. Expectations of dimensionality are shown in Table 5.3.

Table 5.3

*Expectations of Dimensionality*

| Constructs | Expected dimensionality |
| --- | --- |
| Commitment HRM practices | Expected to result in 7 factors: PDM, training and development, communication, reward, selective staffing, team working, and job security. Items used in this scale were adapted from Vandenberg *et al.* (1999), Knight-Turvey & Neal (2003), Lawthom *et al.* (1992), and Gaertner & Nollen (1989). |
| Perceived psychological contract fulfilment | Measured using a unidimensional global measure by Robinson and Morrison (2000) and a multidimensional content measure (e.g., Robinson *et al.* 1994) |
| Affective commitment | Measure was found to be unidimensional by Meyer *et al.* (1993) |
| OCB | Expected to be multidimensional and to result in 5 dimensions as in previous research (Podsakoff *et al.*, 1990). |
| Intention to quit | Measure expected to be unidimensional (e.g., Tekleab and Taylor, 2003) |
| Organisational justice: Procedural and interactional justice | Measure expected to be multidimensional (see Niehoff and Moorman, 1993; Kickul *et al.*, 2002) |

As noted in Chapter 4, the structured components of each dimension can be validated by means of EFA, which further determine the effective factors used for the assessment of the best-fitting model. EFA employed in the present program of research began by examining the measurement of each of four multi-dimensional constructs separately: (1) high commitment management practices; (2) organisational citizenship behaviours; (3) organisational justice, specifically, procedural and interactional justice; and (4) the content measure of perceived psychological contract fulfilment. EFA was also conducted on items of unidimensional constructs of the study variables such as the overall global unidimensional measure of psychological contract fulfilment, affective commitment and intention to quit. Variable factors for each dimension that performed poorly and were uninterpretable were deleted from the scale in the sample by utilising principal components analysis (PCA) extraction methods with normalised orthogonal Varimax rotation. PCA is a:

> ...statistical technique applied to a single set of variables where the researcher is interested in discovering which variables in the set form coherent subsets that are relatively independent of one another. Variables that are correlated with one another but largely independent of other subsets of variables are combined into factors. (Tabachnick and Fidell, 1989, p. 597)

PCA is a type of factor analysis, which among other things, aims at providing a means for reducing the number of variables in the study without great loss of information and serves to identify the important qualitative distinctions in the data (Horton, 1979). If the sample is large, and there are lots of variables and high communalities, e.g. greater than 0.40 (as is the case in the present program of research), there is often little difference in the solution obtained regardless of the type of factor analysis extraction method used (examples of other factor analysis extraction techniques include the maximum likelihood method and principal axis factoring). Empirical studies by Browne (1968), Tucker, Koopman and Linn (1969), and Harris and Harris (1971) comparing several types of factor analysis have demonstrated that any technique will lead to the same interpretations. They argued that when communalities are high, there are virtually no differences among the procedures.

The rotation method employed for the present program of research is the Varimax rotation. Tabachnick and Fidell (1989) point out that orthogonal Varimax rotation is

the most commonly used rotational technique and aims at minimising complexity of factors by maximising variance of loadings on each factor, thereby, improving the interpretability of the factor. Any researcher embarking on the use of factor analysis is confronted with several choices of rotation methods. These include the direct oblimin, quartimax, promax, and equamax rotation methods (Pallant, 2001). Fortunately, there is evidence that the basic solutions provided by most rotational programs result in the same factors (Horn, 1963; Gorsuch, 1970; Dielman, Cattell and Wagner, 1972). Thus, the rotation employed should have relatively little impact on the interpretation of results. Furthermore, it is important to note that the most common rotation procedure, Varimax, has been shown to be among the best orthogonal rotation procedures (Dielman, Cattell and Wagner, 1972; Gorsuch, 1974).

The appropriateness of factor analysis was assessed by examining the correlation matrix, KMO measure of sampling adequacy and Bartlett's test of sphericity. The criteria for the number of factors to be extracted were based on eigenvalue, Cattell's scree plot, percentage of variance, significance of factor loading and assessment of structure (see Chapter 4 for a detailed overview). Once a satisfactory solution was derived for each scale, the composite of items for each factor was checked for reliability using Cronbach's alpha coefficient. Next, analysis of the underlying structure and development of each of the scales are presented.

### 5.5.1 High Commitment HRM Practices

To evaluate the overall validity of this measure and to identify the underlying dimensions, all 43 items were entered in a factor analysis, using principal components analysis with orthogonal Varimax rotation. This led to the development of the following scales: Communication; participative decision making; rewards; selective staffing; team working; training; and job security. Cronbach alphas, factor names, retained items, factor loadings, communalities, eigenvalues, and variance and cumulative variance explained by the factor solution are presented in Table 5.5.

First, the appropriateness of factor analysis was assessed. This meant checking three conditions: 1) the correlation matrix; 2) Kaiser-Meyer-Olkin overall measure of sampling adequacy; and 3) Bartlett's test of sphericity. The guidelines for evaluating if the data was suitable for a factor analysis by examining these conditions were discussed in detail in Chapter 4.

Assessing the correlation matrix, it was found that all items had at least one correlation greater than 0.30 and the items also fit together conceptually as they are all measuring employees' perceptions of HRM practices. The KMO test revealed a 0.956 KMO measure of sampling adequacy (Table 5.4), which according to Kaiser (1974) is marvellous, and greater than the 0.60 guideline recommended by Tabachnick and Fidell (1996). Table 5.4 also showed that the Bartlett's test of sphericity had a significance value of p < 0.000. As indicated by Pallant (2001), if the Bartlett's test of sphericity value is significant, i.e., 0.05 or smaller (p ≤ 0.05), then factorability is assumed. Having confirmed these three conditions, and thus the appropriateness and the reliability of data for EFA on all items, the next step involved extracting the factors.

Table 5.4

*KMO and Bartlett's Test of Sphericity for High Commitment Management Practices Construct*

|  |  | All items |
| --- | --- | --- |
| KMO measure of sampling adequacy |  | 0.956 |
| Bartlett's test of sphericity | Approx. Chi-Square | 16351.848 |
|  | df | 820 |
|  | Sig. | 0.000 |

Factor analysis using Varimax method of rotation was conducted on the 43 items representing high commitment HRM practices and comprising section 1 of the questionnaire. While using the factor rotation, factor loadings below 0.3 were suppressed. Two items ('people work individually rather than members of teams', and 'teamwork exists in name only here') loaded on a single factor instead of loading on another factor with the remaining 4 items intended to measure teamwork. This could have been due to the fact that these items were reversed scored; reverse scored items might tend to cause inconsistencies in factor analysis when only a small subset of a scale's items are reverse-scored (Idaszak and Drasgow, 1987; Schmitt and Stults, 1985). Hence, since the interpretation of this two-variable factor might be ambiguous and has to be done with caution, these two items were assessed as poorly defined and were removed from the analysis, and factor rotation was conducted again on the remaining 41 items. This process produced a clear rotated component matrix of 7 factors. The criteria in deciding the number of factors to be extracted were based

on eigenvalues, scree plot, significance of factor loading, percentage of variance, and finally assessment of structure based on theory (i.e., factors were retained when they made sense and disregarded when they became uninterpretable).

Seven factors had eigenvalues that exceeded one. Further, Cattell's scree test supported a seven-factor solution as it showed a slope that turned to a horizontal line at the eighth factor (Figure 5.1). All 41 items had high loadings greater than 0.4 on the appropriate factors and were therefore considered of practical significance, accounting for 71.294% of the variance. This cumulative percentage of variance is greater than the 50% recommended by Joreskog and Sorbom (1993) as an indication of acceptable results for the exploratory factor analysis. Most variables loaded heavily on one factor, but did not load heavily on others (see Table 5.5). This reflected that there was minimal overlap among these factors and that all factors were independently structured. The communality of each variable was relatively high, ranging from 0.520 to 0.869 (the communality of a variable is the portion of the variance of that variable that is accounted for by common factors). This indicated that the variance of the original values was captured fairly well by the seven factors. Finally, assessment of structure based on theory showed that all extracted factors made sense. The seven-factors structure resulted in a workable and meaningful number of composite dimensions, which could be more easily interpreted and used for structural equation modelling analyses.

Figure 5.1

*Scree Plot of Initial Factor Solution for High Commitment Management Practices Construct*
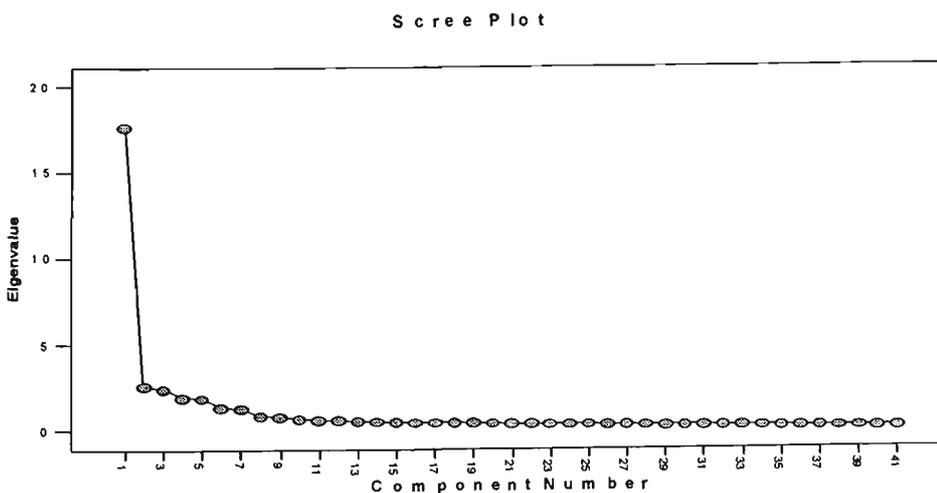
The seven-dimension solution, confirmed the factors identified and named by others (see Chapter 4, Section 4.5.2.1) resulted in the following factor labels:

1. Communication / Information sharing
2. Participative decision making
3. Rewards
4. Selective hiring
5. Team working
6. Training and development
7. Job security

A composite reliability (Cronbach's α) of the 'high commitment HRM practices' construct was calculated to measure the internal consistency of the seven factor indicators. Cronbach's α coefficient is a measure of reliability used most frequently in the study of social sciences, and is a reliability test that measures the total of a set of synonymous or parallel measurements (Anderson and Gerbing, 1988). Table 5.5 presents the statistical results of the high commitment HRM practice factors detailing their respective statistical significance such as: total scale reliability; the eigenvalues; variances; cumulative variances; and Cronbach α. The items of these factors were considered reliable and internally consistent as the α coefficient for all the seven factors were relatively high with values ranging from 0.823 to 0.948. These values are considered well above the minimum value of 0.5 suggested by Hair *et al.* (1995) and that of 0.70 suggested by Nunnally (1978) for accepting reliability and internal consistency of a factor.

The high commitment management perspective is not a specific practice standing alone (e.g., Connor, 1992). Instead, by drawing heavily on the works of Galbraith (1973), Lawler (1986, 1992, 1996), Lawler, Mohrman and Ledford (1995), Legge (1995), Pfeffer (1998) and Agarwala (2003), the focus of high commitment management is a number of mutually reinforcing practices in accordance with the current extracted seven-factor structure.

The seven HRM practice factors identified by Varimax rotation as reliable and consistent with an eigenvalue greater than one, where the number of extracted factors

is supported by the scree plot, with high loadings and explaining 71.294% of the variance are as follows.

The first factor, labelled 'Communication / Information Sharing', explained 43.106% of the variance. This factor refers to the importance of communicating information to employees regarding processes, quality, customer feedback, and event and business results. Example items include: 'Management tends to stay informed of employee needs'; and 'Most of the time I receive sufficient notice of changes that affect my work group'.

The second factor, labelled 'Participative Decision Making', accounted for 6.366% of the total variance. This referred to giving employees the power to act and make decisions about work in its many aspects. Example items include participating in and making decisions that affect day-to-day activities, and having enough authority to make decisions necessary to provide quality customer service.

The third factor, labelled 'Rewards', accounted for 5.963% of the total variance and is comprised of variables pertaining to rewards tied to business results and growth in capability and contribution. Example items include: 'There is a strong link between how well I perform my job and the likelihood of my receiving high performance appraisal ratings'; and 'I am satisfied with the amount of recognition I receive when I do a good job'.

The fourth factor, labelled 'Team working', explained 4.718% of the total variance and consists of items assessing the extent to which working in teams is encouraged and rewarded within the organisation. Example items include: 'Working in teams is considered very important in this organisation'; and 'Management organise work so that most people work in teams'.

The fifth factor, labelled 'Selective Staffing', accounted for 4.651% of the total variance and was based upon the premise that current employees would judge the quality of an organisation's selection process upon the suitability of newly hired staff members to complete assigned tasks. Sample items include: 'This organisation often hires people who do not have the necessary skills to work here' (reverse scored

item); and 'This organisation strongly believes in the importance of hiring the right people for the job'.

The sixth factor, labelled 'Training and Development', accounted for 3.347% of the total variance and consisted of items that assessed the extent to which employees felt they receive adequate training relating to the work, the business and the total work system, and development opportunities within the organisation. Example items include: 'I have the opportunity to expand the scope of my job'; and 'This organisation has not trained me well for future jobs' (reverse scored).

The seventh factor, labelled 'Job Security', explained 3.143% of the total variance and covered issues relating to employee perceptions of the organisation's adherence to the practice of employment security. This factor highlighted the extent to which employees experience employment security and believe their employer seeks to provide it. Sample items include: 'There is a risk that I will have to leave my present job in the year to come' (reverse scored); and 'I feel uneasy about losing my job in the near future' (reverse scored).

# Table 5.5

*Factor Analysis Results with Varimax Rotation of High Commitment HRM Practices*

| | Factor Loadings | | | | | | | |
| | F1 | F2 | F3 | F4 | F5 | F6 | F7 | Comm. |
|---|---|---|---|---|---|---|---|---|
| **Factor 1: Communication / Information Sharing** | | | | | | | | |
| Management gives sufficient notice to employees prior to making changes in policies and procedures | 0.791 | | | | | | | 0.738 |
| Most of the time I receive sufficient notice of changes that affect my work group | 0.766 | | | | | | | 0.721 |
| Management takes time to explain to employees the reasoning behind critical decisions that are made | 0.755 | | | | | | | 0.694 |
| The channels of employee communication with top management are effective | 0.735 | | | | | | | 0.776 |
| Management tends to stay informed of employee needs | 0.704 | | | | | | | 0.755 |
| Management is adequately informed of the important issues in my department | 0.695 | | | | | | | 0.644 |
| Organisation policies and procedures are clearly communicated to employees | 0.688 | | | | | | | 0.639 |
| Management makes a sufficient effort to get the opinions and feelings of people who work here | 0.678 | | | | | | | 0.732 |
| Top management communicates a clear organisational mission and how each division contributes to achieving that mission | 0.666 | | | | | | | 0.658 |
| Employees of this organisation work toward common organisational goals | 0.600 | | | | | | | 0.620 |
| **Factor 2: Participative Decision Making** | | | | | | | | |
| All in all, I am given enough authority to act and make decisions about my work | | 0.853 | | | | | | 0.869 |
| I have sufficient authority to fulfil my job responsibilities | | 0.821 | | | | | | 0.749 |
| I have enough freedom over how I do my job | | 0.778 | | | | | | 0.752 |
| I have enough authority to make decisions necessary to provide quality customer service | | 0.769 | | | | | | 0.731 |
| I have enough input in deciding how to accomplish my work | | 0.768 | | | | | | 0.750 |
| For the most part, I am encouraged to participate in and make decisions that affect my day-to-day activities | | 0.726 | | | | | | 0.756 |
| I am encouraged to participate in decisions that affect me | | 0.618 | | | | | | 0.684 |

| **Factor 3: Rewards** | | |
|---|---|---|
| There is a strong link between how well I perform my job and the likelihood of my receiving a raise in pay/salary | 0.868 | 0.828 |
| There is a strong link between how well I perform my job and the likelihood of my receiving high performance appraisal ratings | 0.847 | 0.841 |
| There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise | 0.822 | 0.839 |
| Generally, I feel this organisation rewards employees who make an extra effort | 0.781 | 0.791 |
| I am satisfied with the amount of recognition I receive when I do a good job | 0.707 | 0.751 |
| My performance evaluations within the past few years have been helpful to me in my professional development | 0.618 | 0.641 |
| If I perform my job well, I am likely to be promoted | 0.570 | 0.557 |
| **Factor 4: Team working** | | |
| Working in teams is considered very important in this organisation | 0.783 | 0.774 |
| This organisation encourages people to work in teams | 0.759 | 0.802 |
| Management organise work so that most people work in teams | 0.709 | 0.666 |
| There is a commitment to training people to work in teams in this organisation | 0.666 | 0.740 |
| **Factor 5: Selective Staffing** | | |
| This organisation often hires people who do not have the necessary skills to work here (R) | 0.790 | 0.683 |
| New staff members often lack the competence to do their job well (R) | 0.786 | 0.643 |
| This organisation does a good job of hiring competent people | 0.718 | 0.717 |
| In my work unit, I believe we hire people who can do the job | 0.590 | 0.549 |
| This organisation strongly believes in the importance of hiring the right people for the job | 0.563 | 0.548 |
| **Factor 6: Training and Development** | | |
| I have been well trained by this organisation for my job | 0.700 | 0.688 |
| This organisation has not trained me well for future jobs (R) | 0.665 | 0.520 |
| I have the opportunity to improve my skills in this organisation | 0.648 | 0.732 |
| I have the opportunity to expand the scope of my job | 0.604 | 0.702 |
| Training is regarded as a way to improve performance | 0.485 | 0.557 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Factor 7: Job Security** | | | | | | | | |
| I feel uneasy about losing my job in the near future (R) | | | | | | | 0.897 | 0.843 |
| I am worried about having to leave my job before I would like to (R) | | | | | | · | 0.886 | 0.832 |
| There is a risk that I will have to leave my present job in the year to come (R) | | | | | | | 0.794 | 0.717 |
| **Total Scale Reliability** | 0.963 | | | | | | | |
| **Eigenvalue** | 17.673 | 2.610 | 2.445 | 1.934 | 1.907 | 1.372 | 1.289 | |
| **% Variance Explained** | 43.106 | 6.366 | 5.963 | 4.718 | 4.651 | 3.347 | 3.143 | |
| **Cumulative Variance (%)** | 43.106 | 49.472 | 55.435 | 60.153 | 64.804 | 68.151 | 71.294 | |
| **Cronbach's α** | 0.948 | 0.941 | 0.937 | 0.879 | 0.823 | 0.836 | 0.872 | |
| **Number of Items (Total = 41)** | 10 | 7 | 7 | 4 | 5 | 5 | 3 | |

Note: (R) = reverse scored, only factor loadings > 0.40 are shown. Comm. = Communality.

## 5.5.2 Organisational Citizenship Behaviours

The twenty-four items in Section 3 of the questionnaire were designed to investigate employees' organisational citizenship behaviours. These items were measured on a seven-point scale ranging from 'Strongly disagree (1)' to 'Strongly agree (7)'. Principal components analysis with orthogonal Varimax rotation was used to identify the underlying dimensions. Table 5.7 shows the results of the factor analysis with: (1) factor names; (2) the retained items; (3) the factor loading; (4) the communalities; (5) eigenvalues; (6) the variance and the cumulative variance explained by the factor solution; and (7) Cronbach's α.

The correlation matrix demonstrated that many items had correlations greater than 0.30. The overall significance of the correlation matrix was 0.000, which indicated that the data matrix had sufficient correlation to the factor analysis. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was 0.870, which according to Hair et al. (1995) was meritorious (Table 5.6). This meant the data was appropriate for EFA using principal components analysis.

Table 5.6

*KMO and Bartlett's Test of Sphericity for Organisational Citizenship Behaviour Construct*

|  |  | All items |
|---|---|---|
| KMO measure of sampling adequacy |  | 0.870 |
| Bartlett's test of sphericity | Approx. Chi-Square | 5877.422 |
|  | df | 276 |
|  | Sig. | 0.000 |

From the orthogonal rotated factor matrix, five dimensions with all 24 items loading highly (loading >0.5) were defined. Table 5.7 highlights that the factor analysis produced a clean 5-factors' structure with relatively higher loadings on the appropriate factors, accounting for 62.924% of the variance. This five-factor solution was supported by Cattell's scree plot test (Figure 5.2). All variables loaded heavily on one factor, and did not load heavily on others. This reflected that there was minimal overlap among these factors and that all factors were independently structured. The higher loadings signalled the correlation of the variables with the factors on which they loaded. The communality of each variable was relatively high, ranging from 0.443 to 0.852. This indicated that the variance of the original values was captured fairly well by the five factors.

Cronbach's alpha was calculated to measure the internal consistency of each of the five factor indicators. The five dimensions were considered reliable and internally consistent, and had values ranging from 0.712 to 0.882. As noted by Hair *et al.* (1995), an alpha coefficient of 0.5 is considered the minimum value for accepting the reliability and internal consistency of a factor. Nunnally (1978) recommended that a better result of the intrinsic consistency is that $\alpha$ reliability coefficient is over 0.70. Table 5.7 demonstrates the analytical results for the reliability analysis on each dimension.

Figure 5.2

*Scree Plot of Factor Solution for Organisational Citizenship Behaviour Construct*
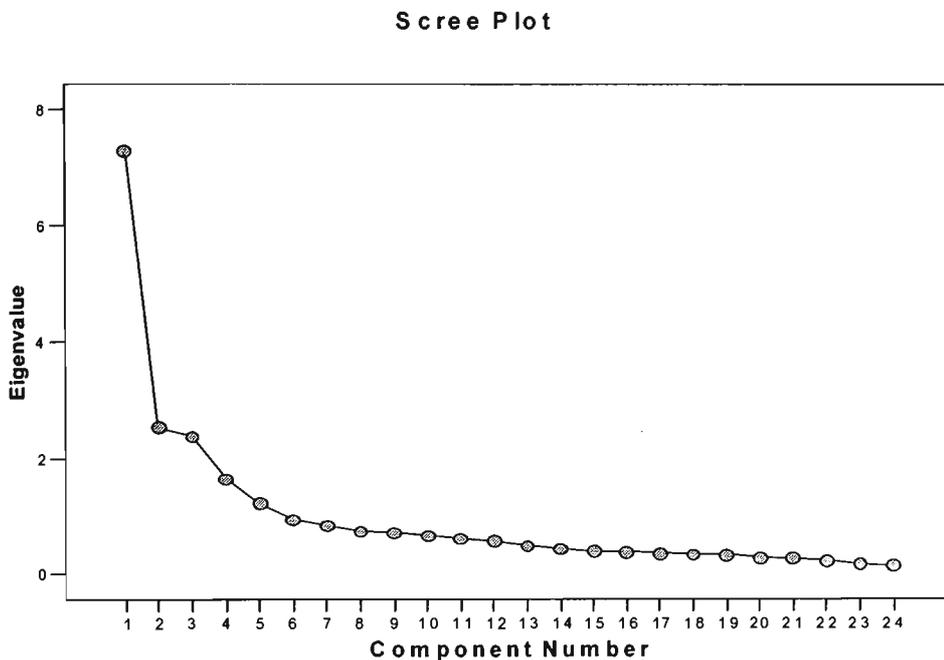


The five OCB factors identified by Varimax rotation as reliable and consistent with an eigenvalue greater than one, where the number of extracted factors is supported by the scree plot, with high loadings and explaining 62.924% of the variance are as follows.

The first factor, labelled 'Courtesy', included five items and accounted for 30.332% of the total variance. These items were originally intended to measure discretionary behaviours on the part of an individual aimed at preventing work-related problems with others. Organ (1988a, p. 12) notes that courtesy is 'helping someone prevent a problem from occurring, or taking steps in advance to mitigate the problem'.

The second factor, labelled 'Sportsmanship', accounted for 10.621% of the total variance. The factor analysis showed five items in this factor, which reflected willingness of the employee to tolerate less than ideal circumstances without complaining.

The third factor, labelled 'Altruism', explained 9.955% of the total variance and comprised of five items assessing discretionary behaviours that have the effect of

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helping a specific other person with an organisationally relevant task or problem. Organ (1988a, p. 12) notes that altruism is 'coming to the aid of someone who already has a problem'.

The fourth factor, labelled 'Conscientiousness', accounted for 6.901% of the total variance and consisted of five items. This factor is taken theoretically to describe discretionary behaviours on the part of the employee that go beyond the minimum role requirements of the organisation, in the areas of attendance, obeying rules and regulations, taking breaks, and so forth.

The fifth factor, labelled 'Civic Virtue', explained 5.116% of the total variance and consisted of four items designed to reflect behaviour on the part of an individual that indicates that he/she responsibly participates in, is involved in, or is concerned about the life of the company.

Table 5.7

*Factor Analysis Results with Varimax Rotation of OCB Scale*

| | Factor Loadings | | | | | |
|---|---|---|---|---|---|---|
| | F1 | F2 | F3 | F4 | F5 | Comm. |
| **Factor 1: Courtesy** | | | | | | |
| I consider the impact of my actions on co-workers | 0.897 | | | | | 0.852 |
| I try to avoid creating problems for co-workers | 0.892 | | | | | 0.814 |
| I do not abuse the rights of others | 0.865 | | | | | 0.789 |
| I am mindful of how my behaviour affects other people's jobs | 0.768 | | | | | 0.682 |
| I take steps to try to prevent problems with other workers | 0.590 | | | | | 0.443 |
| **Factor 2: Sportsmanship** | | | | | | |
| I tend to make 'mountains out of molehills' (R) | | 0.830 | | | | 0.752 |
| I consume a lot of time complaining about trivial matters (R) | | 0.822 | | | | 0.705 |
| I always find fault with what the organisation is doing (R) | | 0.788 | | | | 0.667 |
| I am the classic 'squeaky wheel' that always needs greasing (R) | | 0.769 | | | | 0.653 |
| I always focus on what's wrong, rather than the positive side (R) | | 0.742 | | | | 0.611 |
| **Factor 3: Altruism** | | | | | | |
| I help others who have heavy work loads | | | 0.794 | | | 0.686 |
| I help others who have been absent | | | 0.775 | | | 0.653 |
| I willingly help others who have work related problems | | | 0.735 | | | 0.635 |
| I am always ready to lend a helping hand to those around me | | | 0.696 | | | 0.587 |
| I help orient new people even though it is not required | | | 0.632 | | | 0.483 |
| **Factor 4: Conscientiousness** | | | | | | |
| I am one of the most conscientious employees in the organisation | | | | 0.731 | | 0.597 |
| I do not take extra breaks | | | | 0.698 | | 0.534 |
| My attendance at work is above the norm | | | | 0.697 | | 0.544 |
| I obey organisation rules and regulations even when no one is watching | | | | 0.650 | | 0.603 |
| I believe in giving an honest day's work for an honest day's pay | | | | 0.555 | | 0.516 |
| **Factor 5: Civic Virtue** | | | | | | |
| I believe in giving an honest day's work for an honest day's pay | | | | | 0.761 | 0.516 |
| I keep abreast of changes in the organisation | | | | | 0.746 | 0.654 |
| I attend meetings that are not mandatory, but are considered important | | | | | 0.736 | 0.571 |
| I read and keep up with the organisation announcements, memos, and so on | | | | | 0.554 | 0.465 |
| **Total Scale Reliability** | 0.889 | | | | | |
| **Eigenvalue** | 7.280 | 2.549 | 2.389 | 1.656 | 1.228 | |
| **% of Variance Explained** | 30.332 | 10.621 | 9.955 | 6.901 | 5.116 | |
| **Cumulative Variance (%)** | 30.332 | 40.953 | 50.908 | 57.808 | 62.924 | |
| **Cronbach's $\alpha$** | 0.882 | 0.875 | 0.828 | 0.778 | 0.712 | |
| **Number of Items (Total = 24)** | 5 | 5 | 5 | 5 | 4 | |

Note: N = 488, (R) = reverse scored, only factor loadings > 0.40 are shown. Comm. = Communality.

### 5.5.3 Procedural and Interactional Justice

The 15 items in Section 4 of the questionnaire were designed to explore two dimensions of organisational justice, more specifically, procedural and interactional justice. These items were measured on a seven-point scale ranging from 'Strongly disagree (1)' to 'Strongly agree (7)'. Principal components analysis with orthogonal Varimax rotation method was used to explore the expected dimensionality and investigate if two factors were indeed what were needed to represent the data adequately. Table 5.9 displays the results of the factor analysis with: (1) factor names; (2) the retained items; (3) the factor loading; (4) the communalities; (5) the eigenvalues; (6) the variance and the cumulative variance explained by the factor solution; and (7) Cronbach's α.

The correlation matrix showed that variables are inter-related as there were many correlations > 0.30. Bartlett's test of sphericity was significant, which meant there were some significant correlations to be analysed between the items. Also, KMO was in the 0.90s (.954), which is 'marvellous' (Table 5.8). Hence, factor analysis was considered appropriate.

Table 5.8

*KMO and Bartlett's Test of Sphericity for Organisational Justice: (Procedural and Interactional) Construct*

|  |  | All items |
|---|---|---|
| KMO measure of sampling adequacy | | .954 |
| Bartlett's test of  sphericity | Approx. Chi-Square | 8433.140 |
| | df | 105 |
| | Sig. | .000 |

From the orthogonal rotated factor matrix, two factors with 15 variables that loaded most heavily (all variables loaded > 0.70, much higher than the coefficient of > 0.40 considered acceptable for the present program of research) were defined. The two factors had eigenvalues greater than one. In addition, the scree plot shows a steep slope for the two large factors defined and a gradual tailing off appears to start at factor 3 (Figure 5.3). This suggests the first two factors could be kept or extracted. Table 5.8 highlights that the factor analysis produced a clean factor structure with relatively high loadings on the appropriate factors, accounting for 77.57% of the

variance. Further, the communality of each variable was relatively high, ranging from 0.575 to 0.841. This indicated that the variance of the original values was captured fairly well by the two factors.

Figure 5.3

*Scree Plot of Initial Factor Solution for Organisational Justice: Procedural and Interactional Construct*



Scree Plot
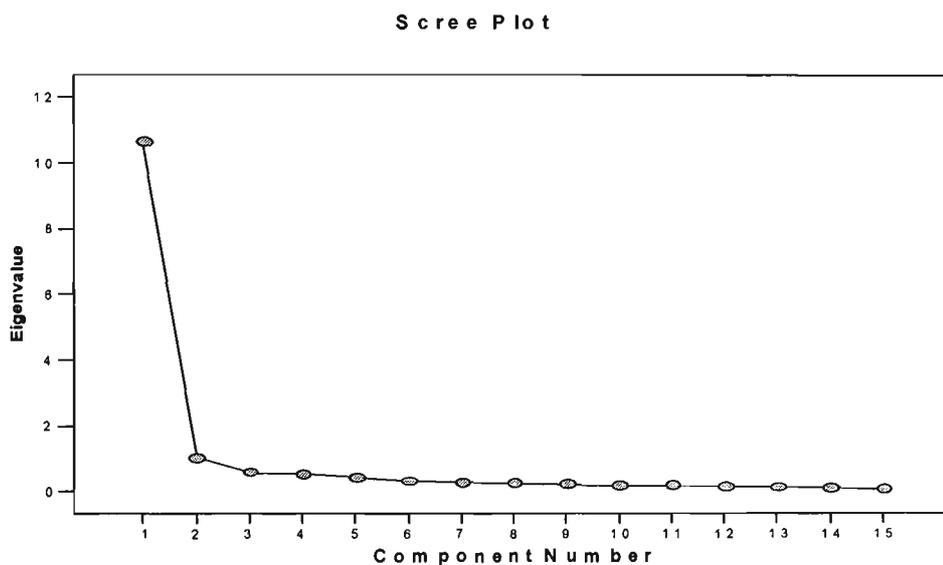
A composite reliability of this construct was calculated to measure the internal consistency of each of the two factor indicators. Table 5.9 presents Cronbach's $\alpha$ for the two factors with values greater than 0.90 for both factors. Thus, these factors are considered to be reliable and internally consistent.

The two factors identified by the Varimax rotation and alpha test as reliable and consistent with an eigenvalue greater than one and accounting for a high percentage of the variance are as follows.

The first factor, labelled 'Interactional justice', explained 70.785% of the variance and consisted of nine variables. This nine-item factor measured the degree to which employees felt their needs were considered, and adequate explanations were made for, job decisions. Sample items include: 'When decisions are made about my job, the organisation treats me with respect and dignity'; and 'When decisions are made about my job, the organisation is sensitive to my personal needs'.

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The second factor, labelled 'Procedural justice', explained 6.785% of the variance and consisted of six variables. This factor included items evaluating the degree to which job decisions included mechanisms that insured the gathering of accurate and unbiased information, employee voice and an appeals process. Example items include: 'All job decisions are applied consistently across all employees'; and 'My organisation clarifies decisions and provides additional information when requested by employees'.

Although sometimes procedural and interactional justice could be highly correlated (Sweeney and McFarlin, 1997; Kim, Moon, Han and Tikoo, 2004), they are widely used as separate dimensions. According to Bies and Moag (1986), interactional justice is a distinct and intermediate step between the enactment of organisational procedures and the resulting outcome. Rather than being associated with the structural characteristics of rules or procedures, interactional justice perceptions arise from beliefs about the sincerity, respectfulness and consistency of persons in authority (Bies and Moag, 1986). Interpersonal elements, rather than the structural attributes of the procedures themselves, distinguish interactional from procedural justice judgments (Schappe, 1995). Konovsky (2000) contends that it is important to distinguish and test the structural and interpersonal aspects of justice. From the exploratory factor analysis results presented in this chapter, support was found that procedural and interactional justices are distinct dimensions. This is consistent with the work of Bies and Moag (1986) and Schappe (1995). Kickul *et al.* (2001) conducted a confirmatory factor analysis for a two-factor (procedural and interactional) model of justice and also found support for a two-factor structure.

Table 5.9

*Factor Analysis Results with Varimax Rotation of Organisational Justice (Procedural and Interactional) Scale*

| | Factor Loadings | | |
|---|---|---|---|
| | F1 | F2 | Communality |
| **Factor 1: Interactional Justice** | | | |
| When decisions are made about my job, the organisation treats me with respect and dignity | 0.835 | | 0.834 |
| When decisions are made about my job, the organisation shows concern for my rights as an employee | 0.827 | | 0.840 |
| When decisions are made about my job, the organisation treats me with kindness and consideration | 0.825 | | 0.827 |
| The organisation offers adequate justification for decisions made about my job | 0.814 | | 0.841 |
| When decisions are made about my job, the organisation is sensitive to my personal needs | 0.808 | | 0.794 |
| When decisions are made about my job, the organisation deals with me in a truthful manner | 0.804 | | 0.804 |
| Concerning decisions made about my job, the organisation discusses the implications of the decisions with me | 0.788 | | 0.797 |
| When decisions are made about my job, the organisation offers explanations that make sense to me | 0.774 | | 0.807 |
| My organisation explains very clearly any decision made about my job | 0.758 | | 0.805 |
| **Factor 2: Procedural Justice** | | | |
| My organisation makes sure that all employee concerns are heard before job decisions are made | | 0.798 | 0.796 |
| All job decisions are applied consistently across all employees | | 0.785 | 0.759 |
| To make job decisions, my organisation collects accurate and complete information | | 0.767 | 0.782 |
| My organisation clarifies decisions and provides additional information when requested by employees | | 0.720 | 0.741 |
| Job decisions are made by my organisation in an unbiased manner | | 0.712 | 0.634 |
| Employees are allowed to challenge or appeal decisions made by the organisation | | 0.704 | 0.575 |
| **Total Scale Reliability** | 0.970 | | |
| **Eigenvalue** | 10.618 | 1.018 | |
| **% of Variance Explained** | 70.785 | 6.785 | |
| **Cumulative Variance (%)** | 70.785 | 77.570 | |
| **Cronbach's α** | 0.972 | 0.918 | |
| **Number of Items (Total = 15)** | 9 | 6 | |

Note: N = 488, only factor loadings > 0.40 are shown.

### 5.5.4 Perceived Psychological Contract Fulfilment

Perceived psychological contract fulfilment was measured in two ways: (1) using a content measure scale expected to be multidimensional; and (2) using an overall global scale expected to be unidimensional. Factor analysis of the content measure scale is presented first followed by that of the global scale.

*Content Scale of Psychological Contract Fulfilment*

The 13-item measure in Section 5 of the questionnaire was intended to tap into fulfilment of transactional and relational dimensions of psychological contracts. These items were designed to represent employees' perceived fulfilment of the psychological contract with respect to the high commitment HRM practices investigated in the present program of research: communication; training and development; job security; rewards; participation in decision making; team working; and selectivity in hiring (see Coyle-Shapiro and Kessler, 2000; Lester *et al.*, 2001; Maguire, 2002), and were factor analysed using orthogonal Varimax rotation produced by principal components analysis. These items were measured on a seven-point scale ranging from 'Not at all fulfilled (1)' to 'Very well fulfilled (7)'. Table 5.11 displays the results of the factor analysis with: (1) factor names; (2) the retained items; (3) the factor loading; (4) the communalities; (5) the eigenvalues; (6) the variance and the cumulative variance explained by the factor solution; and (7) Cronbach's α.

Factor analysis was deemed appropriate in view of the fact that the correlation matrix showed some correlations were greater than 0.30. Furthermore, the KMO result was marvellous (0.933) and Bartlett's test was significant (Table 5.10).

Table 5.10

*KMO and Bartlett's Test of Sphericity for Psychological Contract Fulfilment Construct using Content Measure*

|  |  | All items |
| --- | --- | --- |
| KMO measure of sampling adequacy |  | 0.933 |
| Bartlett's test of sphericity | Approx. Chi-Square | 4550.009 |
|  | df | 78 |
|  | Sig. | 0.000 |

From the orthogonal rotated factor matrix, two factors with 13 variables that loaded most heavily (loading >0.60) were defined. Table 5.11 highlights that the factor analysis produced a clean factor structure with relatively higher loadings on the appropriate factors, accounting for 66.741% of the variance. The two-factor solution was supported by Kaiser's criterion where both factors had eigenvalues greater than

one, and by Cattell's scree plot test (Figure 5.4 shows that the scree begins at factor three where the curve straightens out suggesting retention of 2 factors). Furthermore, the communality of each variable was relatively high, ranging from 0.426 to 0.866. This suggested that the variance of the original values was captured fairly well by the two factors.

Figure 5.4

*Scree Plot of Initial Factor Solution for Psychological Contract Fulfilment Construct using a Content Measure*
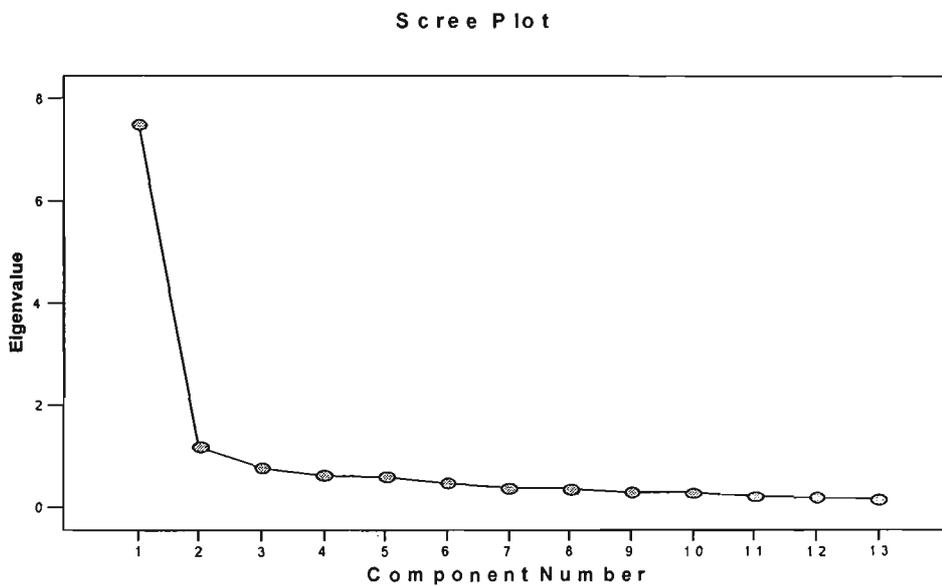


A composite reliability of this construct was calculated to measure the internal consistency of each of the two factor indicators. The items used to measure these factors were considered reliable and internally consistent as alpha had values of 0.911 and 0.930, considerably over the minimum value of 0.50 suggested by Hair *et al.* (1995) for accepting reliability and internal consistency of a factor. These two factors are as follows.

The first factor, labelled, 'Relational Contract', explained 57.642% of the total variance. This dimension entailed broad, long-term obligations, such as job security (Cavanaugh and Noe, 1999; Lester *et al.*, 2001), and items relating to training and development (Coyle-Shapiro and Kessler, 2000; Maguire, 2002). As part of the new employment relationship (Roehling *et al.*, 2000), employees are expected to exchange effort and commitment in return for the organization providing the

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employee appropriate training, education and skill/career development opportunities. The nine relational items were: 'career development'; 'freedom to do job well'; 'involvement in decision making'; 'training'; 'team working'; 'information on important developments'; 'long term job security'; 'hiring competent people'; and 'rapid advancement'.

The second factor, labelled, 'Transactional Contract', explained 9.099% of the total variance. This dimension entailed short-term economic exchanges, such as a willingness to provide a high level of customer service in return for merit pay (Robinson *et al.*, 1994) and good working conditions (McDonald and Makin, 2000), and the items were: 'reasonable pay in comparison to employees doing similar work in other organisations'; 'pay based on current level of performance'; fringe benefits that are comparable to what employees doing similar work in other organizations get'; and 'pay increases to maintain standard of living'.

These results were consistent with Rousseau's (1990) classification of psychological contracts. Rousseau has been particularly prominent in work on the psychological contract and has found some empirical support for the distinction between transactional and relational psychological contracts. Rousseau and McLean Parks (1993) and Robinson *et al.* (1994) have also described psychological contracts in two ways: relational contracts characterised by company specific skills, long term career development and extensive training, encompassing a higher level of affectivity that predisposes workers to adopt a much broader view of their relationship with their employer; and transactional contracts characterised by obligations that might be considered to be economic in nature, focusing on short-term financial relationships and involving low emotional commitment by employees.

Table 5.11

*Factor Analysis Results with Varimax Rotation of Content Scale of Psychological Contract Fulfilment*

| | Factor Loadings | | |
| --- | --- | --- | --- |
| | F1 | F2 | Communality |
| **Factor 1: Relational Contract** | | | |
| Career development | 0.764 | | 0.721 |
| Freedom to do job well | 0.754 | | 0.663 |
| Involvement in decision making | 0.743 | | 0.691 |
| Training | 0.720 | | 0.555 |
| Team working | 0.698 | | 0.623 |
| Information on important developments | 0.674 | | 0.602 |
| Long-term job security | 0.640 | | 0.426 |
| Hiring competent people | 0.637 | | 0.529 |
| Rapid advancement | 0.603 | | 0.585 |
| **Factor 2: Transactional Contract** | | | |
| Reasonable pay in comparison to employees doing similar work in other organizations | | 0.884 | 0.866 |
| Pay based on current level of performance | | 0.845 | 0.828 |
| Fringe benefits that are comparable to what employees doing similar work in other organizations get | | 0.833 | 0.784 |
| Pay increases to maintain standard to living | | 0.817 | 0.803 |
| **Total Scale Reliability** | 0.973 | | |
| **Eigenvalue** | 7.493 | 1.183 | |
| **% of Variance Explained** | 57.642 | 9.099 | |
| **Cumulative Variance (%)** | 57.642 | 66.642 | |
| **Cronbach's α** | 0.911 | 0.930 | |
| **Number of Items (Total = 13)** | 9 | 4 | |

Note: N = 488, only factor loadings > 0.40 are shown.

*Overall Global Scale of Psychological Contract Fulfilment (PCF)*

Five items in Section 5 of the questionnaire were designed to explore overall psychological contract fulfilment. PCF was measured on a seven-point scale ranging from 'Strongly disagree (1)' to 'Strongly agree (7)'. Principal components analysis with orthogonal Varimax rotation was used to identify the underlying dimensions. Table 5.13 shows the results of the factor analysis with: (1) factor names; (2) the retained items; (3) the factor loading; (4) the communalities; (5) the eigenvalues; (6) the variance explained by the factor solution; and (7) the Cronbach's α.

The overall significance of the correlations matrix was 0.000 with a Bartlett's test of sphericity value of 2081.467 (df = 10), which indicated that the data matrix had sufficient correlation to the factor analysis. The Kaiser-Meyer-Olkin overall measure of sampling adequacy was 0.854, which according to Hair *et al.* (1995) was meritorious (Table 5.12).

Table 5.12

*KMO and Bartlett's Test of Sphericity for Psychological Contract Fulfilment Construct using a Global Measure*

|  |  | All items |
|---|---|---|
| KMO measure of sampling adequacy |  | 0.854 |
| Bartlett's test of sphericity | Approx. Chi-Square | 2081.467 |
|  | df | 10 |
|  | Sig. | 0.000 |

The results presented in Table 5.13 supported the expected unidimensional measure with only one factor. This was also supported by the scree plot presented in Figure 5.5, and by examining eigenvalues (only one eigenvalue was greater than one). A composite reliability of this unidimensional construct was calculated to measure its internal consistency. The results showed this factor had an $\alpha$ of 0.911 far exceeding the recommended level of 0.50 (Hair *et al.*, 1995). This factor also explained 74.815% of the total variance.

Figure 5.5

*Scree Plot of Initial Factor Solution for Psychological Contract Fulfilment Construct using a Global Measure*
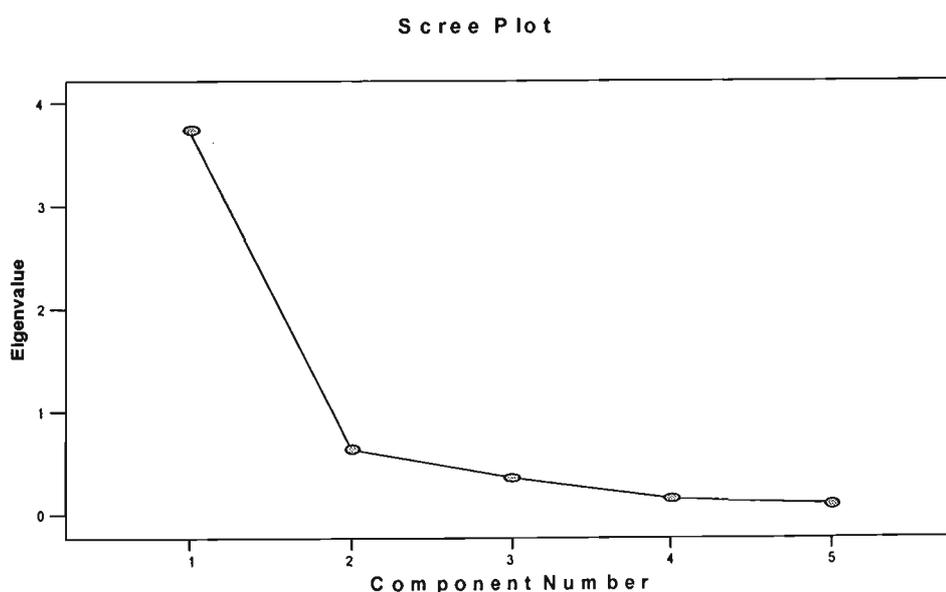
Table 5.13

*Factor Analysis Results with Varimax Rotation of Global Scale of Psychological Contract Fulfilment*

| | Factor Loadings | |
| --- | --- | --- |
| | F1 | Communality |
| **Factor 1: Psychological Contract Fulfilment** | | |
| I feel that my employer has come through in fulfilling the promises made to me when I was hired | 0.928 | 0.862 |
| So far my employer has done an excellent job of fulfilling its promises to me | 0.923 | 0.851 |
| Almost all the promises made by my employer during recruitment have been kept so far | 0.911 | 0.830 |
| My employer has broken many of its promises to me even though I've upheld my side of the deal (R) | 0.819 | 0.671 |
| I have not received everything promised to me in exchange for my contributions (R) | 0.726 | 0.527 |
| **Total Scale Reliability** | 0.911 | |
| **Eigenvalue** | 3.741 | |
| **% of Variance Explained** | 74.815 | |
| **Cumulative Variance (%)** | 74.815 | |
| **Cronbach's α** | 0.911 | |
| **Number of Items (Total = 5)** | 5 | |

Note: N = 488, (R) = reverse scored, only factor loadings > 0.40 are shown.

## 5.5.5 Affective Commitment

Six items in Section 2 of the questionnaire were intended by the researcher to explore affective commitment. Affective commitment was measured on a seven-point scale ranging from '(1) = Strongly disagree' to '(7) = Strongly agree'. Principal components analysis using orthogonal Varimax rotation identified a clean one-factor structure with all items loading quite highly on the corresponding factor (>0.70), and that factor, labelled 'Affective Commitment', explaining 73.511% of the total variance (see Table 5.14). Table 5.14 also reported a high Cronbach's α demonstrating a highly reliable unidimensional construct. There was only one eigenvalue greater than one and Cattell's scree plot also supported a one-factor solution (Figure 5.6).

Prior to extracting the factor, factorability was assumed with many correlations in the correlation matrix exceeding 0.30, a marvellous 0.917 KMO value, and a significant Bartlett's test of sphericity.

Figure 5.6

*Scree Plot of Initial Factor Solution for Affective Commitment*

**Scree Plot**
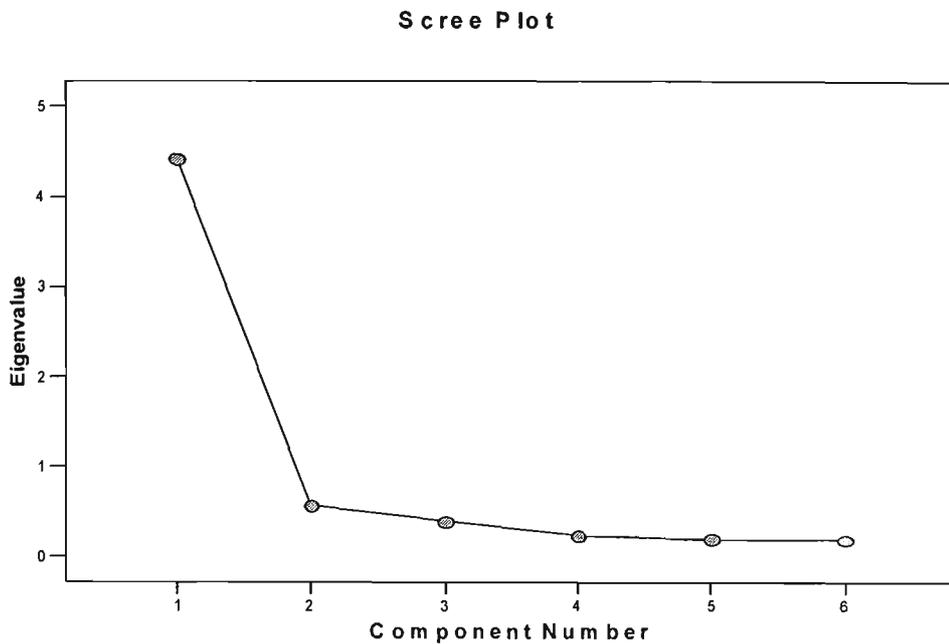


Table 5.14

*Factor Analysis Results with Varimax Rotation of Affective Commitment*

| | Factor Loadings | |
|---|---|---|
| | F1 | Communality |
| **Factor 1: Affective Commitment** | | |
| I feel a strong sense of 'belonging' to my organisation | 0.911 | 0.829 |
| I feel 'emotionally attached' to this organisation | 0.903 | 0.816 |
| This organisation has a great deal of meaning for me | 0.902 | 0.814 |
| I feel like 'part of the family' at my organisation | 0.880 | 0.775 |
| I would be very happy to spend the rest of my career with this organisation | 0.804 | 0.647 |
| I really feel as if this organisation's problems are my own | 0.728 | 0.530 |
| **Total Scale Reliability** | 0.926 | |
| **Eigenvalue** | 4.411 | |
| **% of Variance Explained** | 73.511 | |
| **Cumulative Variance (%)** | 73.511 | |
| **Cronbach's α** | 0.926 | |
| **Number of Items (Total = 6)** | 6 | |

Note: N = 488, only factor loadings > 0.40 are shown.

### 5.5.6 Intention to Quit

The last three questions of Section 2 of the questionnaire were factor analysed using principal components analysis. The correlation matrix, KMO and Bartlett's test of sphericity were checked to ensure factorability (see Table 5.15). The orthogonal Varimax rotation resulted in a clean one-factor solution explaining 72.403% of the

variance, with items loading quite highly, and a high alpha score of 0.806 ensuring the factor's internal reliability. One eigenvalue greater than one, and a scree plot (Figure 5.7) which illustrated a steep slope for the first factor and a gradual tailing off for the rest of the factors, verified and gave support to a one-factor solution, labelled, 'Intention to Quit'. These results along with the factor loadings are presented in Table 5.16.

Table 5.15

*KMO and Bartlett's Test of Sphericity for Intention to Quit Construct*

|  |  | All items |
|---|---|---|
| KMO measure of sampling adequacy |  | 0.708 |
| Bartlett's test of sphericity | Approx. Chi-Square | 486.793 |
|  | df | 3 |
|  | Sig. | 0.000 |

Figure 5.7

*Scree Plot of Initial Factor Solution for Intention to Quit*



Scree Plot
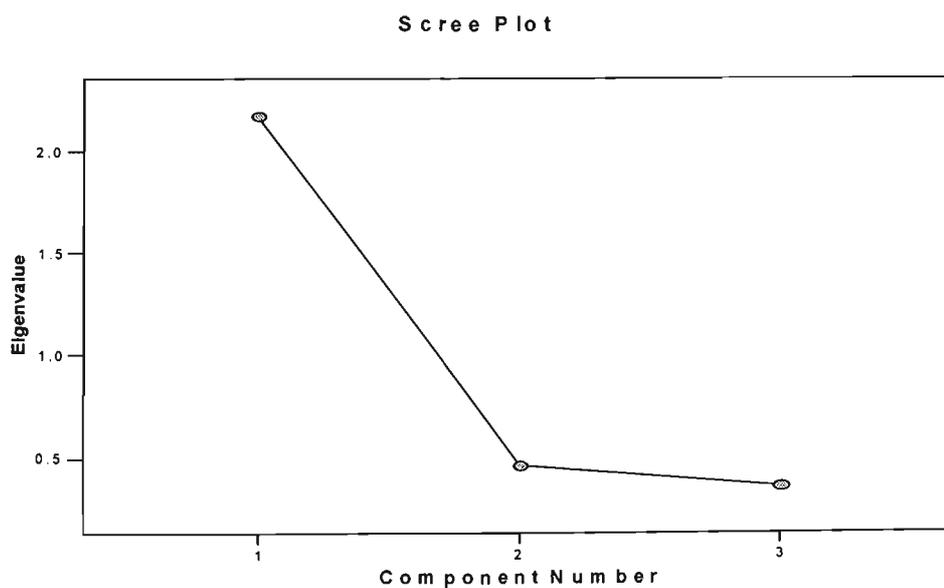
Table 5.16

*Factor Analysis Results with Varimax Rotation of Intention to Quit*

| | Factor Loadings | |
| | F1 | Comm. |
|---|---|---|
| **Factor 1: Intention to Quit** | | |
| It is likely that I will leave my employment with this organisation within a year | 0.871 | 0.759 |
| I intend to keep working at this organisation for at least the next 3 years (R) | 0.852 | 0.726 |
| I frequently think about quitting my job | 0.829 | 0.687 |
| **Total Scale Reliability** | 0.806 | |
| **Eigenvalue** | 2.172 | |
| **% of Variance Explained** | 72.403 | |
| **Cumulative Variance (%)** | 72.403 | |
| **Cronbach's α** | 0.806 | |
| **Number of Items (Total = 3)** | 3 | |

Note: N = 488, (R) = reverse scored, only factor loadings > 0.40 are shown.

## 5.6 Conclusion

Exploratory factor analysis using principal components analysis was used to identify a clear number of dimensions in the constructs. The factor analysis results indicated that high commitment HRM practices, OCB, perceived psychological contract fulfilment using a content measure, and organisational justice were indeed multidimensional, while perceived psychological contract fulfilment using a global measure, affective commitment, and intention to quit were unidimensional. These results were consistent with what was expected.

High commitment HRM practices were expected to be multidimensional. In this sample, seven dimensions were identified with the factors of communication, participative decision making, rewards, selective hiring, team working, training and development, and job security. OCB was expected to have 5 dimensions. A five-factor solution was confirmed in this sample; these dimensions were courtesy, sportsmanship, altruism, conscientiousness and civic virtue. Procedural and interactional justices were expected to load on two different factors. The distinction between these two factors was supported in this sample. As for psychological contract fulfilment, this construct was measured using two scales: a content multidimensional measure, and a global unidimensional measure. The anticipated dimensionality of these scales was also endorsed in this sample with the multidimensional measure resulting in two factors relating to relational contract fulfilment, and transactional contract fulfilment. As for affective commitment and intention to quit, these constructs were unidimensional in this sample as expected.

Table 5.17 summarises the number of items, dimensions and variance explained for each of the constructs under investigation.

Table 5.17

*Summary of Exploratory Factor Analysis Results*

| Scale | No. of items | No. of dimensions | Variance explained by dimensions (%) |
|---|---|---|---|
| High Commitment HRM Practices | 41 | 7 | 71.294 |
| Organisational Citizenship Behaviours | 24 | 5 | 62.924 |
| Psychological Contract Fulfilment using content measure | 13 | 2 | 66.642 |
| Psychological Contract Fulfilment using global measure | 5 | 1 | 74.815 |
| Organisational Justice (Procedural & Interactional) | 15 | 2 | 77.570 |
| Affective Commitment | 6 | 1 | 73.511 |
| Intention to Quit | 3 | 1 | 72.40 |

Table 5.17 indicated that the variance of the original values was captured quite well by all factors identified from the seven constructs. The factor structure resulted in a relatively more workable and meaningful number of composite dimensions, which could be more easily interpretable and used for structural equation modelling. The next chapter presents SEM analyses to both confirm the measurement model (confirmatory factor analysis is also conducted to test the veracity of the model with evidence to further support the reliability of the measures) and test the structural model.

# CHAPTER SIX
## DATA ANALYSIS AND RESULTS: STRUCTURAL EQUATION MODELING

## 6.1 Introduction

The purpose of this chapter is to empirically examine and test the hypotheses of relationships between high commitment management practices, perceived psychological contract fulfilment, affective commitment, OCB, intention to quit, and procedural and interactional justice described in Chapter 3 using structural equation modeling (SEM). SEM provides the ability to measure or specify the causal relationships among sets of unobserved (latent) variables, while describing the amount of un-explained variance. SEM is also designed to evaluate how well a proposed conceptual model containing observed indicators and hypothetical constructs explains or fits the collected data (Bollen, 1989).

SEM measurement and theory testing techniques are more appropriate than traditional statistical techniques (e.g., multiple regression) because they allow competing theoretical models to be evaluated. Moreover, the proposed model (see Figure 1 in Chapter 3) tests for moderated and mediated effects.

For investigating both moderated and mediated effects, SEM is often considered the preferred method of analysis because of the information it provides on the degree of fit for the entire model after controlling for measurement error (Peyrot, 1996). Control for measurement error is necessary because measurement problems remain one of the critical obstacles impeding social science research (Blalock, 1979). SEM is also favoured because it is more flexible than regression analysis. For example, multiple predictor variables, multiple outcome variables and multiple mediators can be included in the model, as well as other potential causes of the mediator and outcome, including longitudinal data (Hoyle and Smith, 1994; Quintana and Maxwell, 1999; MacKinnon, 2000). Furthermore, SEM can be used to examine scale validation and possibly modify scales for better psychometric properties, as well as re-specify the hypothesised model for better model fit (Chau, 1997). In this study, it is proposed that perceived psychological contract fulfilment (mediator) is a mechanism by which high commitment HRM practices influence employee attitudes

and behaviours. The model also proposes that procedural justice and interactional justice (moderators) have an impact on the relationship between perceived psychological contract fulfilment and affective commitment, OCB, and intention to quit.

According to Hair *et al.* (1995), SEM can be conducted using two approaches. The first is to process the analysis with simultaneous estimations of both structural and measurement models (called single-stage approach), and the second is to process the measurement model first, and then fix it in the second stage in which the structural model is estimated (called two-stage approach). However, the latter approach of two stages (recommended by Anderson and Gerbing, 1988) has been preferred as appropriate to the analysis of this study for three reasons. First, it is widely accepted and used in Management research (e.g., Meyer and Smith, 2000; Rhoades *et al.*, 2001; Kacmar *et al.*, 2006; Brown *et al.*, 2007). Second, the accurate representation of reliability of the indicators of each construct is best conducted in two stages to avoid any interaction between the measurement and structural models (Hair *et al.*, 1995). Third, analysing the causal relationships in the structural model requires performance of the measurement model first, due to the latter representing a condition that must be satisfied as a matter of logical necessity (Bagozzi, 1981; Anderson and Gerbing, 1982).

Thus, the first stage (measurement model) of the analysis used in this study was conducted by specifying causal relationships between the observed variables (indicators) and the underlying theoretical constructs (latent variables). The purpose of this step was to verify the unidimensionality of the latent variables and demonstrate their reliability and validity. In order to determine the underlying measurement model for this stage, a two-stage process recommended by Gerbing and Hamilton (1996) has been used. The initial strategy for this process is exploratory factor analysis (EFA). Subsequently, the model derived from EFA is evaluated using confirmatory factor analysis (CFA). Hence, following Gerbing and Hamilton's recommendation (prior to structural analysis in AMOS), EFAs using principal components analysis extractions with orthogonal Varimax rotation (described in Chapter 5) were conducted on the questionnaire items until a satisfactory model of the factorial structure was determined. In this chapter, the collected responses of the

items derived from the EFAs were employed in a series of CFA analyses using AMOS 5.0.

As already discussed, the measurement model of this thesis was tested using confirmatory factor analysis prior to testing the structural model, to ensure stability of the set of scales and to improve the fit with suggested respecification. The analysis followed Anderson and Gerbing's (1988) two-step modeling approach to establish the measurement model, and then proceeded to the structural equation model (James, Mulaik and Brett, 1982; McDonald and Ringo Ho, 2002). A crucial step of structural modeling is the assessment of the hypothesized measurement model; therefore, prior to analysis of the structural model, all its variables were examined for their relevance. This was done through conducting one-factor congeneric models for all latent constructs in addition to CFA of multidimensional constructs, in order to provide final item purification for this study.

The measurement model, which specifies and tests the relationships between the observed measures and their underlying constructs, provides a confirmatory assessment of construct validity (Bentler, 1978), whereas the structural model (second stage) tests the causal relationships among the latent constructs, as posited by the theory (Anderson and Gerbing, 1988). As already mentioned, accomplishing the model-building task through a two-stage approach has been considered to be superior to a single-stage approach (Anderson and Gerbing, 1988).

This chapter is organised into eleven major sections. The following section (6.2) briefly outlines the limits of causal modeling. Section 6.3 gives an overview of the criteria used to assess the goodness of fit of SEM models. One-factor congeneric models for each of the constructs are evaluated in Section 6.4. Subsequently, results of confirmatory factor analyses of the covariance matrices conducted using AMOS 5.0 are presented in sections 6.5, 6.6 and 6.7 to determine whether respondents distinguish between the latent high commitment management constructs, the OCB constructs and the relational and transactional constructs of psychological contract fulfilment. This is followed by an assessment of the construct, convergent and discriminant validity of the constructs investigated in the present program of research (Section 6.8). A higher-order or second-order OCB model was then evaluated

(Section 6.9). Section 6.10 provides an analysis of the full hypothesised structural model, which was designed to measure causal relationships among the unobserved constructs that were set up on the basis of prior empirical research and theory. This section also provides an estimation of the significance of the moderator effects, which were tested in AMOS using a multi-group analysis. Lastly, Section 6.11 summarises the chapter.

## 6.2 Limits of Structural Equation Modeling

Before embarking on a detailed discussion of the series of subsets that culminate in the final model of high commitment management and worker outcomes, it is important to briefly discuss the limits of structural equation modeling. Whilst SEM is often referred to as 'causal modeling' or 'causal analysis' (e.g., James *et al.*, 1982; Steiger, 1989; Peyrot, 1996; Williams *et al.*, 2003), it can in no way establish proof of causality. The general definition of causality as used in structural equation modeling states that if a change in one variable ($\gamma 1$) accompanies a change in another variable ($\chi 1$), then $\chi 1$ is a cause of $\gamma 1$, provided the latter is isolated from all other influences (see Bollen, 1989, pp. 61-65). However, pure isolation is impossible, and when variables are concurrently measured, it is not possible to demonstrate time precedence (Malhotra, 1996). Therefore, it cannot be stated with certainty that $\chi 1$ causes $\gamma 1$. Furthermore, while structural equation models check the model-data consistency by comparing relations predicted by a model and its assumptions to those that exist in the data, model-data consistency does not necessarily mean that the model is consistent with the process in the real world. As Bollen (1989, p. 68) puts it, 'if a model is consistent with reality, then the data should be consistent with the model. But, if the data is consistent with the model, this does not imply that the model corresponds to reality'. In other words, a causal model can never be completely validated, as a good model-data fit does not necessarily mean that the model is true, and the model can only be disconfirmed through statistical tests. Furthermore, causation can only be inferred by research design, not through the choice of statistical analysis.

## 6.3 Assessing Goodness of Fit

There is considerable literature on the assessment of goodness of fit of SEM models, providing a wide array of fit indices along with information about their behaviour

(e.g., Marsh, Balla and McDonald, 1988; Mulaik *et al.*, 1989; Browne and Cudeck, 1993). 'Structural equation modeling has no single statistical test that best describes the strength of the model's predictions' (Hair *et al.,* 1995, p. 489). While there are many indices provided by SEM, there is no agreement among scholars as to which fit indices should be reported. For example, Jacard and Wan (1996) recommended the use of at least three fit tests, while Kline (1998) recommended at least four. Anderson and Gerbing (1988) suggested that researchers could assess how well the specified model accounts for data with one or more overall goodness-of-fit indices. However, in order to provide the best overall picture of model fit, Bollen and Long (1993) and Hair *et al.* (1995) suggested that researchers should report measures which reflect the three categories of fit indices: absolute; incremental; and parsimonious (see Chapter 4, pp.134-135 for a discussion on these three categories).

As recommended by a number of researchers, multiple criteria were used in this study to assess the goodness of fit for models tested in confirmatory factor analysis and structural equation modeling (Bollen, 1989; Widaman and Reise, 1997; Byrne, 2001; Kline, 2005). These criteria include the following measures of model fit: chi-square ($\chi$2), normed chi-square (the ratio of the $\chi$2 to its degrees of freedom [df]), the standardised root mean-square residual (SRMR), the Tucker-Lewis Index (TLI), the comparative fit index (CFI) and the Root-Mean-Square Error of Approximation (RMSEA). These indices were chosen because they reflect the three categories of fit indices mentioned above (see Chapter 4, pp.134-135), and because computer simulation studies have shown them to out-perform other possible measures of fit (Marsh, Balla and McDonald, 1988; Widaman and Riese, 1997). Further, the CFI and TLI indexes are independent of the size of the sample and degrees of freedom (Marsh *et al.*, 1988).

The first index calculated was the chi-square ($\chi$2) test of model fit. Chi-square ($\chi$2) is an absolute fit index, which is considered by Joreskog (1969) as the most fundamental measure of overall fit, and only available in SEM (Bollen, 1989). The chi-square value represents the discrepancy between the unrestricted sample covariance matrix and the restricted covariance matrix (Joreskog and Sorbom, 1993). Ideally, a statistically non-significant chi-square (at least $p > 0.001$) value should be observed to infer good fit. As noted in several studies, inferring fit from just the chi-

square test is not recommended because a statistically significant chi-square value can be obtained even when all of the other indices indicate that the specified model provides an excellent fit to the data. This derives from the fact that the chi-square test is very sensitive to even minor deviations between the observed and reproduced data matrices, and is quite vulnerable to sample size (Marsh, Balla and McDonald, 1988) both small and large (Hair *et al.*, 1995). According to Cheng (2001, p. 653),

> ...the non-significant chi-square statistic is the least used as a goodness-of-fit index as it is the most difficult to achieve. This is because it accounts for all possible relationships between constructs and constructs, between constructs and indicators, and between indicators and indicators. Thus, the more the constructs and indicators in a model, the lower the *p*-value (i.e., the less non-significant) of the chi-square statistic, resulting in a poor model fit.

In addition, as Hu and Bentler (1995, p. 96) note, 'at larger sample sizes power is so high that even models with only trivial misspecifications are likely to be rejected'. Thus, 'findings of well-fitting hypothesised models, where the $\chi2$ value approximates the degrees of freedom, have proven to be unrealistic in most SEM empirical research' (Byrne, 2001, p. 81) and while chi-square values were reported in this study, multiple criteria were also used to assess the goodness of fit. Furthermore, as stated in Section 5.3.3 of Chapter 5, when the data violates assumptions of multivariate normality (e.g., Mardia's coefficient > 8) then the Bollen-Stine bootstrap *p* was reported. As noted above, the maximum likelihood $\chi2$ statistic is sensitive to sample size; as N increases so too does $\chi2$ and the bigger the $\chi2$, the more likely we are to reject the specified model. More formally, it can be said that:

*(N-1) * Fo* is distributed as a $\chi2$ distribution with $df = 1/2[(p+q)(p+q+1)] - t$ where:

$N$ = sample size;

*Fo* = the minimum value of the discrepancy function;

*p* = the number of endogenous indicators;

*q* = the number of exogenous indicators; and

*t* = the number of estimated coefficients in the proposed model.


The second fit index chosen was the Normed Chi-square test of model fit (NC ratio = $\chi2$/degrees of freedom) (Wheaton, Muthen, Alwin and Summers, 1977). This index falls within the parsimonious fit indices category which tests the parsimony of the

proposed model by evaluating the fit of the model to the number of estimated coefficient or degree of freedom required to achieve the level of fit (Hair *at al.*, 1995). In this category, the normed chi-square ($\chi 2/df$) is the most popular parsimonious fit index used to evaluate the appropriateness of a model (Hair *et al.*, 1995). Several writers have suggested the use of this ratio as a measure of fit. Models with a value close to one are accepted, however it is not clear how far from one a researcher should let the ratio get before concluding that a model is unsatisfactory. For example, Carmines and McIver (1981, p. 80) recommended ratios 'in the range of 2 to 1 or 3 to 1 are indicative of acceptable fit between the hypothetical model and the sample data'. Wheaton *et al.* (1977) suggested a ratio of approximately five or less as beginning to be reasonable. Other researchers recommended using ratios as low as 2 or as high as 5 to indicate a reasonable fit (Marsh and Hoceuar, 1985).

The third fit index, the standardised root mean-square residual (SRMR), used in this thesis is an absolute fit measure which is 'based on transforming both the sample covariance matrix and the predicted covariance matrix into correlation matrices. The SRMR is thus a measure of the mean absolute correlation residual, the overall difference between the observed and predicted correlations' (Kline, 2005, p. 141). Therefore, the SRMR value represents the average discrepancy between the sample observed and hypothesised correlation matrices. This value ranges from zero to 1, with values less than 0.10 indicative of a well-fitting model (Kline, 2005). According to Hu and Bentler (1995), this value can be interpreted as meaning that the model explains the correlations to within an average error of that value.

The fourth and fifth fit indices were the Tucker-Lewis Index (TLI) (Tucker and Lewis, 1973), and the Comparative Fit Index (CFI) (Bentler, 1990), which are referred to as incremental or comparative fit indices. The CFI is identical to the McDonald and Marsh (1990) relative noncentrality index (RNI) except that the CFI is truncated to fall in the range from 0 to 1. The TLI and CFI are not systematically related to sample size and both reflect systematic variation in model misspecifications. The difference between them is that the TLI appropriately penalises model complexity, and appropriately rewards model parsimony. Although the value of TLI may fluctuate outside of the range between 0 and 1.0 under some situations, typically values above 0.90 are indicative of well-fitting models. CFI

values greater than 0.90 are indicative of good fit (Bentler, 1992) and values close to 0.95 indicate superior fit (Hu and Bentler, 1999). Bollen (1989, p. 275) suggests that 'selecting a rigid cutoff for the incremental fit indices is like selecting a minimum $R^2$ for a regression equation. Any value will be controversial. Awareness of the factors affecting the values and good judgment are the best guides to evaluating their size'. The same advice applies equally well to other goodness of fit measures (Hair *et al.*, 1995).

The TLI measure combines a measure of parsimony into a comparative index between the proposed and null models, and is expressed as:

$$TLI = [(\chi2null / dfnull) – (\chi2proposed / dfproposed)] / (\chi2null / dfnull) – 1$$

where:

$\chi2null$ is the chi-square measure of the null model;

dfnull is the degrees of freedom of the null model;

$\chi2proposed$ is the chi-square measure of the proposed model being tested; and

dfproposed is the degrees of freedom of the proposed model being tested.

The CFI measure is computed as:

$$CFI = (1-max(chisq-df,0))/(max(chisq-df),(chisqn-dfn),0))$$

where chisq and chisqn are model chi-square for the given and null models, and df and dfn are the corresponding degrees of freedom.

The sixth fit index was the Root Mean Square Error of Approximation (RMSEA) (Steiger, 1989). The RMSEA is a measure of absolute fit index which addresses, 'how well would the model, with unknown, but optimally chosen parameter values fit the population covariance matrix if it were available?' (Browne and Cudeck, 1993, p. 137-138). This index includes parsimony as a criterion in the estimation of fit (i.e., it imposes a penalty for inclusion of additional paths). Steiger (1989), Browne and Mels (1990), and Browne and Cudeck (1993) offered guidelines for the interpretation of the value of RMSEA. By analysing many sets of empirical data and evaluating the behaviour of RMSEA in relation to previous conclusions about model fit, Steiger (1989) and Browne and Mels (1990) arrived independently at the recommendation that values of RMSEA less than 0.05 be considered as indicative of

close fit. Browne and Cudeck (1993) also suggested that values in the range of 0.05 to 0.08 indicate fair fit, as 'values up to 0.08 represent reasonable errors of approximation in the population' (Joreskog and Sorbom, 1996, p. 124). RMSEA attempts to correct the tendency of the $\chi 2$ statistic to reject any specified model. It takes into account the error of approximation in the population and relaxes the stringent requirement on $\chi 2$ that the model holds exactly in the population. Browne and Cudeck 91993) defined the RMSEA as follows:

$$RMSEA = \sqrt{Max[\hat{F} - (df / n),0]\} / df}$$

where:

Max refers to the maximum value of either of the two expressions in the parentheses;

$\hat{F}$ is the minimum value of fit function;

$n = \mathrm{N} - 1$ (where N is the sample size); and

$df$ = degrees of freedom.

As such, RMSEA is a measure of the discrepancy per degree of freedom so the smaller the better. It is one of the fit indexes less affected by sample size, though for very small sample sizes it overestimates goodness of fit.

The difference in the chi-square text ($\Delta\chi 2$), with degrees of freedom equal to the difference in degrees of freedom between the models, was used to evaluate alternative nested models (Kline, 2005). The chi-square difference test can be used to establish a general hierarchy of tests that is more informative than the test that compares a given model with a saturated model. The value of such nested model comparisons has been thoroughly discussed by Joreskog (1969, 1978). The rationale for chi-square difference tests is most clearly seen in the maximum likelihood method, in which a likelihood ratio test (Anderson, 1958) provides the basis for comparing competing models. Essentially, if the $\Delta\chi 2$ is statistically significant, then the less restrictive model provides better fit to the data (Kline, 2005).

As discussed earlier in this section, all the above-mentioned criteria were used in the present program of research to assess the fit of the models. The ranges of values of acceptable fit measures adopted in this study are consistent with the guidelines

recommended by many researchers (as cited above), and are presented in Chapter 4, Table 4.3.

## 6.4 Confirmation of Hypothesized Latent Constructs

Based on the responses received from employees of the participating banking organisation (N=488), one factor congeneric models using maximum likelihood CFAs were initially evaluated for the hypothesized latent constructs of training and development, selective staffing, rewards, participative decision making, job security, communication, team working, perceived psychological contract fulfilment using both the global and the content measures, affective commitment, altruism, conscientiousness, courtesy, civic virtue, sportsmanship, and intention to quit.

In congeneric models, each indicator reflects the same generic true score. However, they each contribute to the score in varying degrees (Joreskog, 1971). This is an advantage over the typical method used in the formation of composite scales in social sciences research, which can be problematic (Joreskog, 1971; Werts *et al.*, 1978). For example, the unit-weight addition of indicator variables in the formation of composite scales ignores the possibility that some indicators may contribute more to the measurement of the underlying latent variable than others. Thus, the aggregation of the individual variables as a possible solution was eliminated because aggregation falsely inflates observed associations (Ostroff, 1993). Analysis of congeneric models using AMOS 5.0 allows for complex modeling whereby error associated with the measurement of the indicator variables can be accounted for, the unequal contributions of indicator variables towards the measurement of latent variables can be explained, and the fit of these indicators as measures of the latent variables can be tested. In these models, the variances of the latent variables were set to unity in order to identify the models. Further, scree plots were conducted to check the unidimensionality of each construct. According to Hair *et al.* (1998, p. 611), 'unidimensionality is an assumption underlying the calculation of reliability and is demonstrated when the indicators of a construct have acceptable fit on a single-factor model'. Anderson and Gerbing (1988) argued that unidimensional measurement models are more generally useful because they offer more precise tests of the convergent and discriminant validity of factor measurement. The results confirmed unidimensionality for all constructs investigated in this study.

### 6.4.1 Confirmation of the High Commitment HRM Practices Construct

A seven-factor solution of high commitment HRM practices was obtained from the Exploratory Factor Analysis results. This section confirms each of these factors.

An inspection of the modification indexes of the one-factor model for the construct of training and development revealed that the item '*This organisation has not trained me well for future jobs*' was responsible for the model misspecification. According to Cheng (2001), problematic indicators (e.g., indicators that do not measure its underlying construct and/or are not reliable) should be removed if justified by modification indices and the model must be modified or revised before it can be structurally tested. The removal of this item resulted in a good fit of the data to the model, $\chi 2$ (2, N=488) = 7.245, $p$ = 0.027, Mardia's coefficient = 17.140, Bollen-Stine bootstrap $p$ = 0.248, $\chi 2/df$ = 3.62, SRMR = 0.015, TLI = 0.983, CFI = 0.994, and RMSEA = 0.073. All factor loadings exceeded the minimum suggested value of 0.40 (Tabachnick and Fidell, 1996) and ranged from 0.70 to 0.87 (see Figure 6.1).

Figure 6.1

*'Training' One-factor Congeneric Model*
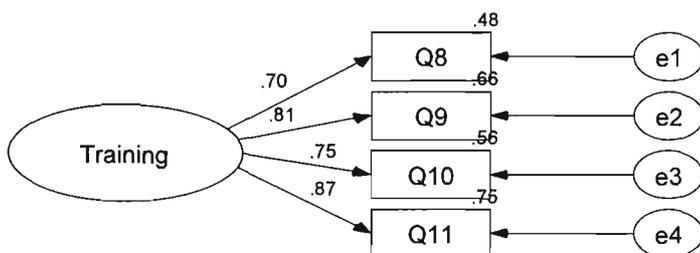


Q8: 'Training is regarded as a way to improve performance'

Q9: 'I have the opportunity to expand the scope of my job'

Q10: 'I have been well trained by this organisation for my job'

Q11: 'I have the opportunity to improve my skills in this organisation'

For the construct of selective hiring, the modification indices showed high covariances between the first and the third measurement errors. According to Byrne (2001), these measurement error covariances represent systematic rather than random measurement error in item responses and can be triggered due to a high degree of

overlap in item content. The question associated with the first measurement error, *'New staff members often lack the competence to do their job well'* was deleted as it was found to be highly correlated and redundant with the item associated with the third measurement error *'This organisation often hires people who do not have the necessary skills to work here'*. The new model was then submitted and had an excellent data fit to the model both in statistical, $\chi2$ (2, N = 488) = 5.508, $p$ = 0.064, $\chi2/df$ = 2.75, and practical terms, SRMR = 0.018, TLI = 0.984, CFI = 0.995, and RMSEA = 0.060. All remaining items loaded highly on this factor, as factor loading ranged from a low of 0.62 to a high of 0.91 (see Figure 6.2).

Figure 6.2

*'Selective Hiring' One-factor Congeneric Model*
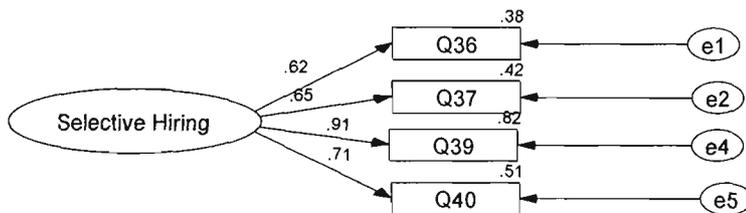


Q36: ' This organisation often hires people who do not have the necessary skills to work here'

Q37: 'In my work unit, I believe we hire people who can do the job'

Q39: ' This organisation does a good job of hiring competent people'

Q40: 'This organisation strongly believes in the importance of hiring the right people for the job'

The one factor congeneric model of job security revealed that the data was a good fit to the model: $\chi2$ (1, N = 488) = .053, $p$ = 0.819, $\chi2/df$ = 0.053, SRMR = 0.001, TLI = 1.004, CFI = 1.00, and RMSEA = 0.000. All items loaded highly on this factor (>0.70, see Figure 6.3). Given that this construct had only three items, further parameter constraints had to be added to the model. To determine which parameters to constrain, the critical ratio differences (CRDIFF) method was used. This method produces a listing of critical ratios for the pairwise parameter estimates. If the CRDIFF values associated with pairs of parameters are not significant (i.e., magnitudes less than 2, Byrne (2001)), then one of these pairs of parameters may be

constrained to equality to identify the model. In this case, the CRDIFF test indicated that it was valid to equate the first and third measurement errors (CRDIFF =-0. 229) (see Table 6.1).

Table 6.1

*Critical Ratios for Differences between Parameters (Job Security)*

|   | a | b | c | d | e | f |
|---|------|------|------|------|------|------|
| a | .000 | | | | | |
| b | -3.187 | .000 | | | | |
| c | .694 | 3.813 | .000 | | | |
| d | -5.767 | -4.548 | -7.969 | .000 | | |
| e | -.212 | 1.473 | -.597 | 4.936 | .000 | |
| f | -7.697 | -4.831 | -6.213 | **-.229** | -4.998 | .000 |

Figure 6.3

*'Job Security' One-factor Congeneric Model*
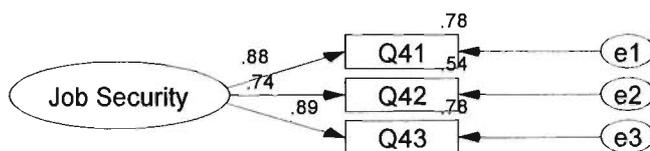


Q41: 'I am worried about having to leave my job before I would like to'

Q42: 'There is a risk that I will have to leave my present job in the year to come'

Q43: 'I feel uneasy about losing my job in the near future'

The one-factor model for the construct of participative decision making revealed that three items were responsible for the model misspecification. These items appeared to be highly correlated and redundant with other items, and were therefore deleted. The removal of these items resulted in a good fit of the data to the model: $\chi^2$ (2, N=488) = 6.72, $p$ = 0.035, Mardia's coefficient = 24.698, Bollen-Stine bootstrap $p$ = 0.118, $\chi^2/df$ = 3.36, SRMR = 0.010, TLI = 0.997, CFI = 0.990, and RMSEA = 0.070. All factor loadings exceeded 0.80 (see Figure 6.4).

Figure 6.4

*'Participative Decision Making' One-factor Congeneric Model*
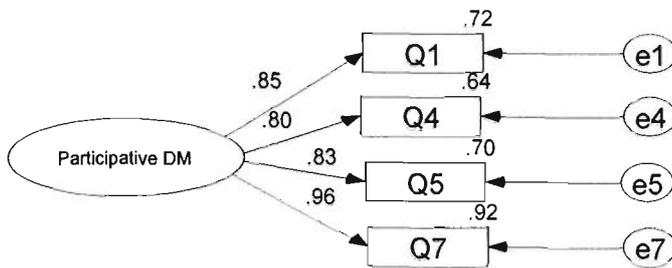


Q1: 'I have sufficient authority to fulfil my job responsibilities'

Q4: 'I have enough freedom over how I do my job'

Q5: 'I have enough authority to make decisions necessary to provide quality customer service'

Q7: 'All in all, I am given enough authority to act and make decisions about my work'

An examination of the modification indices of the one-factor congeneric model for the construct of team working revealed that errors e3 and e4 might be correlated. Joreskog and Sorborm (1996, p. 309) suggest this implies that

> ...when the correlation among the observed variables caused by the construct [team working] has been accounted for, there seems to be a correlation left between the two items associated with these error terms [Q32 and Q33]. This correlation can be interpreted as an indication that [Q32 and Q33] correlate more than can be explained by [team working].

In other words, while Q32 and Q33 may be indicators of team working, they may also be measuring a second construct. Common methods of re-specifying the model include: dropping one or both of the items as measures of team working, or covarying the error terms (Holmes-Smith, Coote and Cunningham, 2006). This model was re-specified by dropping Q32. As a result, the model contained three items. As such, the regression weights of factor loadings and the variances of error terms were set equal to alphabets. Next, critical ratios for differences between parameters were assessed (see Table 6.2, CRDIFF associated with the first and second errors = 0.623, which is less than 2 and thus not significant) and consequently the variances of the first and second errors were constrained to be equal so that the

model was identified (Byrne, 2001). This resulted in a good fit of the data to the model: $\chi 2$ (1, N = 488) = .390, $p$ = 0.532, $\chi 2/df$ = 0.390, SRMR = 0.004, TLI = 1.003, CFI = 1.000, and RMSEA = 0.000. All items loaded highly on this factor (>0.70, see Figure 6.5).

Table 6.2

*Critical Ratios for Differences between Parameters (Team working)*

|   | a | b | c | d | e | f |
|---|---|---|---|---|---|---|
| a | .000 | | | | | |
| b | -1.055 | .000 | | | | |
| c | -1.244 | -.314 | .000 | | | |
| d | -9.431 | -12.173 | -9.379 | .000 | | |
| e | -12.469 | -8.458 | -8.547 | **.623** | .000 | |
| f | -1.783 | -1.068 | -.719 | 6.806 | 6.640 | .000 |

Figure 6.5

*'Team working' One-factor Congeneric Model*
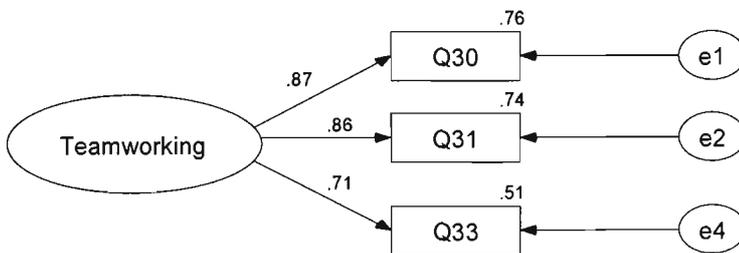


Q 30: 'This organisation encourages people to work in teams'

Q 31: 'Working in teams is considered very important in this organisation'

Q33: 'Management organise work so that most people work in teams'

The measurement model of the construct of rewards is also presented in the form of a one-factor congeneric model where all the items are non-unifactorial and the measurement error variances of the items are not constrained to be equal. The outputs in Figure 6.6 confirm these assumptions (e.g., the regression weights are dissimilar). For this model, some of the fit indices were outside of the acceptable fit range. This suggests that the data did not fit the model well. After improvements suggested by the SEM analysis including, assessing critical ratio values, standardised

residual covariances and modification indices, two items were eliminated in order to achieve acceptable measures of fit. The results then showed that the data fit the model well: $\chi2$ (5, N=488) = 14.429, $p$ = 0.013, Mardia's coefficient = 17.620, Bollen-Stine bootstrap $p$ = 0.216, $\chi2$/df = 2.88, SRMR = 0.015, TLI = 0.988, CFI = 0.994, RMSEA = 0.062. All remaining items loaded significantly of the rewards construct and with factor loading surpassing 0.70 (see Figure 6.6).

Figure 6.6

*'Rewards' One-factor Congeneric Model*
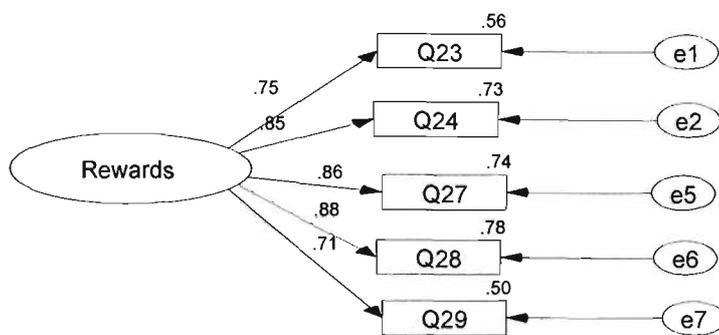


Q 23: 'My performance evaluations within the past few years have been helpful to me in my professional development

Q 24: 'There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise'

Q 27: 'Generally, I feel this organisation rewards employees who make an extra effort

Q 28: 'I am satisfied with the amount of recognition I receive when I do a good job'

Q 29: 'If I perform my job well, I am likely to be promoted'

Finally, the congeneric model of the communication construct was tested. Initially, this model was a poor fit. However, after respecifying the model as a result of examining CR values, standardised residual covariances and modification indices, the model had an excellent fit to the data, in both statistical, $\chi2$ (5, N = 488) = 12.291, $p$ = 0.031, Mardia's coefficient = 20.654, Bollen-Stine bootstrap $p$ = 0.224, $\chi2$/df = 2.45, and practical terms, SRMR = 0.015, TLI = 0.990, CFI = 0.995, and

RMSEA = 0.055. All remaining items loaded significantly and highly on this factor, as factor loading ranged from a low of 0.76 to a high of 0.88 (see Figure 6.7).

Figure 6.7

*'Communication' One-factor Congeneric Model*
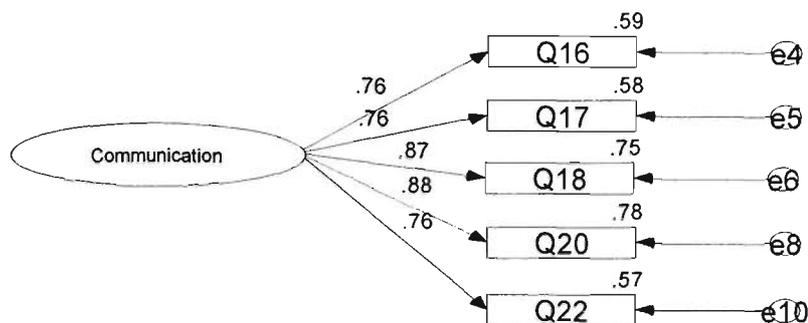


Q 16: 'Management takes time to explain to employees the reasoning behind critical decisions that are made'

Q 17: 'Management is adequately informed of the important issues in my department'

Q 18: 'Management makes a sufficient effort to get the opinions and feelings of people who work here'

Q 20: 'The channels of employee communication with top management are effective'

Q 22: 'Employees of this organisation work toward common organisational goals'

6.4.2    Confirmation of the Perceived Psychological Contract Fulfilment Construct

A one-factor congeneric model of the global unidimensional measure of 'psychological contract fulfilment' produced a good fit of the data to the model after deleting the two negatively worded items: $\chi2$ (1, N = 488) = 0.096, $p$ = 0.756, $\chi2/df$ = 0.096, SRMR = 0.0006, TLI = 1.002, CFI = 1.000, and RMSEA = 0.000. All of the paths from the latent construct to its indicators and were significant ($p < .001$). It is important to note that examining critical ratios for differences between parameters (see Table 6.3), meant that the parameter regression weights a and b could be constrained to equal each other so that the model could be identified (Byrne, 2001). All items loaded quite highly on this factor, as factor loading ranged from a low of 0.90 to a high of 0.96 (see Figure 6.8).

Table 6.3

*Critical Ratios for Differences between Parameters (Psychological Contract Fulfilment)*

|   | a | b | d | e | f |
|---|---|---|---|---|---|
| a | .000 | | | | |
| b | **.942** | .000 | | | |
| d | -19.592 | -20.953 | .000 | | |
| e | -22.917 | -20.984 | -2.019 | .000 | |
| f | -16.132 | -16.886 | 3.493 | 5.165 | .000 |

Figure 6.8

*'Psychological Contract Fulfilment – Global Measure' One-factor Congeneric Model*
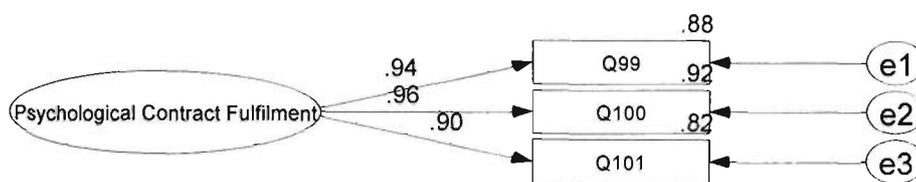


Q99: 'Almost all the promises made by my employer during recruitment have been kept so far'

Q100: 'I feel that my employer has come through in fulfilling the promises made to me when I was hired'

Q101: 'So far my employer has done an excellent job of fulfilling its promises to me'

A one-factor congeneric model was also reported for each of the two factors of the multidimensional content measure of psychological contract fulfilment. The one factor congeneric model of transactional psychological contract fulfilment provided an excellent fit: both statistically, $\chi2$ (2, N = 488) = 5.551, $p$ = 0.062, $\chi2/df$ = 2.77 and practically, SRMR = 0.008, TLI = 0.993, CFI = 0.998, and RMSEA = 0.060. Furthermore, all items measuring transactional psychological contract fulfilment loaded significantly and highly on this factor; loadings ranged from a low 0.83 of to a high of 0.93 (see Figure 6.9).

Figure 6.9

*'Transactional Psychological Contract Fulfilment' One-factor Congeneric Model*
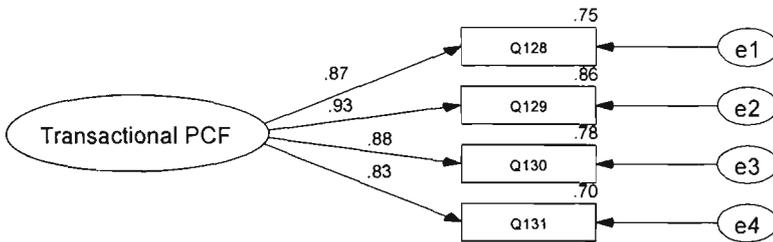


Q128: 'Pay increases to maintain standard of living'

Q129: 'Reasonable pay in comparison to employees doing similar work in other organisations'

Q130: 'Pay based on current level of performance'

Q131: 'Fringe benefits that are comparable to what employees doing similar work in other organizations get'

The initial one-factor congeneric model of relational psychological contract fulfilment indicated a poor fit of the data to the model. After respecifying the model as suggested by modification indices and consistent with theory, the results indicated that the data fit the model well: $\chi^2$ (14, N = 488) = 38.435, Mardia's coefficient = 19.36, Bollen-Stine's bootstrap $p$ = 0.018, $\chi^2/df$ = 2.745, SRMR = 0.027, TLI = 0.975, CFI = 0.993, and RMSEA = 0.060. Item loadings on the relational psychological contract fulfilment factor ranged from a low of 0.53 to a high of 0.80 (See Figure 6.10).

Figure 6.10

'Relational Psychological Contract Fulfilment' One-factor Congeneric Model
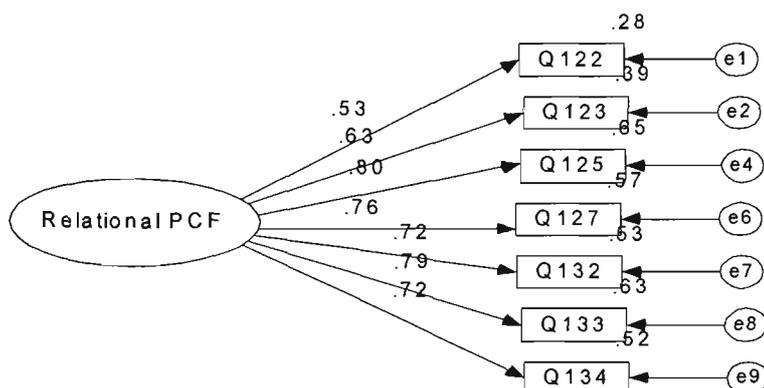
Q122: *perceived fulfilment of* 'Long-term job security'

Q123: *perceived fulfilment of* 'Training'

Q125: *perceived fulfilment of* 'Involvement in decision making'

Q127: *perceived fulfilment of* 'Information on important developments'

Q132: *perceived fulfilment of* 'Rapid advancement'

Q133: *perceived fulfilment of* 'Team working'

Q134: *perceived fulfilment of* 'Hiring competent people'

### 6.4.3 Confirmation of the Affective Commitment Construct

A one-factor congeneric model of the 'Affective Commitment' variable produced an adequate fit: $\chi2$ (9, N = 488) = 35.348, Mardia's coefficient = 37.987, Bollen-Stine bootstrap $p$ = 0.09, $\chi2/df$ = 3.92, TLI = 0.981, CFI = 0.988, and RMSEA = 0.078. All of the paths from the latent construct to its indicators were significant ($p$ < 0.001). However, the modification indices showed very high correlations between e2 and e4 suggesting that items Q45 and Q47 were highly correlated and redundant. Q45 was deleted because it had a lower loading than did Q47. A one-factor congeneric model of the remaining 5 items provided a good fit: $\chi2$ (5, N = 488) = 3.281, $p$ = 0.657, $\chi2/df$ = 0.65, SRMR = 0.005, TLI = 1.002, CFI = 1.000, and RMSEA = 0.000. Factor loadings ranged from a low of 0.75 to a high of 0.90 (Figure 6.11).

Figure 6.11

*'Affective Commitment' One-factor Congeneric Model*
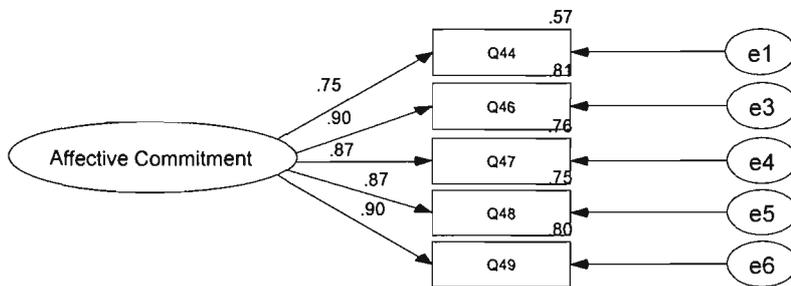


Q44: 'I would be very happy to spend the rest of my career with this organisation'

Q46: 'I feel a strong sense of "belonging" to my organisation'

Q47: 'I feel "emotionally attached" to this organisation'

Q48: 'I feel like "part of the family" at my organisation'

Q49: 'This organisation has a great deal of meaning for me'

### 6.4.4 Confirmation of the Organisational Citizenship Behaviour Construct

A five-factor solution of OCB was obtained from the Exploratory Factor Analysis as was expected based on the review of the literature. This section confirms each of these factors.

The initial model for the one-factor congeneric model of altruism was found to be a modest fit of the data to the model: $\chi2$ (5, N = 488) = 29.20, $p$ = 0.224, $\chi2/df$ = 5.84, TLI = 0.945, CFI = 0.972, and RMSEA = 0.100. Deleting one item, as suggested by the modification indices and respecifying the model, led to an excellent model fit: $\chi2$ (2, N = 488) = 2.995, $p$ = 0.224, $\chi2/df$ = 1.498, SRMR = 0.013, TLI = 0.995, CFI = 0.998, and RMSEA = 0.032. All items loading highly and significantly on the altruism factor (see Figure 6.12)

Figure 6.12

*'Altruism' One-factor Congeneric Model*
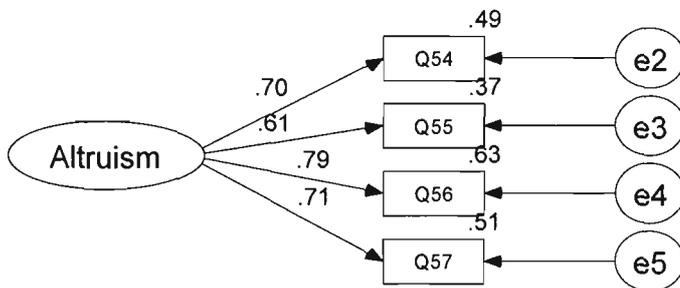


Q54: 'I help others who have heavy work loads'

Q55: 'I help orient new people even though it is not required'

Q56: 'I willingly help others who have work related problems'

Q57: 'I am always ready to lend a helping hand to those around me'

The one factor congeneric model for conscientiousness showed that the data fit the model well: $\chi2$ (2, N = 488) = 0.947, $p$ = 0.623, $\chi2/df$ = 0.473, SRMR = 0.008, TLI = 1.009, CFI = 1.000, and RMSEA = 0.000, with items loading highly on the conscientiousness factor (Figure 6.13).

Figure 6.13

*'Conscientiousness' One-factor Congeneric Model*
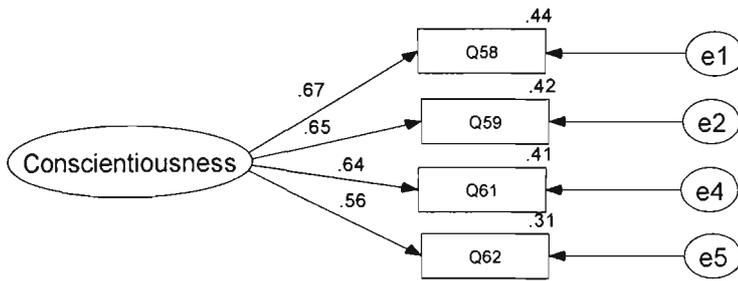


Q58: 'My attendance at work is above the norm'

Q59: 'I do not take extra breaks'

Q61: 'I am one of the most conscientious employees in the organisation'

Q62: 'I believe in giving an honest day's work for an honest day's pay'

The initial run for the one-factor congeneric model of sportsmanship revealed that the model was a bad fit. After examining the modification indices, it was decided to delete Q75 because it was redundant with Q77. The removal of this item resulted in a good fit of the data to the model: $\chi2$ (2, N = 488) = 0.818, $p$ = 0.664, $\chi2/df$ = 0.409, SRMR = 0.005, TLI = 1.004, CFI = 1.000, and RMSEA = 0.000, with items loading highly on the conscientiousness factor (Figure 6.14).

Figure 6.14

*'Sportsmanship' One-factor Congeneric Model*
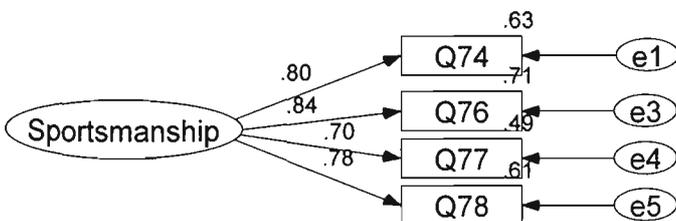


Q74: 'I consume a lot of time complaining about trivial matters'

Q76: 'I tend to make "mountains out of molehills"'

Q77: 'I always find fault with what the organisation is doing'

Q78: 'I am the classic "squeaky wheel" that always needs greasing'

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The one-factor congeneric model for the factor of courtesy revealed that the item *'I am mindful of how my behaviour affects other people's jobs'* was responsible for the model misspecification. The removal of this item resulted in an excellent fit of the data to the model: $\chi2$ (2, N = 488) = 4.278, $p$ = 0.118, $\chi2/df$ = 2.139, SRMR = 0.010, TLI = 0.995, CFI = 0.998, and RMSEA = 0.048, with items loading highly on the courtesy factor (Figure 6.15).

Figure 6.15

*'Courtesy' One-factor Congeneric Model*
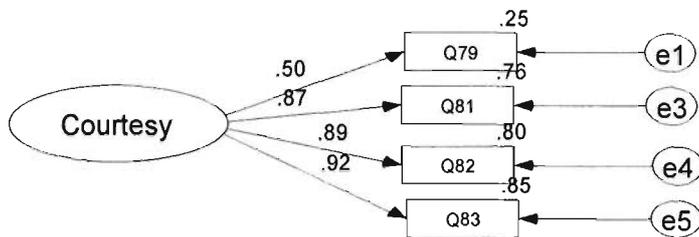


Q79: 'I take steps to try to prevent problems with other workers'
Q81: 'I do not abuse the rights of others'
Q82: 'I try to avoid creating problems for co-workers'
Q83: 'I consider the impact of my actions on co-workers'

Finally, while the initial model for the latent variable of civic virtue resulted in a poor fit of the model to the data, the respecified model as a consequence of deleting an item (Q64) that caused major model misspecification, indicated that the data was a good fit to the model: $\chi2$ (1, N = 488) = 0.06, $p$ = 0.806, $\chi2/df$ = 0.06, SRMR = 0.004, TLI = 1.01, CFI = 1.00, and RMSEA = 0.000, with item loadings on the civic virtue factor ranging from a low of 0.39 to a high of 0.97 (Figure 6.16).

Figure 6.16

*'Civic Virtue' One-factor Congeneric Model*
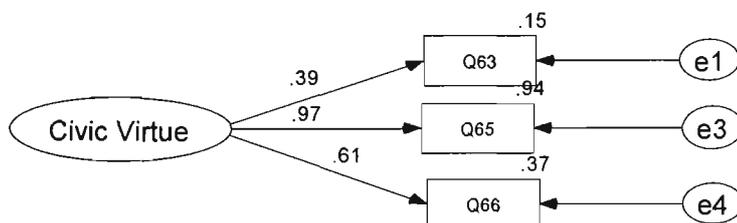
Q63: 'I attend meetings that are not mandatory, but are considered important'

Q65: 'I keep abreast of changes in the organisation'

Q66: 'I read and keep up with the organisation announcements, memos, and so on'

### 6.4.5 Confirmation of the Intention to Quit Construct

For the construct of intention to quit, the model was a good fit to the data in both statistical and practical terms: $\chi2$ (1, N = 488) = 0.579, $p$ = 0.447, $\chi2/df$ = 0.579, SRMR = 0.006, TLI = 1.003, CFI = 1.00, and RMSEA = 0.000. Critical ratios for differences parameters were assessed (see Table 6.4. CRDIFF associated with the pair of parameters linked to the first and second errors = 0.757, which is not significant) and consequently the variances of the first and second errors were constrained to be equal so that the model was identified (Byrne, 2001). All item loadings were high and significant (see Figure 6.17).

Table 6.4

*Critical Ratios for Differences between Parameters (Intention to Quit)*

|   | a | b | c | d | e | f |
|---|---|---|---|---|---|---|
| a | .000 | | | | | |
| b | -1.814 | .000 | | | | |
| c | -.864 | .892 | .000 | | | |
| d | -3.168 | -2.935 | -3.312 | .000 | | |
| e | -3.415 | -1.504 | -2.311 | .757 | .000 | |
| f | 1.479 | 2.502 | 1.680 | 3.714 | 3.438 | .000 |

Figure 6.17

*'Intention to Quit' One-factor Congeneric Model*
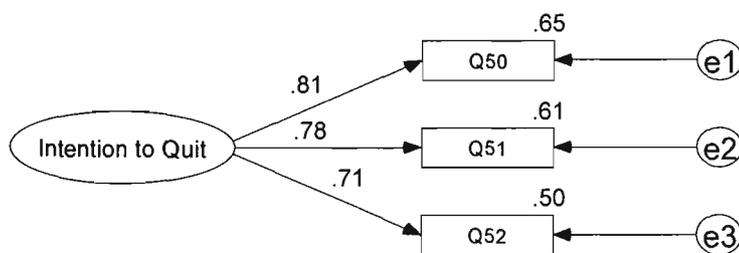


Q50: 'It is likely that I will leave my employment with this organization within a year'

Q51: 'I intend to keep working at this organization for at least the next three years'

Q52: 'I frequently think about quitting my job'

Another indication of the goodness of fit of all constructs being investigated in this study came from the standardised residual matrices tables and the critical ratios of regression weights (see Appendix C). The standardised residual matrices illustrate the difference between the actual and implied correlation matrices (Bagozzi, 1977). The essence of SEM is to determine the fit between the restricted covariance matrix implied by the hypothesized model, and the sample covariance matrix. The residual covariance matrix captures any discrepancy between the two. Standardised residuals are fitted residuals divided by their standard errors (Joreskog and Sorbom, 1988). According to Joreskog and Sorbom, standardised residual values greater than 2.58 are considered to be large. In examining the standardised residual values presented in Appendix C (see Tables C1 to C17), all values appear to be below the cut-off of 2.58. As such, it is concluded that no statistically significant discrepancy lies between the covariances in the restricted matrix and those in the sample matrix, and hence there are no areas of model misfit.

Furthermore, critical ratios were inspected for each of the one-factor congeneric models. In the output depicted in Table C18 of Appendix C, non-standardised regression weights are displayed under the heading Estimate. Right next to these estimates, in the S.E. column, is an estimate of the standard error of the regression. The figure right next to the standard error, in the C.R. column, is the critical ratio obtained by dividing the variance by its standard error. If we look at the first relationship between training and its indicator 'Q8', this ratio is 0.885/0.053 = 16.6. This ratio is relevant to the null hypothesis that, in the population from which the present dataset's 488 subjects came, the variance score between training and Q8 is zero. If this is true, then the critical ratio is an observation of a random variable that has an approximate standard distribution. Therefore, using a significance level of 0.05, any critical ratio for a two-tailed test that exceeds 1.96 in magnitude would be considered significant (Byrne, 2001). Inspecting tables C18 to C34 depicted in Appendix C indicates that all critical ratio values exceeded the minimum guideline of 1.96, with all values significant at the 0.001 levels.

Prior to testing the structural model of high commitment management and worker outcomes presented in Chapter 3, CFAs were conducted for indicator variables derived from each of the three multidimensional scales; these were the high

commitment HRM practices scale (which included indicator variables of seven different HRM practices), the OCB scale, measuring five aspects of citizenship behaviour, and the content-oriented psychological contract scale measuring the relational and transactional dimensions.

## 6.5 Confirmatory Factor Analysis High Commitment Management

A confirmatory factor analysis was performed to determine whether respondents distinguish between the latent high commitment management constructs (Figure 6.18). The measurement model included the scale items that resulted from the one-factor congeneric models described in the previous section as indicators of seven latent constructs: communication, rewards, selective hiring, training and development, participative decision making, team working and job security. The seven latent constructs were allowed to correlate while correlations among error terms for the indicators were constrained to zero. Factor variances were set to one in order to identify the model, and a range of model fit indices was computed through maximum likelihood estimation using AMOS 5.0 (Arbuckle, 2003).

To examine the extent to which this hypothesised model adequately describes the sample data, the adequacy of the parameter estimates and the model as a whole were observed (Byrne, 2001).

To investigate the fit of individual parameters in the model, Byrne (2001) suggested considering three aspects of concern: (a) the feasibility of parameter estimates (i.e., parameter estimates should exhibit the correct sign and size, and be consistent with the underlying theory; (b) the appropriateness of the standard errors (i.e, standard errors should not be excessively small or large, yet, no definite criterion of small and large has been established (Joreskog and Sorborm, 1989); (c) the statistical significance of the parameter estimates (in such cases, the critical ratio [C.R.] should be of magnitude greater than 1.96 and level of significance should be at least at the 0.05 level). An examination of the unstandardised solution presented in Table 6.5 shows all estimates to be both reasonable and statistically significant. Moreover, all standard errors appear also to be within an acceptable range.

Table 6.5

*AMOS Text Output for Hypothesized Seven-Factor High Commitment Management CFA Model: Parameter Estimates*

Maximum Likelihood Estimates

| Regression weights | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q16 | ←- | Communication | 1.000 | | | |
| Q17 | ←- | Communication | .858 | .049 | 17.587 | *** |
| Q18 | ←- | Communication | 1.170 | .058 | 20.321 | *** |
| Q20 | ←- | Communication | 1.205 | .058 | 20.622 | *** |
| Q22 | ←- | Communication | .913 | .052 | 17.620 | *** |
| Q23 | ←- | Rewards | 1.000 | | | |
| Q24 | ←- | Rewards | 1.209 | .062 | 19.448 | *** |
| Q27 | ←- | Rewards | 1.182 | .060 | 19.720 | *** |
| Q28 | ←- | Rewards | 1.267 | .062 | 20.582 | *** |
| Q29 | ←- | Rewards | 1.019 | .063 | 16.252 | *** |
| Q36 | ←- | Selective Hiring | 1.000 | | | |
| Q37 | ←- | Selective Hiring | .863 | .072 | 12.062 | *** |
| Q39 | ←- | Selective Hiring | 1.162 | .083 | 14.008 | *** |
| Q40 | ←- | Selective Hiring | 1.005 | .078 | 12.817 | *** |
| Q8 | ←- | Training and Development | 1.000 | | | |
| Q9 | ←- | Training and Development | 1.392 | .082 | 17.055 | *** |
| Q10 | ←- | Training and Development | 1.238 | .081 | 15.362 | *** |
| Q11 | ←- | Training and Development | 1.292 | .074 | 17.450 | *** |
| Q1 | ←- | Participative Decision Making | 1.000 | | | |
| Q4 | ←- | Participative Decision Making | 1.038 | .047 | 22.025 | *** |
| Q5 | ←- | Participative Decision Making | 1.143 | .049 | 23.514 | *** |
| Q7 | ←- | Participative Decision Making | 1.214 | .042 | 28.828 | *** |
| Q30 | ←- | Teamworking | 1.000 | | | |
| Q31 | ←- | Teamworking | .916 | .042 | 21.863 | *** |
| Q33 | ←- | Teamworking | .926 | .052 | 17.886 | *** |
| Q41 | ←- | Job Security | 1.000 | | | |
| Q42 | ←- | Job Security | .853 | .046 | 18.721 | *** |
| Q43 | ←- | Job Security | 1.025 | .046 | 22.197 | *** |
| Covariances | | | Estimate | S.E. | C.R. | P |
| Communication | ←> | Rewards | 1.013 | .101 | 10.020 | *** |
| Communication | ←> | Selective Hiring | .738 | .086 | 8.631 | *** |
| Communication | ←> | Training and Development | .778 | .079 | 9.833 | *** |
| Communication | ←> | Participative Decision Making | .711 | .075 | 9.506 | *** |
| Communication | ←> | Teamworking | .868 | .082 | 10.602 | *** |
| Communication | ←> | Job Security | .607 | .105 | 5.808 | *** |
| Rewards | ←> | Selective Hiring | .749 | .088 | 8.538 | *** |
| Rewards | ←> | Training and Development | .763 | .080 | 9.560 | *** |
| Rewards | ←> | Participative Decision Making | .681 | .075 | 9.046 | *** |

Table 6.5 (continued)

| Covariances | | | Estimate | S.E, | C.R. | P |
|---|---|---|---|---|---|---|
| Rewards | ←> | Team working | .680 | .077 | 8.884 | *** |
| Rewards | ←> | Job Security | .735 | .111 | 6.631 | *** |
| Selective Hiring | ←> | Training and Development | .469 | .062 | 7.596 | *** |
| Selective Hiring | ←> | Participative Decision Making | .479 | .063 | 7.621 | *** |
| Selective Hiring | ←> | Teamworking | .502 | .065 | 7.702 | *** |
| Selective Hiring | ←> | Job Security | .435 | .089 | 4.877 | *** |
| Training and Development | ←> | Participative Decision Making | .579 | .061 | 9.473 | *** |
| Training and Development | ←> | Teamworking | .566 | .061 | 9.240 | *** |
| Training and Development | ←> | Job Security | .500 | .084 | 5.975 | *** |
| Participative Decision Making | ←> | Teamworking | .521 | .060 | 8.693 | *** |
| Participative Decision Making | ←> | Job Security | .504 | .087 | 5.770 | *** |
| Teamworking | ←> | Job Security | .404 | .089 | 4.531 | *** |

| Variances | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|
| Communication | 1.396 | .144 | 9.697 | *** |
| Rewards | 1.493 | .156 | 9.588 | *** |
| Selective Hiring | .934 | .132 | 7.094 | *** |
| Training and Development | .829 | .095 | 8.745 | *** |
| Participative Decision Making | 1.033 | .090 | 11.429 | *** |
| Teamworking | 1.064 | .090 | 11.888 | *** |
| Job Security | 2.677 | .233 | 11.498 | *** |
| e1 | 1.013 | .073 | 13.893 | *** |
| e2 | .724 | .052 | 13.841 | *** |
| e3 | .635 | .054 | 11.811 | *** |
| e4 | .606 | .053 | 11.388 | *** |
| e5 | .814 | .059 | 13.827 | *** |
| e6 | 1.124 | .081 | 13.935 | *** |
| e7 | .889 | .071 | 12.478 | *** |
| e8 | .779 | .064 | 12.188 | *** |
| e9 | .654 | .060 | 10.930 | *** |
| e10 | 1.439 | .101 | 14.254 | *** |
| e11 | 1.516 | .107 | 14.100 | *** |
| e12 | .824 | .061 | 13.511 | *** |
| e13 | .405 | .051 | 7.975 | *** |
| e14 | .796 | .063 | 12.587 | *** |
| e15 | .790 | .058 | 13.644 | *** |
| e16 | .749 | .065 | 11.518 | *** |
| e17 | 1.052 | .079 | 13.341 | *** |
| e18 | .542 | .050 | 10.738 | *** |
| e19 | .411 | .032 | 13.008 | *** |
| e20 | .595 | .043 | 13.747 | *** |

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Table 6.5 (continued)

| Variances | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|
| e21 | .564 | .043 | 13.154 | *** |
| e22 | .155 | .024 | 6.384 | *** |
| e23 | .274 | .036 | 7.646 | *** |
| e24 | .386 | .037 | 10.545 | *** |
| e25 | .861 | .064 | 13.483 | *** |
| e26 | .798 | .099 | 8.045 | *** |
| e27 | 1.561 | .119 | 13.123 | *** |
| e28 | .795 | .103 | 7.733 | *** |

Note: N = 488. Parameter estimates significant at the ***P < 0.001 level. S.E. = Standard error. C.R. = Critical ratio.

Looking at the model as a whole, the seven-factor model produced good fit to the data: $\chi2$ (329, N=488) = 672.9, $1 < \chi2/df = 2.045 < 3$ as recommended by Wheaton et al. (1977), Bollen-Stine's $p = 0.002$, SRMR = 0.043, TLI = 0.957, CFI = 0.963, and RMSEA = 0.046.

Taking into account: (a) the feasibility and statistical significance of all parameter estimates; (b) the substantially good fit of the model, with particular reference to the CFI (0.963) value (bearing in mind that CFI with values close to 0.95 indicate superior fit (Hu and Bentler, 1999)) and the RMSEA (0.046) value (where values less than .05 indicate good fit, and values as high as 0.08 represent reasonable errors of approximation in the population (Browne and Cudeck, 1993)); and (c) the lack of any substantial evidence of model misfit, and MacCallum and Roznowski's (1992, p. 501) advise that 'when an initial model fits well, it is probably unwise to modify it to achieve even better fit because modifications may simply be fitting small idiosyncratic characteristics of the sample', no further parameters were incorporated into the model. Final indicator (item) loadings and reliability for each high commitment management construct are presented in Table 6.6.

According to Hair et al. (1998, p. 612), 'reliability is a measure of the internal consistency of the construct indicators, depicting the degree to which they indicate the common latent unobserved construct'. Reliability concerns the degree to which the scores are free from random measurement error (Kline, 2005). The indicator reliabilities should exceed 0.50, which roughly corresponds to the standardised loading of 0.70. While 0.70 is a commonly used threshold value for acceptable

reliability, values below 0.70 have been deemed acceptable (Hair *et al.*, 1998). Although, question 36 had a reliability lower than 0.50 (the square of the indicator's standardised loading = $0.62^2$), the item still loaded highly on its factor. In addition, an inspection of the modification indices suggests that this item was not highly correlated with other items and did not load highly on other factors. The composite reliability of the high commitment management constructs is calculated and presented in Section 6.10 (see Table 6.16).

Figure 6.18

*Confirmatory Factor Analysis High Commitment Management*
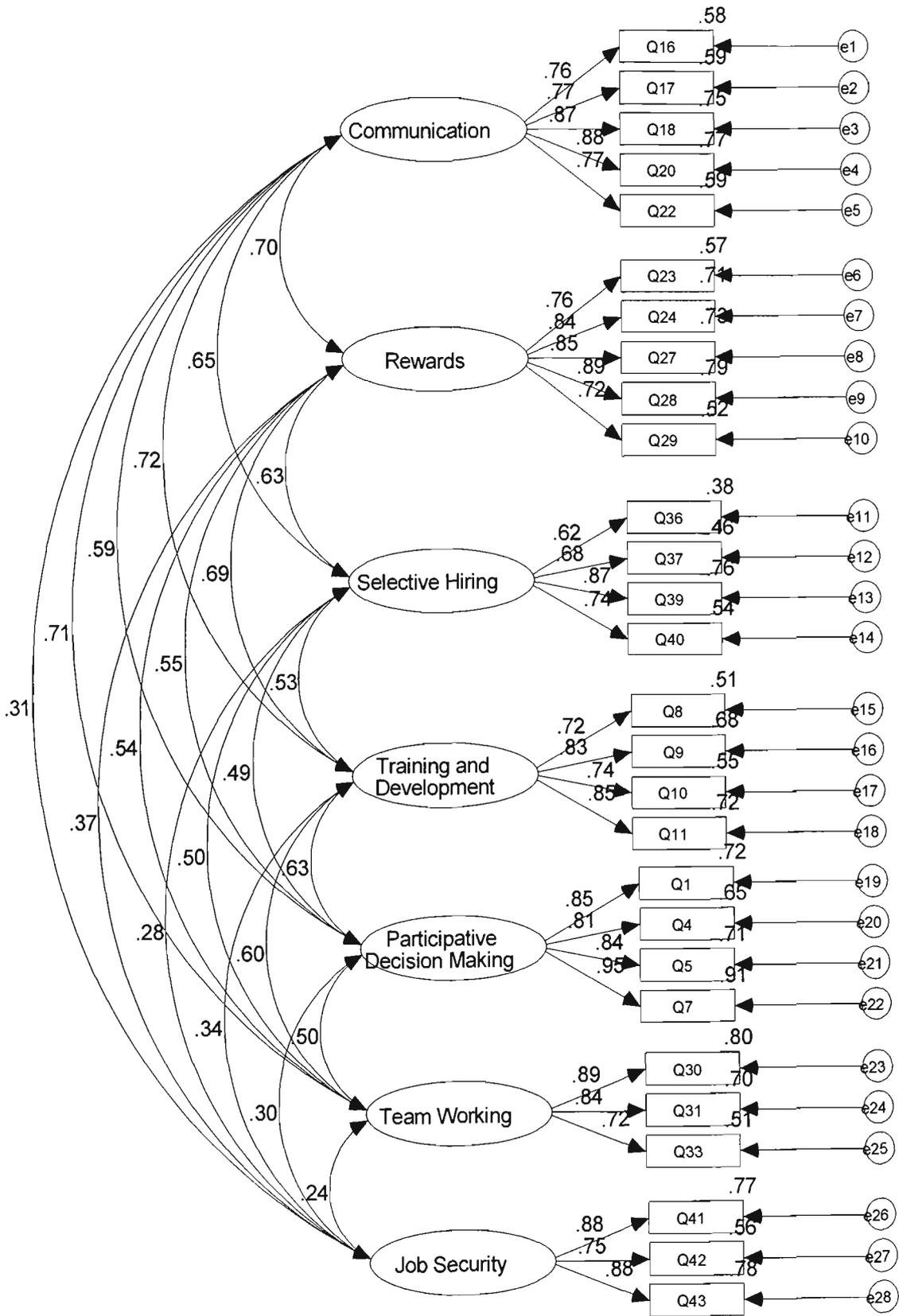
Table 6.6

*Confirmatory Factor Analysis High Commitment Management Item Loading and Reliability*

| Factor and Item | Loading | Reliability |
|---|---|---|
| *Communication* | | |
| Management takes time to explain to employees the reasoning behind critical decisions that are made | 0.76 | 0.58 |
| Management is adequately informed of the important issues in my department | 0.77 | 0.60 |
| Management makes a sufficient effort to get the opinions and feelings of people who work here | 0.87 | 0.76 |
| The channels of employee communication with top management are effective | 0.88 | 0.77 |
| Employees of this organisation work toward common organisational goals | 0.77 | 0.60 |
| *Rewards* | | |
| My performance evaluations within the past few years have been helpful to me in my professional development | 0.76 | 0.60 |
| There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise | 0.84 | 0.71 |
| Generally, I feel this organisation rewards employees who make an extra effort | 0.85 | 0.72 |
| I am satisfied with the amount of recognition I receive when I do a good job | 0.89 | 0.79 |
| If I perform my job well, I am likely to be promoted | 0.72 | 0.52 |
| *Selective Hiring* | | |
| This organisation often hires people who do not have the necessary skills to work here (R) | 0.62 | 0.38 |
| In my work unit, I believe we hire people who can do the job | 0.68 | 0.46 |
| This organisation does a good job of hiring competent people | 0.87 | 0.76 |
| This organisation strongly believes in the importance of hiring the right people for the job | 0.74 | 0.56 |
| *Training and Development* | | |
| Training is regarded as a way to improve performance | 0.72 | 0.52 |
| I have the opportunity to expand the scope of my job | 0.83 | 0.69 |
| I have been well trained by this organisation for my job | 0.74 | 0.55 |
| I have the opportunity to improve my skills in this organization | 0.85 | 0.72 |

| *Participative Decision Making* | | |
|---|---|---|
| I have sufficient authority to fulfil my job responsibilities | 0. 85 | 0. 72 |
| I have enough freedom over how I do my job | 0.81 | 0.66 |
| I have enough authority to make decisions necessary to provide quality customer service | 0.84 | 0.71 |
| All in all, I am given enough authority to act and make decisions about my work | 0.95 | 0.90 |
| *Team working* | | |
| This organisation encourages people to work in teams | 0.89 | 0.79 |
| Working in teams is considered very important in this organization | 0.84 | 0.71 |
| Management organise work so that most people work in teams | 0.72 | 0.52 |
| *Job Security* | | |
| I am worried about having to leave my job before I would like to (R) | 0.88 | 0.77 |
| There is a risk that I will have to leave my present job in the year to come (R) | 0.75 | 0.56 |
| I feel uneasy about losing my job in the near future (R) | 0.88 | 0.77 |

Note: N = 488. All factor loadings are significant at $p < 0.001$. All loadings are standardised. (R) = reverse scored.

## 6.6 Confirmatory Factor Analysis OCB

CFA was conducted for indicator variables derived from the Organisational Citizenship Behaviour multidimensional scale (Podsakoff *et al.*, 1990), measuring five facets of OCB. The CFA model for OCB hypothesised a priori that: (a) responses to the OCB scale could be explained by five factors; (b) each item would have a non-zero loading on the OCB factor it was designed to measure, and zero loadings on all other factors; (c) the five factors would be correlated; and (d) measurement error terms would be uncorrelated. A schematic representation of this model is presented in Figure 6.19.

Figure 6.19

*Confirmatory Factor Analysis OCB*
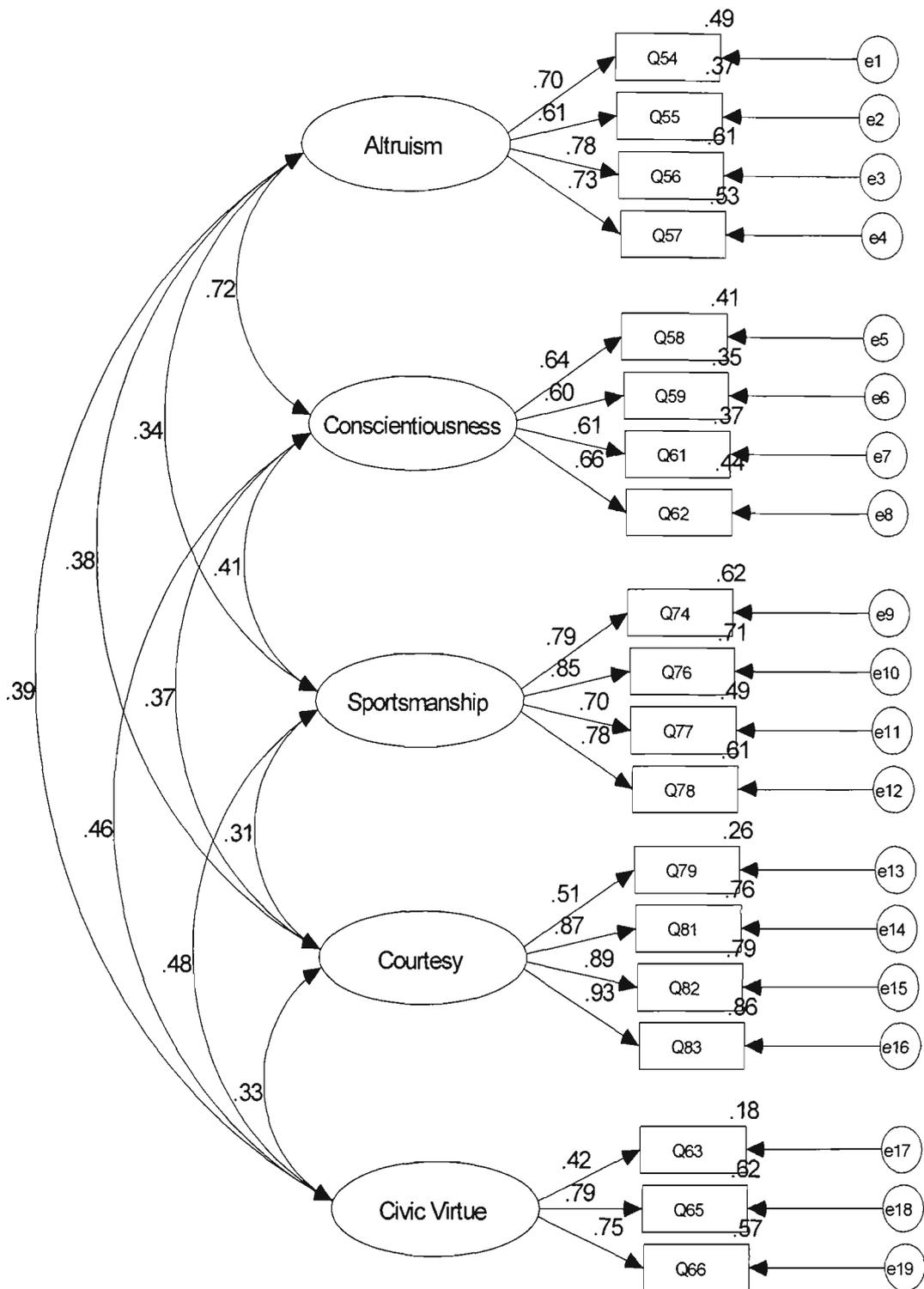


The inter-correlations between all the latent variables in Figure 6.19 were significant at the 0.001 level. The fit of this model was found to be good: $\chi2$ (142, N=488) = 418.114, Bollen-Stine's $p$ = 0.002, $\chi2/df$ = 2.944, SRMR = 0.051, TLI = 0.917, CFI = 0.931, and RMSEA = 0.063. The results showed that all items loaded highly on their respective factor except for Q63 'I attend meetings that are not mandatory, but

are considered important' and Q79 'I take steps to try to prevent problems with other workers' which had loadings of 0.42 and 0.51 correspondingly. These loadings were considered indicative of low reliability for these indicators or items. In an effort to address this problem, a second CFA model of OCB was specified in which Q79 and Q63 were deleted.

Prior to deleting Q63, it was important to ensure that the two remaining questions (Q65 and Q66) were considered as a sufficient number of indicators of the 'civic virtue' latent variable. According to Kline (2005), having only two indicators per factor may lead to problems because using it increases the chances of reaching an infeasible solution. That is, such models may be more likely to be empirically under-identified than models with at least three indicators per factor. Furthermore, for model identification in SEM analyses, sets of three or four indicators are preferred (Anderson and Gerbing, 1988). While all the other constructs of this study had three or more indicator variables, it was important to ensure that the remaining two items of the civic virtue factor were valid and reliable, and actually reflected that factor. As such, the correlations of the remaining two items that loaded on the 'civic virtue' dimension were calculated with all other variables forming the OCB construct. The correlation results confirmed that the biggest correlation occurred between Q65 and Q66. Hence, it was decided that these items remain in the model as indicators of the civic virtue dimension. Furthermore, measurement models with more than one factor typically require only two indicators per factor for identification. Kenny's (1979) rule of thumb about the number of indicators is: 'two might be fine, three is better, four is best, and anything more is gravy' (p. 143). To reiterate, only one construct (civic virtue) of this study had two indicators. In addition, the civic virtue construct was represented as part of a second-order construct in further analyses. The remaining constructs of this study had at least three indicators. The respecified hypothesized CFA model of OCB is portrayed in Figure 6.20.

Figure 6.20

*Revised Confirmatory Factor Analysis Model of OCB*
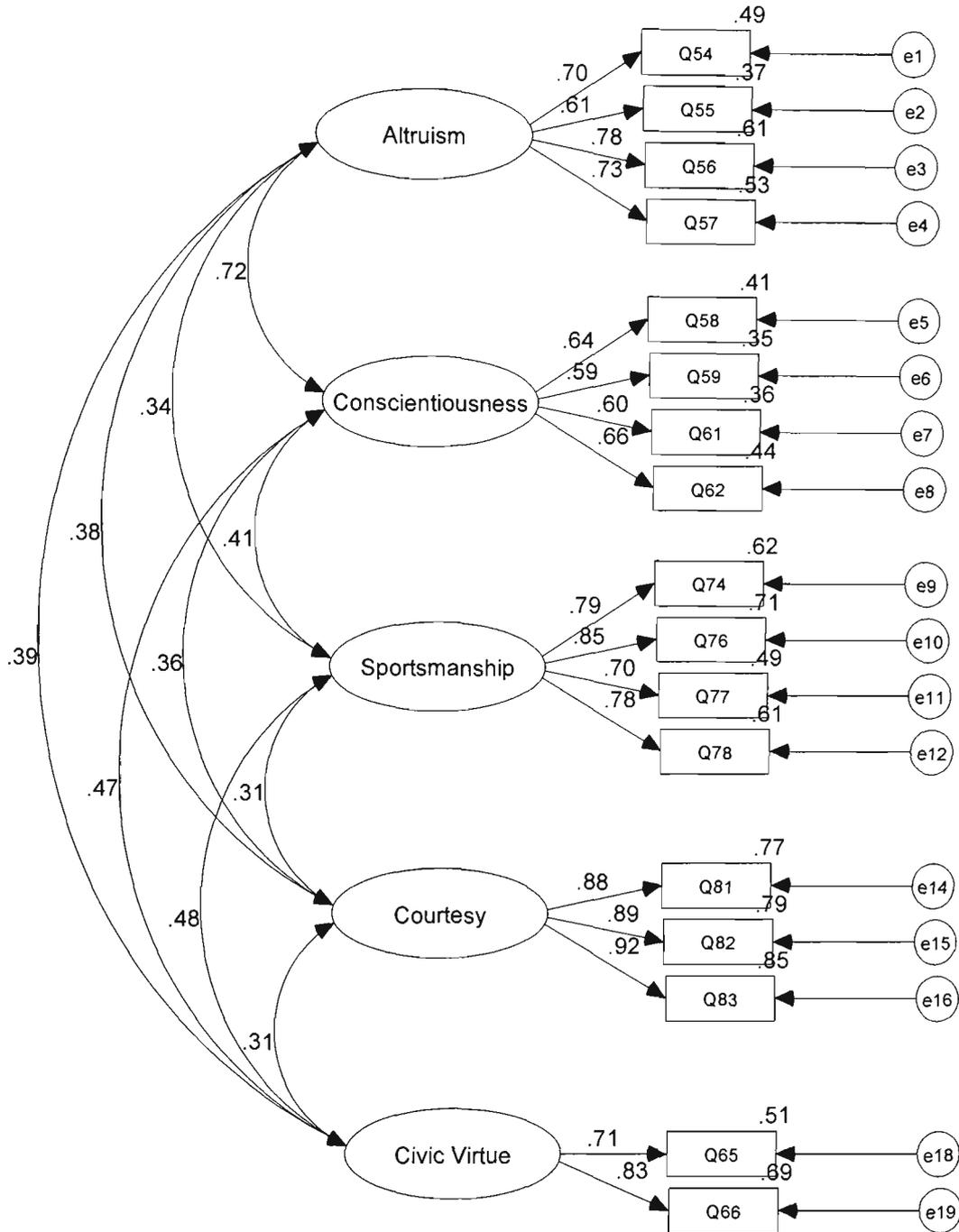


An investigation of the solution presented in Table 6.7 demonstrates that: (1) all parameter estimates exhibit the correct sign and size; (2) standard errors were not excessively small or large; (3) all the critical ratios (C.R.) values were greater than 1.96 and were significant at the 0.001 level. Hence, all estimates were considered to be both reasonable and statistically significant.

## Table 6.7

*AMOS Text Output for Revised Hypothesized Five-Factor OCB CFA Model: Parameter Estimates*

### Maximum Likelihood Estimates

| Regression weights | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q54 | <--- | Altruism | 1.000 | | | |
| Q55 | <--- | Altruism | .930 | .079 | 11.729 | *** |
| Q56 | <--- | Altruism | .930 | .065 | 14.388 | *** |
| Q57 | <--- | Altruism | .777 | .057 | 13.703 | *** |
| Q58 | <--- | Conscientiousness | 1.000 | | | |
| Q59 | <--- | Conscientiousness | .954 | .094 | 10.173 | *** |
| Q61 | <--- | Conscientiousness | 1.050 | .102 | 10.288 | *** |
| Q62 | <--- | Conscientiousness | .701 | .064 | 11.000 | *** |
| Q74 | <--- | Sportsmanship | 1.000 | | | |
| Q76 | <--- | Sportsmanship | 1.025 | .054 | 18.960 | *** |
| Q77 | <--- | Sportsmanship | .925 | .060 | 15.511 | *** |
| Q78 | <--- | Sportsmanship | .925 | .052 | 17.638 | *** |
| Q81 | <--- | Courtesy | 1.000 | | | |
| Q82 | <--- | Courtesy | .993 | .037 | 27.144 | *** |
| Q83 | <--- | Courtesy | 1.407 | .037 | 28.507 | *** |
| Q65 | <--- | Civic Virtue | 1.000 | | | |
| Q66 | <--- | Civic Virtue | 1.104 | .110 | 10.064 | *** |

| Covariances | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Altruism | <--> | Conscientiousness | .339 | .040 | 8.386 | *** |
| Altruism | <--> | Sportsmanship | .189 | .033 | 5.648 | *** |
| Altruism | <--> | Courtesy | .198 | .031 | 6.432 | *** |
| Altruism | <--> | Civic Virtue | .166 | .029 | 5.750 | *** |
| Conscientiousness | <--> | Sportsmanship | .273 | .044 | 6.263 | *** |
| Conscientiousness | <--> | Courtesy | .221 | .038 | 5.798 | *** |
| Conscientiousness | <--> | Civic Virtue | .230 | .038 | 6.090 | *** |
| Sportsmanship | <--> | Courtesy | .227 | .040 | 5.712 | *** |
| Sportsmanship | <--> | Civic Virtue | .285 | .041 | 6.872 | *** |
| Courtesy | <--> | Civic Virtue | .169 | .033 | 5.124 | *** |

| Variances | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|
| Altruism | | .400 | .049 | 8.115 | *** |
| Conscientiousness | | .549 | .080 | 6.903 | *** |
| Sportsmanship | | .789 | .080 | 9.861 | *** |
| Courtesy | | .691 | .058 | 12.002 | *** |
| Civic Virtue | | .441 | .062 | 7.073 | *** |

Note: N = 488. Parameter estimates significant at the *** P < 0.001 level. S.E. = Standard error. C.R. = Critical ratio.

Examining the five-factor model as a whole showed that the data was a good fit to the model: $\chi^2$ (109, N=488) = 335.108, Bollen-Stine's $p$ = 0.016, $\chi^2/df$ = 3.074, SRMR = 0.044, TLI = 0.925, CFI = 0.940, and RMSEA = 0.065. Indicators specified to measure a common underlying factor all had relatively high-standardised loadings on that factor. Final item loadings and reliability for each OCB indicator are presented in Table 6.8 and construct reliabilities are reported in Table 6.16.

Table 6.8

*Confirmatory Factor Analysis OCB Item Loadings and Reliability*

| Factor and item | Loading | Reliability |
| --- | --- | --- |
| *Altruism* | | |
| I help others who have heavy work loads | 0.70 | 0.50 |
| I help orient new people even though it is not required | 0.61 | 0.37 |
| I willingly help others who have work related problems | 0.78 | 0.61 |
| I am always ready to lend a helping hand to those around me | 0.73 | 0.53 |
| *Conscientiousness* | | |
| My attendance at work is above the norm | 0.64 | 0.41 |
| I do not take extra breaks | 0.59 | 0.35 |
| I am one of the most conscientious employees in the organisation | 0.60 | 0.36 |
| I believe in giving an honest day's work for an honest day's pay | 0.66 | 0.44 |
| *Sportsmanship* | | |
| I consume a lot of time complaining about trivial matters (R) | 0.79 | 0.62 |
| I tend to make "mountains out of molehills" (R) | 0.85 | 0.71 |
| I always find fault with what the organisation is doing (R) | 0.70 | 0.50 |
| I am the classic "squeaky wheel" that always needs greasing (R) | 0.78 | 0.61 |
| *Courtesy* | | |
| I do not abuse the rights of others | 0.88 | 0.77 |
| I try to avoid creating problems for co-workers | 0.89 | 0.79 |
| I consider the impact of my actions on co-workers | 0.92 | 0.85 |
| *Civic Virtue* | | |
| I keep abreast of changes in the organization | 0.71 | 0.51 |
| I read and keep up with the organisation announcements, memos, and so on | 0.83 | 0.69 |

Note: N = 488. (R) = reverse scored. All factor loadings are significant at $p$ < 0.001. All loadings are standardised.

## 6.7 Confirmatory Factor Analysis Psychological Contract Fulfilment

As discussed in Chapter 4, perceived psychological contract fulfilment was measured using a global unidimensional measure and a multidimensional content measure. CFA was conducted for indicator variables derived from the multidimensional psychological contract fulfilment content scale measuring the perceived fulfilment of two facets of psychological contracts. The hypothesized CFA model of the content measure of perceived psychological contract fulfilment is depicted in Figure 6.21. The inter-correlations between the two factors was significant at $p < 0.001$. Goodness of fit for this model was found to be good: $\chi2$ (43, N=488) = 119.739, Bollen-Stine's $p = 0.006$, $\chi2/df = 2.785$, SRMR = 0.029, TLI = 0.972, CFI = 0.978, RMSEA = 0.061. Further, the results showed that all items loaded highly on their respective factor. Final item loadings and reliability for each of the two constructs are presented in Table 6.9.

Figure 6.21

*Confirmatory Factor Analysis Model of Psychological Contract Fulfilment using Content Measure*
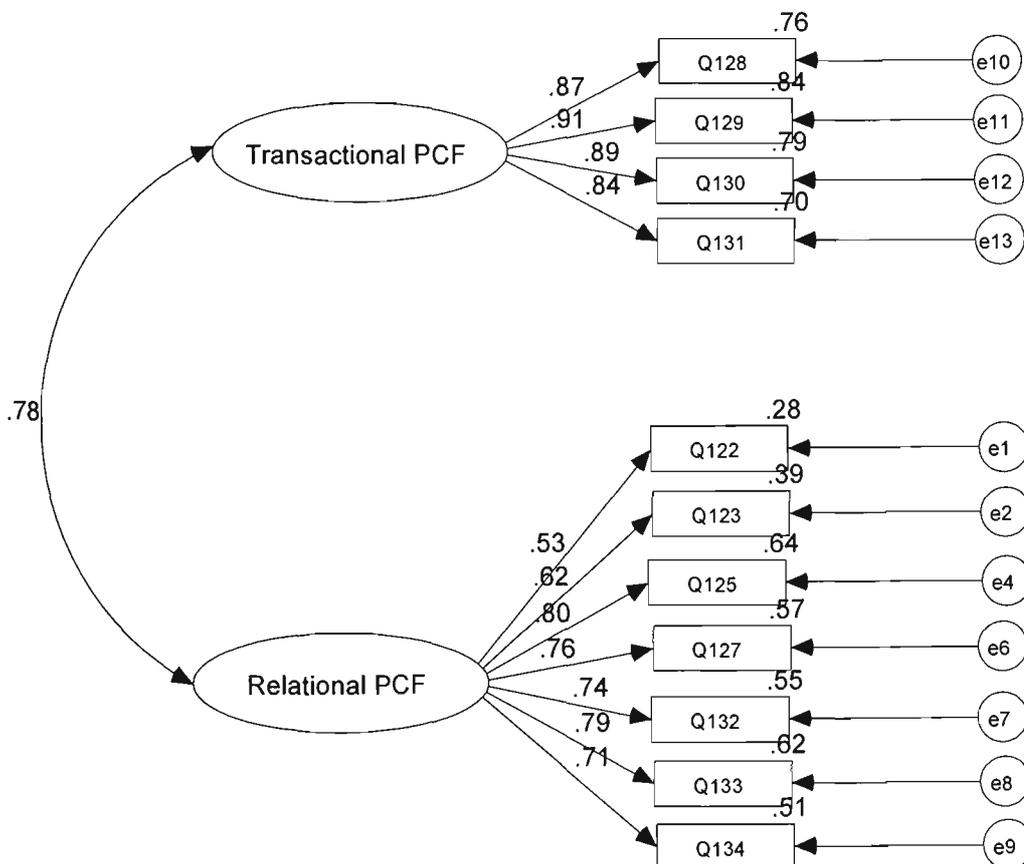


Note: PCF = Psychological contract fulfilment.

Table 6.9

*Confirmatory Factor Analysis Psychological Contract Fulfilment (using Content Measure) Item Loadings and Reliability*

| Factor and item | Loading | Reliability |
|---|---|---|
| *Fulfilment of Transactional Psychological Contract* | | |
| Pay increases to maintain standard of living | 0.87 | 0.76 |
| Reasonable pay in comparison to employees doing similar work in other organisations | 0.91 | 0.84 |
| Pay based on current level of performance | 0.89 | 0.79 |
| Fringe benefits that are comparable to what employees doing similar work in other organisations get | 0.84 | 0.70 |
| *Fulfilment of Relational Psychological Contract* | | |
| Long-term job security | 0.53 | 0.28 |
| Training | 0.62 | 0.39 |
| Involvement in decision making | 0.80 | 0.64 |
| Information on important developments | 0.76 | 0.57 |
| Rapid advancement | 0.74 | 0.55 |
| Team working | 0.79 | 0.62 |
| Hiring competent people | 0.71 | 0.51 |

Note: N = 488. All factor loadings are significant at $p < 0.001$. All loadings are standardised.

## 6.8  Construct Validity

Construct validity exists when the measure is a good representation of the variable the researcher aims to measure. To confirm validity of the constructs of this study, the indicator variables contributing to the overall measurement of the latent variable must all represent the same generic true score; they must all be valid measures of the one latent trait (Bollen, 1989). Construct validity is seen as the central idea by some writers (Messick, 1989), incorporating the other types of validity as parts or aspects (Punch, 1998), and is addressed by analyzing both convergent validity and discriminant validity (Sekaran, 2003).

Because the structural portion of the full structural equation model presented in the present program of research involved relations among only latent variables, and as the primary concern in working with this model was to assess the extent to which these relations are valid, it was essential that the measurement of each latent variable was psychometrically sound. Thus, a crucial preliminary step in the analysis of full

latent variable models was to first test the construct validity of the measurement models before making any attempt to evaluate the structural model (Byrne, 2001). Accordingly, one-factor congeneric models and CFA procedures were used in testing the convergent and discriminant validity of the indicator variables. These procedures are reported and discussed in the following subsections.

## 6.8.1   Convergent Validity

Convergent validity is a measure of the magnitude of the direct structural relationship between an observed variable and its associated latent construct. Convergent validity is achieved when this relationship (the factor loading) is significantly different from zero. The critical ratio of the parameter estimates is used to assess its statistical significance. As such, the key criterion is that the estimated parameter be significantly different from zero. This decisive factor was realised for all constructs in the current program of research. Moreover, all indicators specified to measure common underlying factors had relatively high-standardised loadings on their respective factors (Kline, 2005). The goodness of fit measures for the one-factor congeneric measurement models reported in Section 6.4 can also be viewed as confirming the convergent validity of the constructs of this study.

## 6.8.2   Discriminant Validity

Discriminant validity reflects the extent to which the constructs in a model are different. Assessing discriminant validity is especially important where the constructs are interrelated, as is the case with the seven high commitment HRM practices and the five OCB dimensions. Several approaches for assessing discriminant validity exist. For the purpose of the present program of research, two methods will be reported for the multidimensional constructs. The first method proposes that large correlations between latent constructs (greater than 0.80 or 0.90) suggest a lack of discriminant validity (Anderson and Gerbing, 1988). Kline (2005) advises that estimated correlations between factors should not be excessively high (e.g., > 0.85). The second method, as recommended by Thompson (1997), involves the use of pattern and structure coefficients in determining whether constructs in measurement models are empirically distinguishable. Pattern coefficients are the standardised factor loadings derived from the AMOS analyses (Kline, 2005). To determine the structure coefficients, the influence of each factor on items not

hypothesised to comprise that factor is calculated by multiplying the latent factor correlation by the factor loadings of the item. For example, the structure coefficient of Q16 on the 'Rewards' factor is equal to 0.76 x 0.70 = 0.53 (see Figure 6.18). This number should be less than all the loadings of the items hypothesised to comprise the 'Rewards' factor.

*Discriminant Validity of High Commitment HRM Practices*

Figure 6.18 reveals that the largest correlation between the seven latent constructs is the one between the 'communication' construct and the 'training and development' construct (0.72). This number is below the suggested guideline of 0.85 (Kline, 2005); hence, this indicates the high commitment management factors represent distinguishable constructs and possess discriminant validity.

Discriminant validity of the constructs comprising the high commitment HRM practices measurement model was also confirmed through the use of pattern and structure coefficients. For example, inspecting Figure 6.18 demonstrates that the lowest loading of the items comprising the 'Rewards' factor is 0.72, which is greater than 0.53 (the structure coefficient of Q16 on the 'Rewards' factor). Table 6.10 displays the pattern and structure coefficients for the communication, rewards, selective hiring, training and development, participative decision making, team working, and job security factors.

All factor pattern coefficients of the respective factors were statistically significant, and exceeded the commonly accepted minimum value of 0.40 (Tabachnick and Fidell, 1996) as they ranged from a low of 0.62 to a high of 0.95. Intercorrelations between the latent variables were positive and significant ($p < 0.001$). The factor communication had respective correlations of 0.70, 0.65, 0.72, 0.59, 0.71, and 0.31 with rewards, selective hiring, training and development, participative decision making, team working, and job security. The correlations between rewards and communication, selective hiring, training and development, participative decision making, team working, and job security were 0.70, 0.63, 0.69, 0.55, 0.54, and 0.37 respectively. The correlations between selective hiring and communication, rewards, training and development, participative decision making, team working, and job security were 0.65, 0.63, 0.53, 0.49, 0.50, and 0.28. The factor, training and

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development had respective correlations of 0.72, 0.69, 0.53, 0.63, 0.60, and 0.34 with communication, rewards, selective hiring, participative decision making, team working and job security. PDM had correlations of 0.59, 0.55, 0.49, 0.50, and 0.30 with communication, rewards, selective hiring, training and development, and job security correspondingly. The factor team working had respective correlations of 0.71, 0.54, 0.50, 0.60, 0.50, and 0.24 with communication, rewards, selective hiring, training and development, participative decision making, and job security. Finally, job security had respective correlations of 0.31, 0.37, 0.28, 0.34, 0.30, and 0.24 with communication, rewards, selective hiring, training and development, participative decision making, and team working. In particular, an examination of the structural coefficients (see Table 6.10) showed a clear distinction between the items comprising the factors and the remaining items, and thus revealed that the factors represent distinguishable constructs.

Table 6.10

*Factor Pattern and Structure Coefficients for High Commitment HRM Practices*

| Item | Communication | | Rewards | | Selective Hiring | | T&D | | PDM | | Team working | | Job Security | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Pattern | Structure | Pattern | Structure | Pattern | Structure | Pattern | Structure | Pattern | Structure | Pattern | Structure | Pattern | Structure |
| Q16 | .76 | .76 | 0* | .53 | 0* | .49 | 0* | .55 | 0* | .45 | 0* | .54 | 0* | .24 |
| Q17 | .77 | .77 | 0* | .54 | 0* | .50 | 0* | .55 | 0* | .45 | 0* | .55 | 0* | .24 |
| Q18 | .87 | .87 | 0* | .61 | 0* | .57 | 0* | .63 | 0* | .51 | 0* | .62 | 0* | .27 |
| Q20 | .88 | .88 | 0* | .62 | 0* | .57 | 0* | .63 | 0* | .52 | 0* | .62 | 0* | .27 |
| Q22 | .77 | .77 | 0* | .54 | 0* | .50 | 0* | .55 | 0* | .45 | 0* | .55 | 0* | .24 |
| Q23 | 0* | .53 | .76 | .76 | 0* | .48 | 0* | .52 | 0* | .42 | 0* | .41 | 0* | .28 |
| Q24 | 0* | .59 | .84 | .84 | 0* | .53 | 0* | .58 | 0* | .46 | 0* | .45 | 0* | .31 |
| Q27 | 0* | .60 | .85 | .85 | 0* | .54 | 0* | .59 | 0* | .47 | 0* | .46 | 0* | .31 |
| Q28 | 0* | .62 | .89 | .89 | 0* | .56 | 0* | .61 | 0* | .49 | 0* | .48 | 0* | .33 |
| Q29 | 0* | .50 | .72 | .72 | 0* | .45 | 0* | .50 | 0* | .40 | 0* | .39 | 0* | .27 |
| Q36 | 0* | .40 | 0* | .39 | .62 | .62 | 0* | .33 | 0* | .30 | 0* | .31 | 0* | .17 |
| Q37 | 0* | .44 | 0* | .43 | .68 | .68 | 0* | .36 | 0* | .33 | 0* | .34 | 0* | .19 |
| Q39 | 0* | .57 | 0* | .55 | .87 | .87 | 0* | .46 | 0* | .43 | 0* | .44 | 0* | .24 |
| Q40 | 0* | .48 | 0* | .47 | .74 | .74 | 0* | .39 | 0* | .36 | 0* | .37 | 0* | .21 |
| Q8 | 0* | .52 | 0* | .50 | 0* | .38 | .72 | .72 | 0* | .45 | 0* | .43 | 0* | .24 |
| Q9 | 0* | .60 | 0* | .57 | 0* | .44 | .83 | .83 | 0* | .52 | 0* | .50 | 0* | .28 |
| Q10 | 0* | .53 | 0* | .51 | 0* | .39 | .74 | .74 | 0* | .47 | 0* | .44 | 0* | .25 |
| Q11 | 0* | .61 | 0* | .59 | 0* | .45 | .85 | .85 | 0* | .54 | 0* | .51 | 0* | .29 |
| Q1 | 0* | .50 | 0* | .47 | 0* | .42 | 0* | .54 | .85 | .85 | 0* | .43 | 0* | .26 |
| Q4 | 0* | .48 | 0* | .45 | 0* | .40 | 0* | .51 | .81 | .81 | 0* | .41 | 0* | .24 |
| Q5 | 0* | .50 | 0* | .46 | 0* | .41 | 0* | .53 | .84 | .84 | 0* | .42 | 0* | .25 |
| Q7 | 0* | .56 | 0* | .52 | 0* | .47 | 0* | .60 | .95 | .95 | 0* | .48 | 0* | .29 |
| Q30 | 0* | .63 | 0* | .48 | 0* | .45 | 0* | .53 | 0* | .45 | .89 | .89 | 0* | .21 |
| Q31 | 0* | .60 | 0* | .45 | 0* | .42 | 0* | .50 | 0* | .42 | .84 | .84 | 0* | .20 |
| Q33 | 0* | .51 | 0* | .39 | 0* | .36 | 0* | .43 | 0* | .36 | .72 | .72 | 0* | .17 |
| Q41 | 0* | .27 | 0* | .33 | 0* | .25 | 0* | .30 | 0* | .26 | 0* | .21 | .88 | .88 |
| Q42 | 0* | .23 | 0* | .28 | 0* | .21 | 0* | .26 | 0* | .23 | 0* | .18 | .75 | .75 |
| Q43 | 0* | .27 | 0* | .33 | 0* | .25 | 0* | .30 | 0* | .26 | 0* | .21 | .88 | .88 |

Note: N = 488. T&D = Training and development. PDM = Participative decision making. Tabled values are standardised parameter estimates. Asterisked values (*) are parameters fixed at reported levels to identify the model. Factor correlations were free to be estimated. All pattern coefficients are statistically different from zero.

*Discriminant Validity of OCB*

Figure 6.20 shows the largest correlation between the five latent constructs occurs between the 'Altruism' and 'Conscientiousness' constructs (correlation = 0.72). This number is below the suggested guideline of 0.85 (Kline, 2005) and it can be concluded that estimated correlations between the factors are not excessively high, which further suggests that the OCB constructs possess discriminant validity.

Discriminant validity of the constructs of the revised OCB measurement model was also confirmed through the use of pattern and structure coefficients. All factor pattern coefficients on the respective factors ranged from a low of 0.59 to a high of 0.92 and were statistically significant. Intercorrelations between the latent variables were positive and significant. The factor altruism had respective correlations of 0.72, 0.34, 0.38, and 0.39 with conscientiousness, sportsmanship, courtesy, and civic virtue. The correlations between conscientiousness and altruism, sportsmanship, courtesy and civic virtue were 0.72, 0.41, 0.36, and 0.47 respectively. The factor sportsmanship had respective correlations of 0.34, 0.41, 0.31, and 0.48 with altruism, conscientiousness, courtesy and civic virtue. Courtesy had correlations of 0.38, 0.36, 0.31, and 0.31 with altruism, conscientiousness, sportsmanship and civic virtue correspondingly. Lastly, the factor civic virtue had respective correlations of 0.39, 0.47, 0.48, and 0.31 with altruism, conscientiousness, sportsmanship and courtesy. An inspection of the structural coefficients (see Table 6.11) showed a clear distinction between the items comprising the factors and the remaining items; that is indicators of each of the five factors did not have a substantial correlation with the other factors they were not specified to measure. Hence, it can be inferred that the five OCB factors represent distinguishable constructs.

## Table 6.11

*Factor Pattern and Structure Coefficients for OCB*

| Item | Altruism Pattern | Altruism Structure | Conscientiousness Pattern | Conscientiousness Structure | Sportsmanship Pattern | Sportsmanship Structure | Courtesy Pattern | Courtesy Structure | Civic virtue Pattern | Civic virtue Structure |
|------|------|------|------|------|------|------|------|------|------|------|
| Q54 | .70 | .70 | 0* | .50 | 0* | .24 | 0* | .27 | 0* | .27 |
| Q55 | .61 | .61 | 0* | .44 | 0* | .21 | 0* | .23 | 0* | .24 |
| Q56 | .78 | .78 | 0* | .56 | 0* | .27 | 0* | .30 | 0* | .30 |
| Q57 | .73 | .73 | 0* | .53 | 0* | .25 | 0* | .28 | 0* | .28 |
| Q58 | 0* | .46 | .64 | .64 | 0* | .26 | 0* | .23 | 0* | .30 |
| Q59 | 0* | .42 | .59 | .59 | 0* | .24 | 0* | .21 | 0* | .28 |
| Q61 | 0* | .43 | .60 | .60 | 0* | .25 | 0* | .22 | 0* | .28 |
| Q62 | 0* | .48 | .66 | .66 | 0* | .27 | 0* | .24 | 0* | .31 |
| Q74 | 0* | .27 | 0* | .32 | .79 | .79 | 0* | .24 | 0* | .38 |
| Q76 | 0* | .29 | 0* | .35 | .85 | .85 | 0* | .26 | 0* | .41 |
| Q77 | 0* | .24 | 0* | .29 | .70 | .70 | 0* | .22 | 0* | .34 |
| Q78 | 0* | .27 | 0* | .32 | .78 | .78 | 0* | .24 | 0* | .37 |
| Q81 | 0* | .33 | 0* | .32 | 0* | .27 | .88 | .88 | 0* | .27 |
| Q82 | 0* | .34 | 0* | .32 | 0* | .28 | .89 | .89 | 0* | .28 |
| Q83 | 0* | .35 | 0* | .33 | 0* | .29 | .92 | .92 | 0* | .29 |
| Q65 | 0* | .28 | 0* | .33 | 0* | .34 | 0* | .22 | .71 | .71 |
| Q66 | 0* | .32 | 0* | .39 | 0* | .40 | 0* | .26 | .83 | .83 |

Notes: N = 488. Tabled values are standardised parameter estimates. Asterisked values (*) are parameters fixed at reported levels to identify the model. Factor correlations were free to be estimated. All pattern coefficients are statistically different from zero.

*Overall Discriminant Validity of all Constructs*

Finally, a measurement model of all the constructs investigated in the study was evaluated (see Figure 6.22). The main purpose of this analysis was to ensure that the constructs under consideration demonstrated discriminant validity (Anderson and Gerbing, 1988). The correlations between all latent variables are displayed in Table 6.12. All correlations were noticeably below 0.85 (ranged from 0.158 to 0.794) except for that between procedural justice and communication (r = 0.831) and that between procedural and interactional justice. Of concern was the high positive correlation found between the procedural justice construct and the interactional justice constructs (r = 0.848) which is right at the 0.85 cut point. This suggests the possibility that the procedural justice construct may not be empirically distinguishable from the interactional justice construct.

To establish the extent to which the procedural justice construct was different from the interactional justice construct, CFA analysis on a measurement model containing these two factors was assessed (see Figure 6.23), and the structure and pattern coefficients were also examined (Table 6.13). Prior to CFA, one-factor congeneric models for both constructs were conducted until a satisfactory solution was reached (see Figure 6.23 for remaining items).

Figure 6.22

*Measurement Model of all Constructs Investigated in the Present Program of Research*
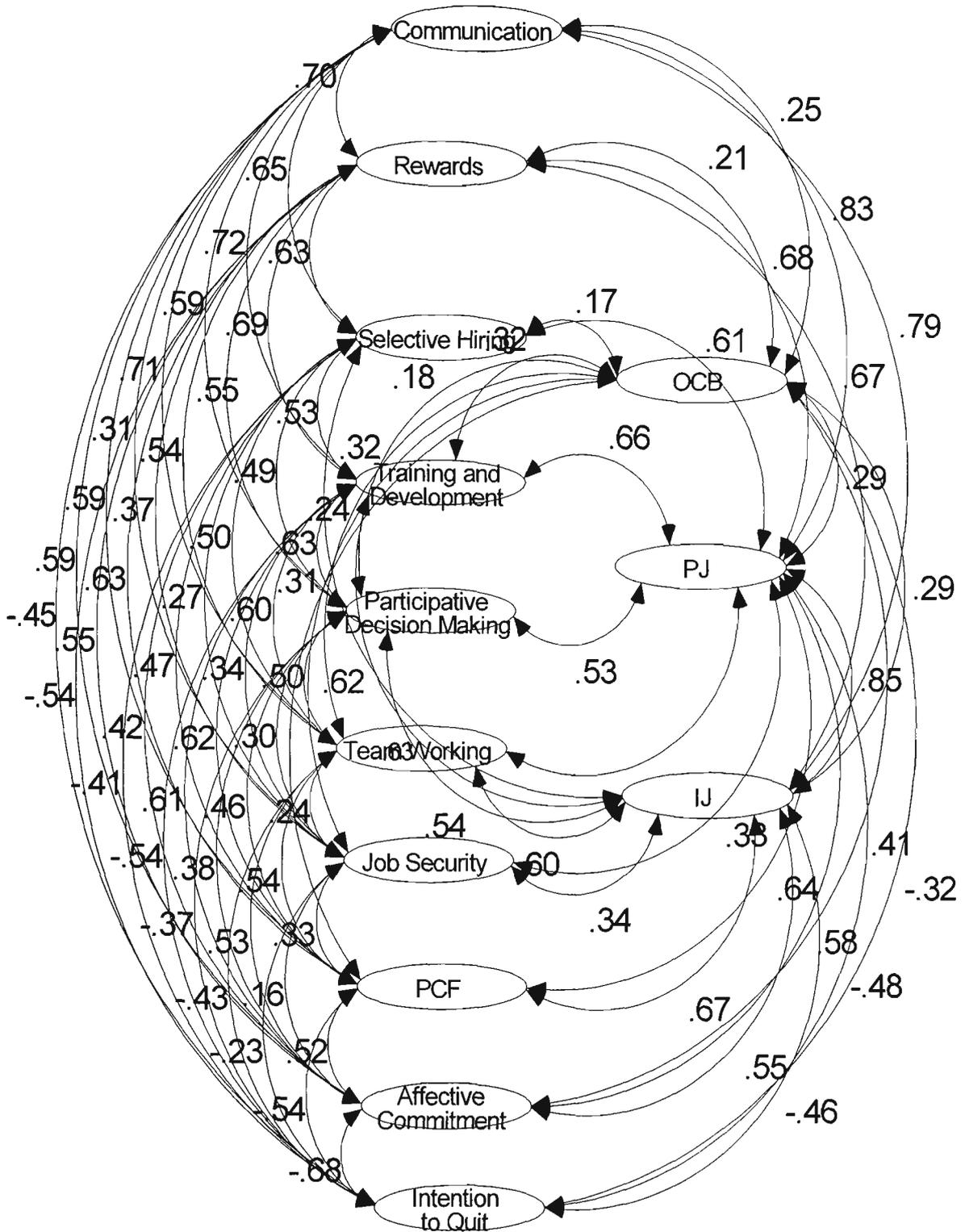


Note: N = 488, OCB = Organisational Citizenship Behaviour. PCF = Psychological Contract Fulfilment. PJ = Procedural Justice. IJ = Interactional Justice. To simplify the presentation, the measurement model has been omitted.

Table 6.12

*Standardised Correlations between the Latent Constructs of the Study*

| | | | Estimate |
|---|---|---|---|
| Communication | <--> | Rewards | 0.702 |
| Communication | <--> | Selective Hiring | 0.645 |
| Communication | <--> | Training and Development | 0.723 |
| Communication | <--> | Participative Decision Making | 0.591 |
| Rewards | <--> | Selective Hiring | 0.633 |
| Rewards | <--> | Training and Development | 0.686 |
| Rewards | <--> | Participative Decision Making | 0.548 |
| Rewards | <--> | Team working | 0.539 |
| Rewards | <--> | Job Security | 0.368 |
| Selective Hiring | <--> | Training and Development | 0.532 |
| Selective Hiring | <--> | Participative Decision Making | 0.486 |
| Selective Hiring | <--> | Team working | 0.502 |
| Training and Development | <--> | Participative Decision Making | 0.625 |
| Training and Development | <--> | Team working | 0.603 |
| Training and Development | <--> | Job Security | 0.335 |
| Participative Decision Making | <--> | Team working | 0.497 |
| Participative Decision Making | <--> | Job Security | 0.303 |
| Team working | <--> | Job Security | 0.240 |
| Communication | <--> | Psychological Contract Fulfilment | 0.595 |
| Communication | <--> | Affective Commitment | 0.590 |
| Communication | <--> | OCB | 0.248 |
| Communication | <--> | Interactional Justice | 0.794 |
| Rewards | <--> | OCB | 0.207 |
| Rewards | <--> | Intention to Quit | -0.536 |
| Rewards | <--> | Procedural Justice | 0.680 |
| Selective Hiring | <--> | Psychological Contract Fulfilment | 0.474 |
| Selective Hiring | <--> | OCB | 0.167 |
| Selective Hiring | <--> | Procedural Justice | 0.610 |
| Selective Hiring | <--> | Interactional Justice | 0.619 |
| Training and Development | <--> | Psychological Contract Fulfilment | 0.620 |
| Training and Development | <--> | Affective Commitment | 0.606 |
| Training and Development | <--> | OCB | 0.322 |
| Training and Development | <--> | Intention to Quit | -0.544 |
| Training and Development | <--> | Procedural Justice | 0.661 |
| Training and Development | <--> | Interactional Justice | 0.629 |
| Participative Decision Making | <--> | Psychological Contract Fulfilment | 0.461 |
| Participative Decision Making | <--> | Affective Commitment | 0.384 |
| Participative Decision Making | <--> | OCB | 0.177 |
| Participative Decision Making | <--> | Intention to Quit | -0.371 |
| Participative Decision Making | <--> | Procedural Justice | 0.534 |
| Participative Decision Making | <--> | Interactional Justice | 0.541 |
| Team working | <--> | Affective Commitment | 0.529 |
| Team working | <--> | OCB | 0.325 |
| Team working | <--> | Intention to Quit | -0.434 |
| Team working | <--> | Procedural Justice | 0.602 |
| Team working | <--> | Interactional Justice | 0.598 |
| Job Security | <--> | Psychological Contract Fulfilment | 0.328 |

| | | | Estimate |
|---|---|---|---|
| Job Security | <--> | Affective Commitment | 0.158 |
| Job Security | <--> | OCB | 0.241 |
| Job Security | <--> | Intention to Quit | -0.231 |
| Job Security | <--> | Procedural Justice | 0.330 |
| Job Security | <--> | Interactional Justice | 0.341 |
| Psychological Contract Fulfilment | <--> | Affective Commitment | 0.515 |
| Psychological Contract Fulfilment | <--> | OCB | 0.311 |
| Psychological Contract Fulfilment | <--> | Intention to Quit | -0.537 |
| Psychological Contract Fulfilment | <--> | Procedural Justice | 0.639 |
| Psychological Contract Fulfilment | <--> | Interactional Justice | 0.665 |
| Affective Commitment | <--> | OCB | 0.407 |
| Affective Commitment | <--> | Intention to Quit | -0.676 |
| Affective Commitment | <--> | Procedural Justice | 0.579 |
| Affective Commitment | <--> | Interactional Justice | 0.546 |
| Intention to Quit | <--> | Procedural Justice | -0.478 |
| Intention to Quit | <--> | Interactional Justice | -0.462 |
| Procedural Justice | <--> | Interactional Justice | 0.848 |
| Rewards | <--> | Affective Commitment | 0.552 |
| Communication | <--> | Job Security | 0.314 |
| Communication | <--> | Team working | 0.710 |
| Rewards | <--> | Psychological Contract Fulfilment | 0.629 |
| Selective Hiring | <--> | Affective Commitment | 0.417 |
| Communication | <--> | Procedural Justice | 0.831 |
| OCB | <--> | Intention to Quit | -0.315 |
| Rewards | <--> | Interactional Justice | 0.673 |
| OCB | <--> | Interactional Justice | 0.289 |
| Communication | <--> | Intention to Quit | -0.451 |
| Selective Hiring | <--> | Intention to Quit | -0.409 |
| Selective Hiring | <--> | Job Security | 0.274 |
| OCB | <--> | Procedural Justice | 0.294 |

Note: N = 488. OCB = Organisational Citizenship Behaviour.

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Figure 6.23

*Confirmatory Factor Analysis Model of Justice*
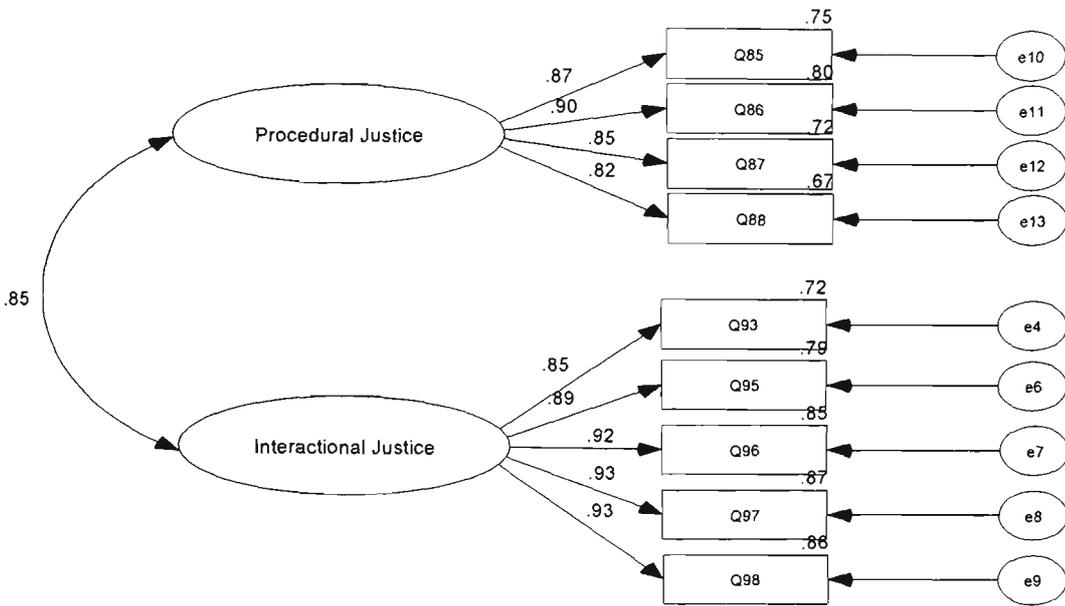


Table 6.13

*Factor Pattern and Structure Coefficients for Justice (Procedural and Interactional)*

| | Procedural justice | | Interactional justice | |
|---|---|---|---|---|
| Item | Pattern | Structure | Pattern | Structure |
| Q85 | .87 | .87 | 0* | .74 |
| Q86 | .90 | .90 | 0* | .76 |
| Q87 | .85 | .85 | 0* | .72 |
| Q88 | .82 | .82 | 0* | .70 |
| Q93 | 0* | .72 | .85 | .85 |
| Q95 | 0* | .76 | .89 | .89 |
| Q96 | 0* | .78 | .92 | .92 |
| Q97 | 0* | .79 | .93 | .93 |
| Q98 | 0* | .79 | .93 | .93 |

Notes: N = 488. Tabled values are standardised parameter estimates. Asterisked values are parameters fixed at reported levels to identify the model. Factor correlations were free to be estimate. All pattern coefficients are statistically different from zero.

An examination of the structural coefficients (see Table 6.13) showed a clear distinction between the items comprising the factors and the remaining items, and therefore revealed that the procedural and interactional justice factors represent distinguishable constructs. The results indicate that the measurement model is operating adequately (e.g., items did not cross load on other factors); consequently, this provides more confidence in findings related to the assessment of the hypothesized structural model.

The two-factor (procedural and interactional) model of justice conducted on this study's sample indicated a good fit: $\chi2$ (26, N=488) = 79.629, Bollen-Stine's $p$ = 0.224, $\chi2/df$ = 3.063, SRMR = 0.016, TLI = 0.984, CFI = 0.988, RMSEA = 0.065. In addition, a single factor model of justice was estimated and compared to the two-factor structure. The unidimensional model had a chi-square score of 445.50 with 27 degrees of freedom (TLI = 0.879; CFI = 0.909). The chi-square difference between the unidimensional model and the two-factor model was significant $\Delta\chi2(1, 488)$ = 365.87. Therefore, from these results and comparisons, support was found in this study that procedural justice and interactional justice are distinct dimensions.

Because the correlation between procedural justice and communication was also high (r = 0.831), the chi-square difference was also checked between a model which contained communication and procedural justice as two separate factors, and a unidimensional model which treated combined communication items and procedural justice items into one factor. The chi-square difference between the unidimensional model and the two-factor model was significant $\Delta\chi2(1, 488)$ = 301.25. Subsequently, these results support the two-factor model in which procedural justice and communication are distinguishable constructs.

## 6.9 Confirmation of Second Order OCB Construct

A second-order or higher-order model posits that the first-order factors estimated are actually subdimensions of a broader more encompassing construct. There are two unique features of the second-order model. First, the second-order factor becomes the exogenous construct, whereas the first-order factors are endogenous. Second, there are no indicators of the second-order factor, that is, the second order factor is completely latent and unobservable (Hair *et al.,* 1998). Before the relationship between OCB and other constructs of the study such as affective commitment could be investigated, it was first necessary to confirm that the five OCB dimensions were related to OCB because the researcher was interested in testing the structural relationships between other constructs, portrayed in the proposed model and presented in Chapter 3, and OCB in general (rather than relationships with each of the five dimensions separately). Consequently, a second-order model of OCB was performed under the assumption that constructs related to each other would load on a

higher order factor nominally called OCB. That is to say, the covariations between the five lower order factors revealed in Figure 6.20 could be explained by the more general construct of OCB as depicted in Figure 6.24.

A higher order OCB model represents a total organisational citizenship behaviour measure. For this study, a second-order OCB model was deemed more appropriate than a breakdown of five factors because the overall frequency of helpful behaviour was relevant to the hypotheses, not each individual type of behaviour taken by the subject. Organ and Ryan (1995), in the selection of research for their meta-analysis of predictors of organisational citizenship behaviour, reasoned that the correct measure of organisational citizenship behaviour is an aggregate measure rather than a measure of several specific behaviours when the directions of the relationships are expected to be similar across all dimensions. Therefore, a second-order factor of OCB was performed because it is a reflection of the stated conceptual premises of this study. (See Klein, Dansereau, and Hall (1994) and House, Rousseau and Thomas-Hunt (1995), for the importance of the analysis matching the conceptual arguments).

The second-order model is a special case of the first-order model, with the added restriction that structure be imposed on the correlational pattern among the first-order factors (Rindskopf and Rose, 1988). As such, the model shown in Figure 6.24 hypothesised a priori that: (1) responses to the final 17-item OCB scale could be explained by five first-order factors (altruism, conscientiousness, sportsmanship, civic virtue, courtesy), and one second-order factor (OCB); (2) each item would have a non-zero loading on the first-order factor it was designed to measure, and zero loadings on the other four first-order factors; (3) error terms associated with each item would be uncorrelated; and (4) covariation among the five first-order factors would be explained fully by their regression on the second-order factor.

Interpretation of the individual parameters required the overall fit of data to the second-order model to be adequate. Further, the fit of the data to the model was expected to closely reflect the five-factor lower order model as the higher-order model is simply a special case of the first-order model in which a single additional

constraint is placed upon one of the variances of the first-order constructs. Support for fit may be inferred at two levels. The first level simply addresses whether the first-order latent variables possess statistically significant loadings with the second-order latent factor, and whether the second-order loadings are directionally consistent with conceptual premises. The general expectation was that all of the parameter estimates would be positive and statistically significant. Given that the results provided evidence for the second-order factor model (see Table 6.14; the estimates output shows that estimates were both reasonable and statistically significant, and C.R. values were all greater than 1.96 and significant at $p < 0.001$), the next level of support was inferred from the fit indices.

Overall, the results demonstrate that the empirical data adequately fit the second-order OCB model. The model represents a substantively reasonable fit to the data: $\chi 2$ (114, N=488) = 368.9, $\chi 2/df$ = 3.23, Bollen-Stine's $p$ = 0.004, SRMR = 0.056, TLI = 0.919, CFI = 0.932, RMSEA = 0.068. Correlating the errors (e2 and e18) and errors (e4 and e9), as suggested by the modification fit indices, would have improved the fit of the model: $\chi 2$ (112, N=488) = 330.13, $\chi 2/df$ = 2.948, Bollen-Stine's $p$ = 0.02, SRMR = 0.054, TLI = 0.930, CFI = 0.942, and RMSEA = 0.063. However, it was decided to stay with the first model and not to correlate errors for simplicity purposes and because the specification of correlated error terms for the purposes of achieving a better fitting model is not preferred practice and, if absolutely necessary, must be supported by a strong rationale (Joreskog, 1993). The standardised parameter estimates for the factor coefficients of the five lower order latent factors (altruism, conscientiousness, sportsmanship, courtesy, and civic virtue) on the higher order construct of OCB were 0.78, 0.86, 0.53, 0.47, and 0.59 respectively (Figure 6.22). These second-order factor coefficients were all significant ($p < 0.001$). Finally, an examination of the standardised residual matrix (see Table 6.15) also confirms the model fit with only a few values out of the 136 correlations slightly larger exceeding the recommended 2.58.

Figure 6.24

*Hypothesised Second-order Model of Organisational Citizenship Behaviour (OCB)*
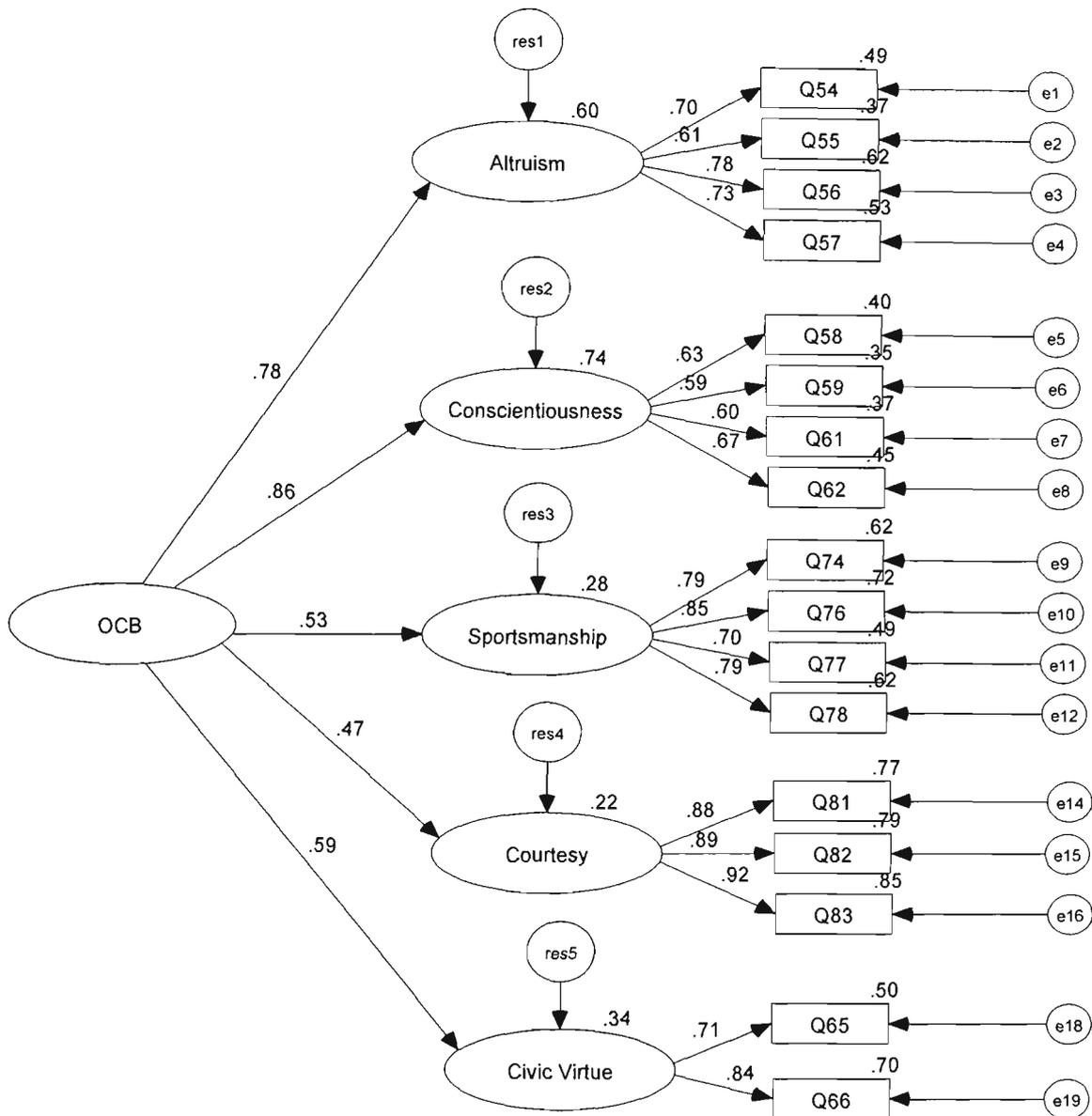


Table 6.14

*Obtained Parameter Estimates OCB Second-order Factor Model*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Altruism | <--- | OCB | .489 | .041 | 11.985 | *** |
| Conscientiousness | <--- | OCB | .631 | .055 | 11.448 | *** |
| Sportsmanship | <--- | OCB | .467 | .050 | 9.416 | *** |
| Courtesy | <--- | OCB | .393 | .044 | 8.969 | *** |
| Civic Virtue | <--- | OCB | .386 | .047 | 8.186 | *** |

Note: N = 488. Parameter estimates significant at the *** P < 0.001 level. S.E. = Standard error. C.R. = Critical ratio.

Table 6.15

*Standardized Residual Matrix for Second-Order OCB Model*

| | Q66 | Q65 | Q83 | Q82 | Q81 | Q78 | Q77 | Q76 | Q74 | Q62 | Q61 | Q59 | Q58 | Q57 | Q56 | Q55 | Q54 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Q66 | .000 | | | | | | | | | | | | | | | | |
| Q65 | .000 | .000 | | | | | | | | | | | | | | | |
| Q83 | .838 | 1.206 | .000 | | | | | | | | | | | | | | |
| Q82 | -1.008 | .879 | .015 | .000 | | | | | | | | | | | | | |
| Q81 | .526 | .448 | -.086 | .100 | .000 | | | | | | | | | | | | |
| Q78 | 2.829 | 1.006 | 1.116 | -.282 | 2.604 | .000 | | | | | | | | | | | |
| Q77 | 2.144 | 3.121 | .199 | .092 | -.251 | .089 | .000 | | | | | | | | | | |
| Q76 | 2.671 | 2.504 | 1.114 | -.074 | 2.030 | -.115 | -.211 | .000 | | | | | | | | | |
| Q74 | 2.090 | 1.861 | 1.323 | .084 | 1.993 | -.071 | .349 | .110 | .000 | | | | | | | | |
| Q62 | 1.608 | -.829 | 1.616 | -.904 | 1.278 | 2.033 | .518 | 2.145 | .984 | .000 | | | | | | | |
| Q61 | -.531 | 1.407 | -.264 | -.198 | -1.099 | -.874 | -.953 | -1.054 | -2.854 | -1.211 | .000 | | | | | | |
| Q59 | -2.223 | -1.033 | -.995 | -1.760 | -2.088 | -.484 | -.715 | -1.350 | -2.074 | -.334 | 1.202 | .000 | | | | | |
| Q58 | -1.194 | -.440 | -.868 | -2.401 | -1.232 | -.308 | -1.635 | -.419 | -2.276 | -1.112 | 1.225 | 1.035 | .000 | | | | |
| Q57 | -.157 | -.379 | .848 | 1.082 | .038 | .080 | -.172 | -.698 | -3.329 | .656 | 1.330 | .783 | .763 | .000 | | | |
| Q56 | -.545 | -2.084 | .249 | -1.305 | .692 | .307 | -1.937 | -.119 | -1.108 | 1.752 | -1.466 | -.637 | 1.156 | .116 | .000 | | |
| Q55 | -.962 | 1.726 | .071 | .665 | .586 | -.686 | .222 | -.214 | -1.442 | .011 | .598 | .899 | .054 | -.761 | .107 | .000 | |
| Q54 | -1.066 | -1.694 | .345 | -1.640 | -.184 | -1.032 | -2.570 | -.681 | -2.313 | 2.804 | -.448 | -.564 | .080 | -.025 | -.045 | .553 | .000 |

## 6.10 Structural Model (Development Empirical Analysis of the Conceptual Model of High Commitment Management and Worker Outcomes)

Structural model has been defined as 'the portion of the model that specifies how the latent variables are related to each other' (Arbuckle, 2005, p. 90). In other words, structural model aims to specify which latent variable(s) directly or indirectly influence the values of other latent variables in the model (Byrne, 1989). In this study, once all latent variables in the measurement model (stage one) were validated and satisfactory fit achieved, the structural model was then tested and presented as a second stage. The SEM strategy is particularly useful when one has multiple indicators for the latent variables under investigation, as is the case in the present program of research. The purpose of this stage was to test the relationships through determining the significant paths between the latent variables. The overall model described in Chapter 3 was tested incrementally. A number of submodels were tested gradually building to the complete model presented in Figure 6.25.

Figure 6.25

*Conceptual Model of High Commitment Management and Worker Outcomes*
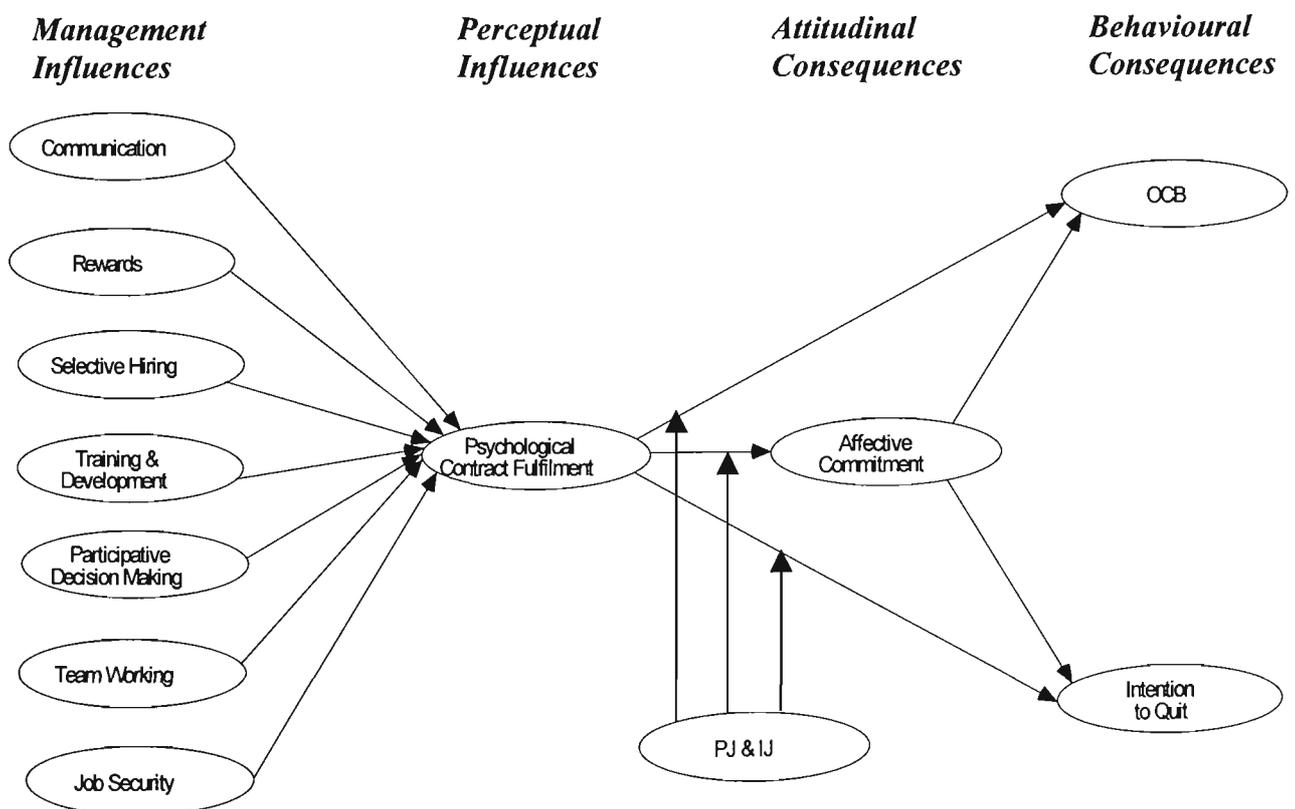


Note: OCB = Organisational Citizenship Behaviour. PJ = Procedural Justice. IJ = Interactional Justice.

A correlation matrix for the hypothesised model was computed to obtain an understanding of the patterns of relationships between the constructs. Prior to conducting the correlation analysis, composite scores were first calculated and used as measures of the constructs explored in the study. Joreskog and Sorbom (1989) showed that, having fitted and accepted a one-factor congeneric model, it is possible to compute an estimated composite score for each individual construct based on the factor score regression weights produced on request in AMOS. To compute a composite score for each construct based on these regression weights, the factor score regression weights are first added to obtain a total and then each factor score weight is divided by that total (these new weights should now sum to unity). The output is subsequently used to compute a composite score in SPSS (using the compute procedure) by multiplying each indicator by this new weight and summing. This method was chosen because it takes into account that some indicators contribute more to the measurement of the underlying latent variable than others.

The correlation matrix (Table 6.16) allows for direct comparisons of the coefficients within a model. However, it is not used to explain the total variance of a construct as needed in theory testing. Hair *et al.* (1995) suggest that interpretation of results and their generalisability should be made with caution, when a correlation matrix is used. The correlation matrix was also used to check the assumption of multicollinearity. This was achieved first by checking that the independent variables show at least some relationship with the dependent variable. In this case all the independent variables correlate substantially with the dependent variables. Second, multicollinearity was tested by checking that the correlation between each of the independent variables is not too high.

According to Kline (2005, p. 56), 'multicollinearity can occur because what appear to be separate variables actually measure the same thing'. He indicates that multicollinearity occurs when intercorrelations among some variables are high (e,g., > 0.85). Pallant (2001, pp. 136-137) suggests that 'multicollinearity exists when the independent variables are highly correlated (r = 0.90 and above)'. In this study, the highest correlation between the independent variables is 0.642 (the correlation between communication, and training and development), which is significantly less

than 0.85. Furthermore, the highest correlation in Table 6.16 is that between procedural justice and interactional justice (0.797) (less than 0.85), suggesting that the assumption of multicollinearity has not been violated. The correlation matrix for the hypothesised model along with the reliability coefficients is presented in Table 6.16. As can be seen, the scale reliabilities (shown in parentheses) for all the variables in the model exceed the value of 0.70. Thus, following on Nunnally and Bernstain's (1994) suggestion, the instrument used in this study provided reliable measures of the variables of interest.

Table 6.16
*Correlation between Variables, Means, Standard Deviations, and Reliability*

| | COMM | REW | SH | T&D | PDM | JS | TW | PCF | AC | ALT | CON | SPO | CV | COUR | IQ | PJ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| COMM | (.903) | | | | | | | | | | | | | | | |
| REW | .641(**) | (.905) | | | | | | | | | | | | | | |
| SH | .562(**) | .552(**) | (.806) | | | | | | | | | | | | | |
| T&D | .642(**) | .608(**) | .445(**) | (.861) | | | | | | | | | | | | |
| PDM | .548(**) | .510(**) | .426(**) | .565(**) | (.917) | | | | | | | | | | | |
| JS | .283(**) | .329(**) | .234(**) | .296(**) | .277(**) | (.872) | | | | | | | | | | |
| TW | .633(**) | .480(**) | .424(**) | .523(**) | .444(**) | .206(**) | (.848) | | | | | | | | | |
| PCF | .554(**) | .584(**) | .420(**) | .564(**) | .434(**) | .302(**) | .488(**) | (.952) | | | | | | | | |
| AC | .546(**) | .509(**) | .364(**) | .545(**) | .358(**) | .143(**) | .483(**) | .484(**) | (.932) | | | | | | | |
| ALT | .105(*) | .080 | .040 | .129(**) | .060 | .142(**) | .193(**) | .175(**) | .194(**) | (.784) | | | | | | |
| CON | .098(*) | .049 | .014 | .163(**) | .057 | .101(*) | .128(**) | .149(**) | .264(**) | .532(**) | (.715) | | | | | |
| SPO | .208(**) | .225(**) | .203(**) | .243(**) | .164(**) | .207(**) | .232(**) | .220(**) | .267(**) | .281(**) | .301(**) | (.859) | | | | |
| CV | .312(**) | .279(**) | .226(**) | .319(**) | .252(**) | .158(**) | .276(**) | .292(**) | .353(**) | .300(**) | .330(**) | .387(**) | (.742) | | | |
| COUR | .033 | .015 | .011 | .067 | .028 | .118(**) | .100(*) | .064 | .093(*) | .331(**) | .282(**) | .279(**) | .267(**) | (.850) | | |
| IQ | -.383(**) | -.451(**) | -.330(**) | -.452(**) | -.318(**) | -.192(**) | -.364(**) | -.465(**) | -.587(**) | -.126(**) | -.143(**) | -.283(**) | -.250(**) | -.064 | (.806) | |
| PJ | .763(**) | .623(**) | .534(**) | .588(**) | .495(**) | .299(**) | .540(**) | .596(**) | .538(**) | .120(**) | .136(**) | .249(**) | .310(**) | .084 | -.409(**) | (.916) |
| IJ | .744(**) | .629(**) | .556(**) | .573(**) | .513(**) | .315(**) | .546(**) | .635(**) | .517(**) | .145(**) | .107(*) | .241(**) | .337(**) | .078 | -.402(**) | .797(**) |
| | | | | | | | | | | | | | | | | |
| Mean | 4.74 | 4.55 | 4.79 | 5.18 | 5.42 | 4.51 | 5.36 | 4.84 | 4.78 | 5.95 | 5.84 | 5.89 | 5.64 | 6.06 | 2.76 | 4.29 |
| SD | 1.32 | 1.49 | 1.13 | 1.22 | 1.20 | 1.71 | 1.05 | 1.37 | 1.40 | .63 | .81 | .93 | .81 | .87 | 1.38 | 1.37 |

Notes: N = 488.
** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).
Cronbach Alpha's are in parenthesis.
COMM = Communication. REW = Rewards. SH = Selective Hiring. T&D = Training & Development. PDM = Participative Decision Making. JS = Job Security.
TW = Team Working. PCF =Perceived Psychological Contract Fulfillment (using global measure). AC = Affective Commitment. ALT = Altruism.
CON = Conscientiousness. SPO = Sportsmanship. CV = Civic Virtue. COUR = Courtesy. IQ = Intention to Quit. PJ = Procedural Justice. IJ = Interactional Justice.
SD = Standard Deviation.

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Testing the structural model was conducted in four phases: (1) submodel 1: to test whether the relations between high commitment HRM practices and affective commitment are mediated, at least in part, by employees' perceptions of perceived psychological contract fulfilment – this phase tests the first four hypotheses; (2) submodel 2: involves adding the second order 'OCB' construct to the revised model specified in submodel 1 and tests hypothesis 5; (3) submodel 3: involves adding the 'Intention to quit' construct to the model specified in phase 2, actually represents the final model excluding the moderating effects, and tests hypotheses 6, 7 and 8; (4) and finally, the proposed moderated effects are tested using a multi-group analysis (hypotheses 9 through 14).

### 6.10.1 Analysis of Submodel 1 *(HRM → PCF → AC)*

The exogenous variables and psychological contract fulfilment and affective commitment were formed into a measurement model, which was the first submodel to be analysed. The model tested the following hypotheses.

> H1: Employee perceptions of high commitment HRM practices are positively associated with perceptions of psychological contract fulfilment.
>
> H2: Employee perceptions of high commitment HRM practices are positively associated with affective commitment.
>
> H3: The relationship between employees' perceptions of high commitment HRM practices and affective commitment to the organisation is mediated, at least in part, by perceived psychological contract fulfilment.
>
> H4: Employee perceptions of psychological contract fulfilment are positively associated with affective commitment.

Consistent with hypotheses 1 through 4, the initial submodel 1 includes paths from the high commitment HRM practices to perceived psychological contract fulfilment, and from perceived psychological contract fulfilment to affective commitment. That is, the links between employees' perceptions of high commitment management and affective commitment were expected to be mediated by psychological contract fulfilment. The path model for submodel 1 standardised estimates is shown in Figure 6.26.

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Figure 6.26

*Path Diagram of Initial Submodel 1 (HRM → PCF → AC)*
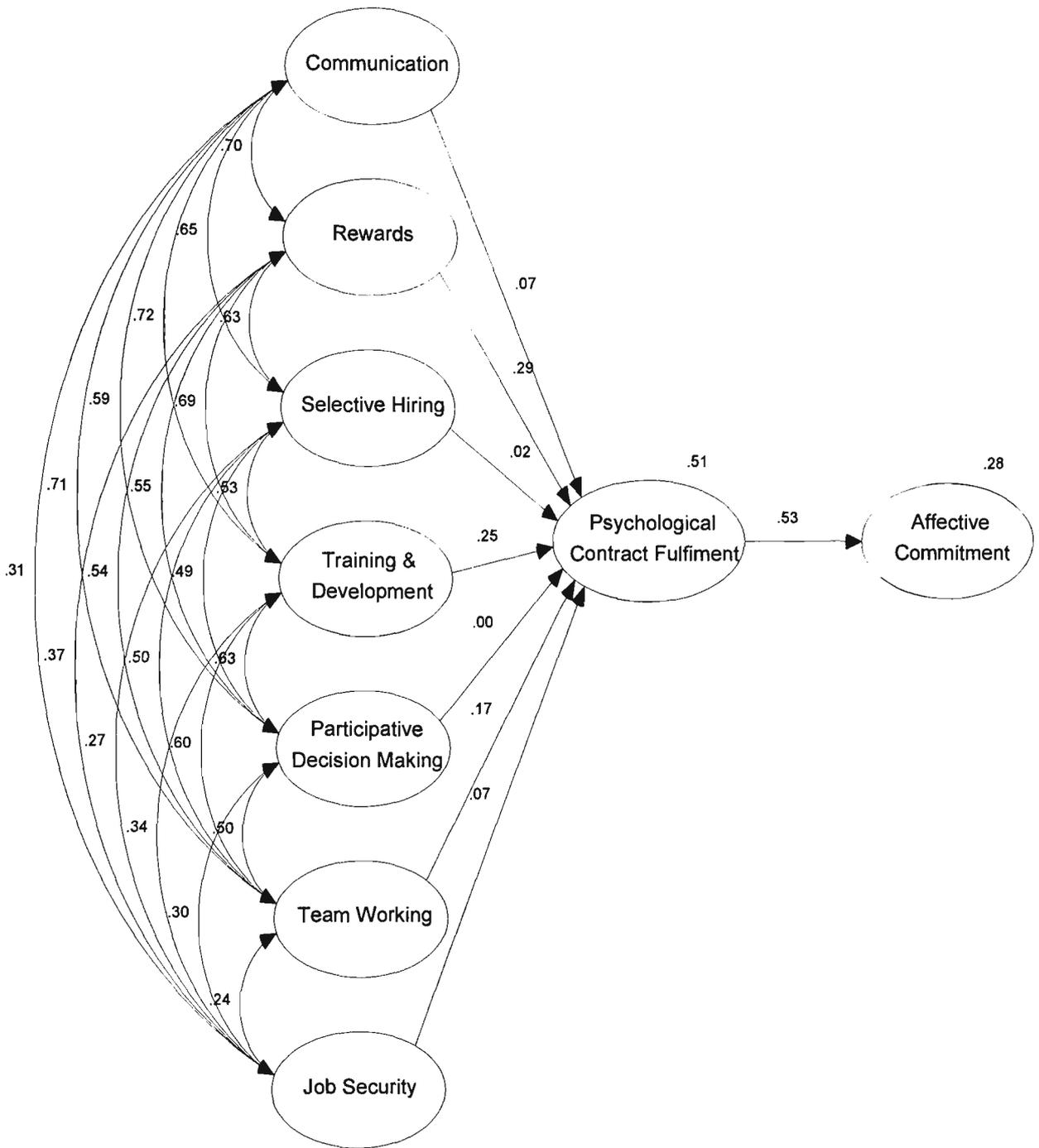


Note: Structural path estimates are the standardised parameter estimates. To simplify the presentation, the measurement model has been omitted.

In a path diagram, manifest (observed, measured) variables are represented in a rectangle. In the present diagram these variables are scale items (represented by Q and followed by the question number). The variables for errors (e1 to e36),

communication, rewards, selective hiring, training and development, participative decision making, team working, job security, and affective commitment are enclosed in circles to signify they are latent (unobserved, unmeasured) variables. The single-headed arrows in the diagram represent causal paths. For example, the arrow leading from psychological contract fulfilment to affective commitment implies that the affective commitment score depends, in part, on employee perceptions of psychological contract fulfilment. The double-headed arrows depict correlations or covariances. A necessary assumption in linear regression is that error variables are assumed to be uncorrelated with any other predictor variable. Predictor variables (i.e., high commitment HRM practices: communication; rewards; selective hiring; training and development; participative decision making; team working; and job security) are referred to as exogenous, and criterion variables (i.e., perceived psychological contract fulfilment, affective commitment, OCB, affective commitment, and intention to quit) are referred to as endogenous. All endogenous variables have at least one single-headed path pointing towards them. Exogenous variables have no single-headed path going into them, only arrows pointing towards other variables. The error terms represent not only random fluctuations due to measurement error in the variables they are attached to, but a composite of anything outside these variables on which they may depend, but which was not measured in the present program of research.

The overall fit of the model was good: $\chi2$ (565, N=488) = 1327.724, Bollen-Stine's $p$ = 0.002, $\chi2/df$ = 2.35, SRMR = 0.081, TLI = .937, CFI = 0.944, and RMSEA = 0.053, but, as can be seen, a number of paths linking the high commitment HRM practices and psychological contract fulfilment were not significant (C.R. < 1.96).

In the path model presented in Figure 6.26, the scores appearing on the edge of the boxes are variance estimates, that is, the amount of variance in the observed variable explained by the latent unobserved variable. Figures next to the single-headed arrows are standardised regression weights and the figure appearing next to double-headed arrows is a correlation. In the output depicted in Table 6.17, non-standardised regression weights are displayed under the heading of Maximum Likelihood Estimates of Initial Submodel 1. Next to these estimates, in the S.E. column is an

estimate of the standard error of the regression. Then, the figure next to the standard error, in the C.R. column, is the critical ratio. This ratio is an observation of a random variable that has an approximate standard distribution. Using a significance level of 0.05, any critical ratio that exceeds 1.96 in magnitude would be significant (Byrne, 2001). The critical ratios associated with the latent mean estimates were reported in the present program of research following Kaplan's (2000) and Kline's (2005) recommendation that once it is determined that the fit of the data to a structural model is adequate, it is important for researchers to interpret parameter estimates and critical ratios for specific effects.

Table 6.17

*Maximum Likelihood Estimates of Initial Submodel 1*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Psychological Contract Fulfilment | <--- | Rewards | .322 | .070 | 4.601 | *** |
| Psychological Contract Fulfilment | <--- | Training and Development | .362 | .101 | 3.598 | *** |
| Psychological Contract Fulfilment | <--- | Team working | .218 | .075 | 2.917 | .004 |
| Psychological Contract Fulfilment | <--- | Job Security | .059 | .033 | 1.814 | .070 |
| Psychological Contract Fulfilment | <--- | Communication | .079 | .087 | .913 | .361 |
| Psychological Contract Fulfilment | <--- | Selective Hiring | .022 | .078 | .287 | .774 |
| Psychological Contract Fulfilment | <--- | Participative Decision Making | -.003 | .065 | -.044 | .965 |
| Affective Commitment | <--- | Psychological Contract Fulfilment | .485 | .043 | 11.253 | *** |
| Q16 | <--- | Communication | 1.000 |  |  |  |
| Q17 | <--- | Communication | .858 | .049 | 17.552 | *** |
| Q18 | <--- | Communication | 1.172 | .058 | 20.319 | *** |
| Q20 | <--- | Communication | 1.207 | .059 | 20.624 | *** |
| Q22 | <--- | Communication | .913 | .052 | 17.588 | *** |
| Q23 | <--- | Rewards | 1.000 |  |  |  |
| Q24 | <--- | Rewards | 1.204 | .062 | 19.496 | *** |
| Q27 | <--- | Rewards | 1.177 | .059 | 19.781 | *** |
| Q28 | <--- | Rewards | 1.264 | .061 | 20.709 | *** |
| Q29 | <--- | Rewards | 1.019 | .062 | 16.349 | *** |
| Q36 | <--- | Selective Hiring | 1.000 |  |  |  |
| Q37 | <--- | Selective Hiring | .863 | .072 | 12.069 | *** |
| Q39 | <--- | Selective Hiring | 1.162 | .083 | 14.014 | *** |
| Q40 | <--- | Selective Hiring | 1.004 | .078 | 12.817 | *** |

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q8 | <--- | Training and Development | 1.000 | | | |
| Q9 | <--- | Training and Development | 1.387 | .081 | 17.066 | *** |
| Q10 | <--- | Training and Development | 1.237 | .080 | 15.403 | *** |
| Q11 | <--- | Training and Development | 1.294 | .074 | 17.538 | *** |
| Q1 | <--- | Participative Decision Making | 1.000 | | | |
| Q4 | <--- | Participative Decision Making | 1.038 | .047 | 22.032 | *** |
| Q5 | <--- | Participative Decision Making | 1.143 | .049 | 23.524 | *** |
| Q7 | <--- | Participative Decision Making | 1.213 | .042 | 28.832 | *** |
| Q30 | <--- | Team working | 1.000 | | | |
| Q31 | <--- | Team working | .910 | .041 | 21.980 | *** |
| Q33 | <--- | Team working | .920 | .051 | 17.897 | *** |
| Q41 | <--- | Job Security | 1.000 | | | |
| Q42 | <--- | Job Security | .854 | .046 | 18.737 | *** |
| Q43 | <--- | Job Security | 1.026 | .046 | 22.232 | *** |
| Q101 | <--- | Psychological Contract Fulfilment | 1.000 | | | |
| Q100 | <--- | Psychological Contract Fulfilment | 1.009 | .027 | 37.983 | *** |
| Q99 | <--- | Psychological Contract Fulfilment | .990 | .028 | 35.410 | *** |
| Q44 | <--- | Affective Commitment | 1.000 | | | |
| Q46 | <--- | Affective Commitment | 1.129 | .053 | 21.427 | *** |
| Q47 | <--- | Affective Commitment | 1.139 | .056 | 20.385 | *** |
| Q48 | <--- | Affective Commitment | 1.103 | .054 | 20.413 | *** |
| Q49 | <--- | Affective Commitment | 1.116 | .053 | 21.143 | *** |

Note: N = 488. Parameter estimates significant at the ***P < 0.001 level. S.E. = Standard error. C.R. = Critical ratio.

The high commitment HRM practices were initially expected to have direct links to perceived fulfilment of psychological contracts (H1). As can be seen, however, this was the case only for rewards and training and development at the 0.001 level, and for team working at the 0.05 level. Thus, in testing the first hypothesis (high commitment HRM practices → perceived psychological contract fulfilment), in the relationships (Rewards → Psychological Contract Fulfilment, Training and Development → Psychological Contract Fulfilment, and Team working → Psychological Contract Fulfilment), it can be concluded that the variance in employees' perceived psychological contract fulfilment as a result of high commitment HRM practices, such as, rewards, training and development and team working is highly significant since the respective C.R. values of 4.601, 3.598, and 2.917 are greater than the critical value of 1.96. As such, the results strongly support

the first hypothesis, within the limits of the model. Next, the mediation effect was assessed.

Mediators establish 'how' or 'why' one variable predicts or causes an outcome variable. More specifically, a mediator is defined as a variable that explains the relation between a predictor and an outcome (Baron and Kenny, 1986; Holmbeck, 1997). Testing mediating effects in SEM was done following Hoyle and Smith's (1994) guidelines. According to Hoyle and Smith (1994), assuming that there is a latent predictor variable (A), a hypothesized latent mediator variable (B), and a latent outcome variable (C), one would first assess the fit of the direct effect A→C model. Assuming an adequate fit, the investigator then tests the fit of the overall A→B→C model. Assuming that the overall model provides an adequate fit, the A→B and B→C path coefficients are examined. At this point, the A→C, A→B and B→C paths (as well as the A→B→C model) should all be significant in the directions predicted. Kenny, Kashy, and Bolger (1998, p. 258) stated that these steps or conditions necessary to test for mediation are the same using multiple regression or structural equation modeling. Further, according to MacKinnon, Lockwood, Hoffman, West and Sheets (2002), this method developed by Kenny and his colleagues was considered the most common method for testing mediation in psychological research.

Submodel 1 tested the hypothesised model in which high commitment HRM practices are the latent predictor variables, perceived psychological contract fulfilment is the latent mediator variable, and affective commitment is the latent outcome variable. The first condition for demonstrating mediation, that the exogenous variables be related to the outcome variable (High Commitment HRM→Affective Commitment), was assessed first (see Figure 6.27).

Figure 6.27

*High Commitment HRM → AC Model*
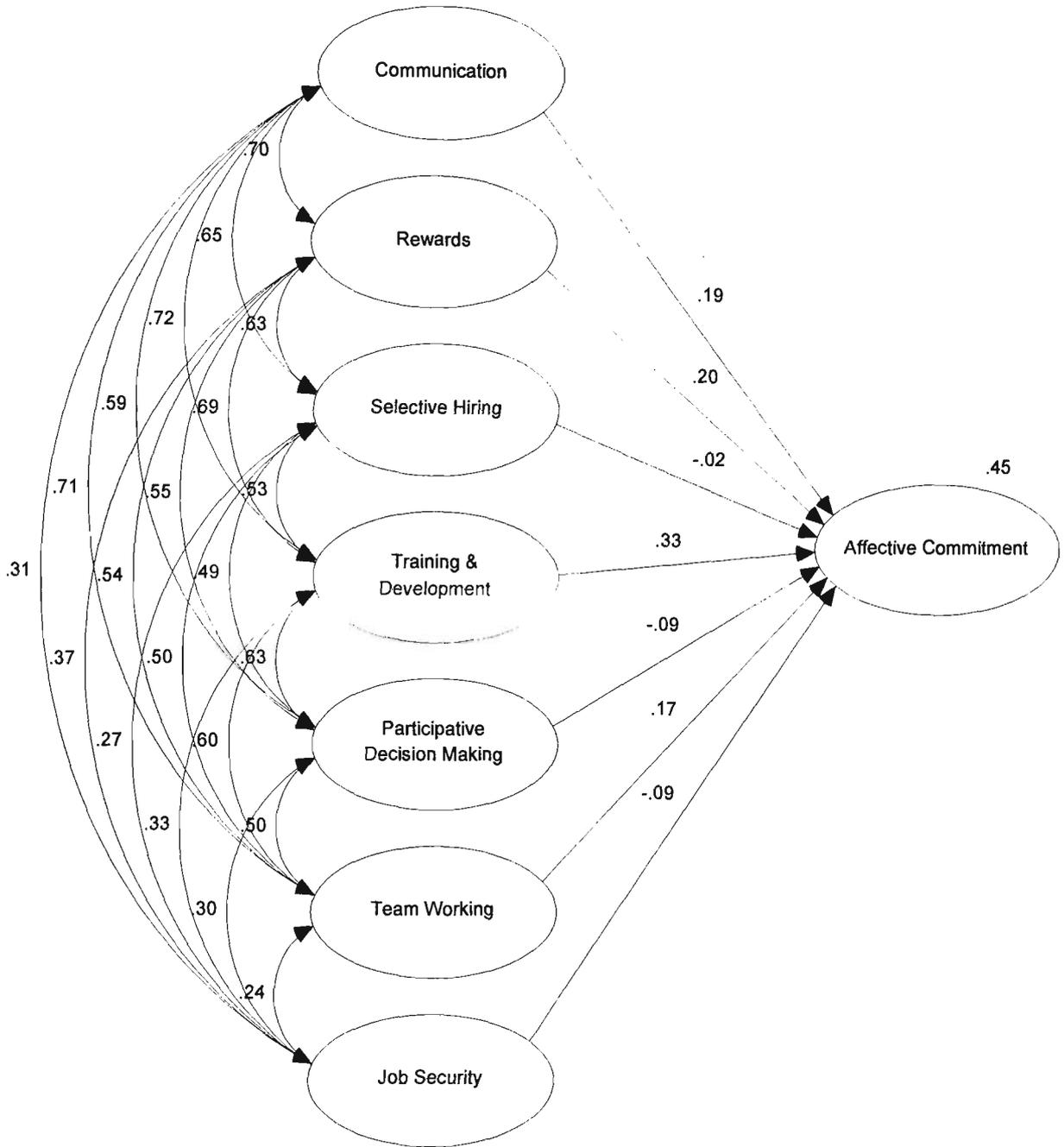


Note: Structural path estimates are the standardised parameter estimates. To simplify the presentation, the measurement model has been omitted.

The HRM → AC model was a good fit, χ2 (467, N=488) = 945.71, Bollen-Stine bootstrap *p* = 0.002, χ2/df = 2.025, SRMR = 0.045, TLI = 0.953, CFI = 0.959, and RMSEA = 0.046.

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Checking the parameter estimates revealed that communication, rewards, training and development, and team working had significant path coefficients, while the path coefficients between either selective hiring or participative decision making and affective commitment were not significant (Table 6.18). The relationships between high commitment HRM practices such as communication, rewards, training and development, team working, and affective commitment had respective C.R. values of 2.30, 2.92, 4.41, and 2.67, all greater than 1.96. Consequently, the results strongly support hypothesis 2, and the first condition for demonstrating mediation was satisfied in relation to these practices. As for the path coefficient between job security and affective commitment, while that relationship was significant, it was not in the hypothesised direction.

Table 6.18

*Significance Level of Path Coefficients for High Commitment HRM → AC Model*

|  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|
| Affective Commitment | <--- Communication | .196 | .085 | 2.300 | .021 |
| Affective Commitment | <--- Rewards | .198 | .068 | 2.927 | .003 |
| Affective Commitment | <--- Selective Hiring | -.028 | .076 | -.365 | .715 |
| Affective Commitment | <--- Training and Development | .441 | .100 | 4.406 | *** |
| Affective Commitment | <--- Participative Decision Making | -.105 | .064 | -1.646 | .100 |
| Affective Commitment | <--- Job Security | -.069 | .032 | -2.155 | .031 |
| Affective Commitment | <--- Team working | .198 | .074 | 2.676 | .007 |

Notes: N = 488. *** P < 0.001. S.E. = Standard error. C.R. = Critical ratio.

Having satisfied conditions of an adequate fit for the high commitment HRM→AC model, and for the overall HRM→PCF→AC model, significant paths between HRM practices and affective commitment (first condition for mediation), as well as significant paths between HRM practices and PCF (second condition for mediation that the exogenous variables should be related to the mediator), and a significant path between PCF and AC (third condition for mediation), it can concluded that psychological contract fulfilment at least partially mediates the relationship between high commitment HRM practices and affective commitment. Furthermore, in the relationship PCF→AC, since the C.R. value of 11.25 is greater than 1.96, the variance in employees' affective commitment as a result of their perception of psychological contract fulfilment is highly significant. Consequently, hypothesis 4 is fully supported.

To assess full mediation (i.e., if psychological contract fulfilment is a complete mediator), the researcher needs to show that the associations of high commitment HRM practices (rewards, training and development, and team working) with AC are reduced when PCF is included in the predictive model. That is, the significant paths between HRM practices and AC should be reduced to non-significance when PCF is taken into account. Kenny *et al.* (1998, p. 260) showed that the statistical significance of the indirect effect of the predictor variable on the outcome variable via the mediating variable is equivalent to this drop. While the relationships between rewards and AC and that between team working and AC became less significant, they remained significant. Thus, full mediation was not fulfilled and partial support was found for hypothesis 3.

Hypothesis 3 was also assessed by testing a model that included direct paths from the HRM practices to affective commitment. These paths were included one at a time, and improvement in fit over the initial model was evaluated using the change in $\chi 2$ as a criterion (Bentler and Bonett, 1980). When the direct paths from high commitment HRM practices to affective commitment were included, two direct paths were found to improve fit significantly: (a) a direct path from communication to affective commitment ($\Delta\chi 2(1) = 79.5, p < 0.05$); and (b) a direct path from training and development to affective commitment ($\Delta\chi 2(1) = 80.4, p < 0.05$). Thus, the effect of HRM on affective commitment was partially mediated by perceived psychological contract fulfilment.

According to Kline (2005, p. 65), 'if necessary (and it often is), respecify the model and evaluate the fit of the revised model to the same data'. Therefore, a revised submodel 1 was submitted, in which the researcher tested the fit of a model created by (a) adding the two direct paths between HRM practices and affective commitment identified in the previous analysis, and (b) eliminating all non-significant paths from the initial model (see Figure 6.28). The fit of this model was very good; $\chi 2$ (566, N=488) = 1229.4, Bollen-Stine bootstrap $p = 0.002$, $\chi 2/df = 2.172$, SRMR = 0.046, TLI = 0.946, CFI = 0.951, and RMSEA = 0.049.

Figure 6.28

*Revised Submodel 1 and Results of AMOS Analysis*
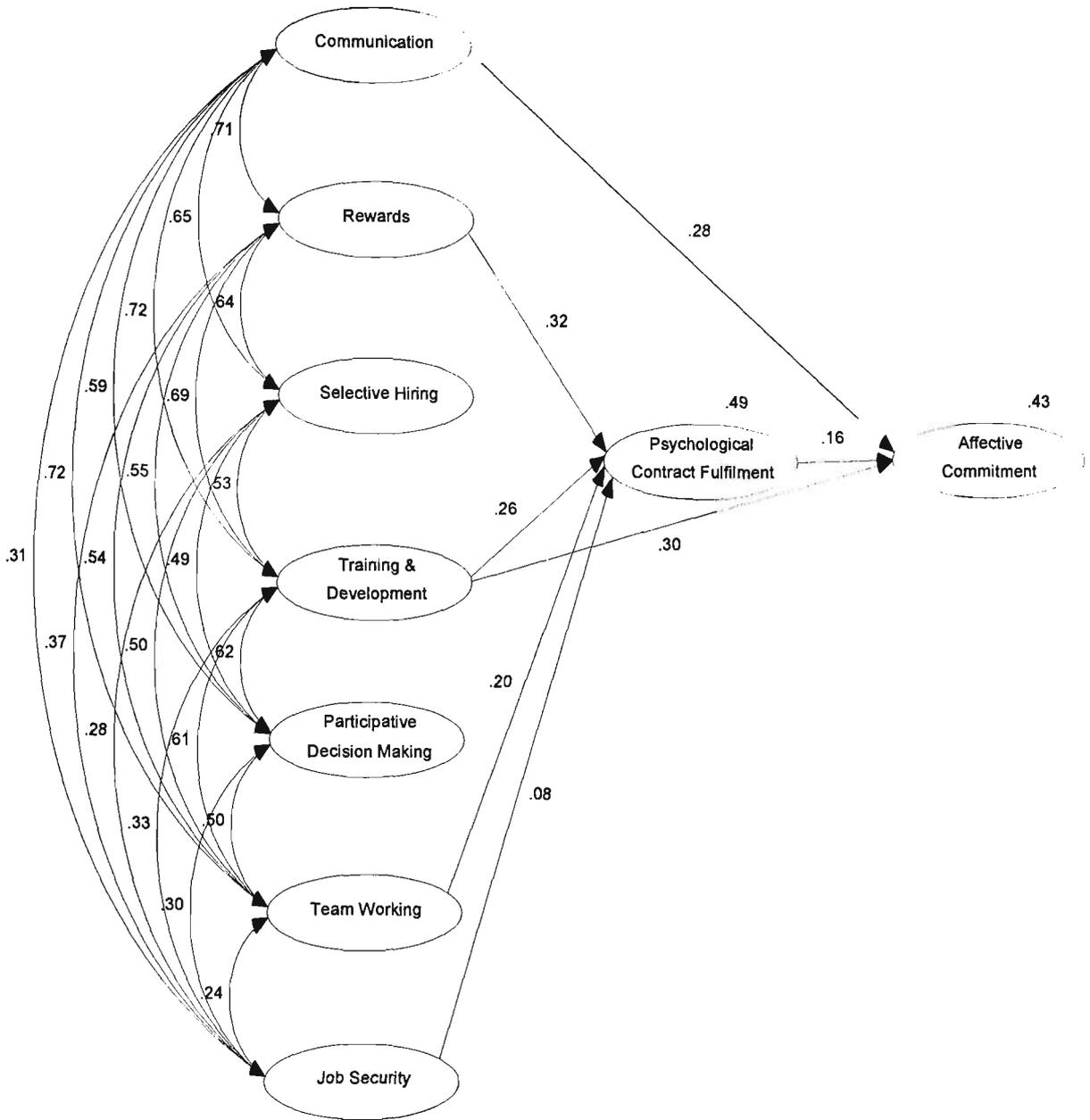


Note: Structural path estimates are the standardised parameter estimates. To simplify the presentation, the measurement model has been omitted.

Figure 6.28 presents the standardised parameter estimates for the revised submodel 1. In this model, significant paths in the expected direction were obtained between the following predictors and psychological contract fulfilment, rewards (C.R. = 5.522, *p* < 0.001), training and development (C.R. = 4.109, *p* < 0.001), team working (C.R. =

3.888, $p < 0.001$), and marginally job security (C.R. = 1.952, $p = 0.051$). In addition, communication and training and development both had significant direct effects on affective commitment (C.R. = 4.372, $p < 0.001$ and C.R. = 4.303, $p < 0.001$) respectively. The respective standardised coefficients for these indirect effects were 0.28 and 0.30. The association between psychological contract fulfilment and affective commitment was also significant (C.R. = 3.116, $p = 0.002$). The final submodel 1 explained 49 and 43 percent of the respective variances of psychological contract fulfilment and affective commitment.

Essentially, these findings provide support for the proposed model and specifically suggest that perceived psychological contract fulfilment partially mediates the relationship between high commitment management and affective commitment.

These results were also confirmed by testing the model using a different measure of psychological contract fulfilment (the content multi-dimensional scale), measuring fulfilment of both transactional and relational contracts. Perceived fulfilment of relational psychological contracts was again found to partially mediate the relationship between high commitment HRM practices (rewards, training and development, and team working) and affective commitment. The overall fit of the model was also adequate, $\chi2$ (865, N=488) = 2230.55, Bollen-Stine bootstrap $p = 0.002$, $\chi2/df = 2.579$, SRMR = 0.058, TLI = 0.907, CFI = 0.915, and RMSEA = 0.057. In addition, the model explained 55, 76, and 40 percent of the respective variances of transactional psychological contract fulfilment, relational psychological contract fulfilment, and affective commitment.

## 6.10.2 Analysis of Submodel 2

Submodel 2, presented in Figure 6.29, was an addition to the revised submodel 1, and was constructed to test the relationship of affective commitment to OCB.

Figure 6.29

*Path diagram for Submodel 2*
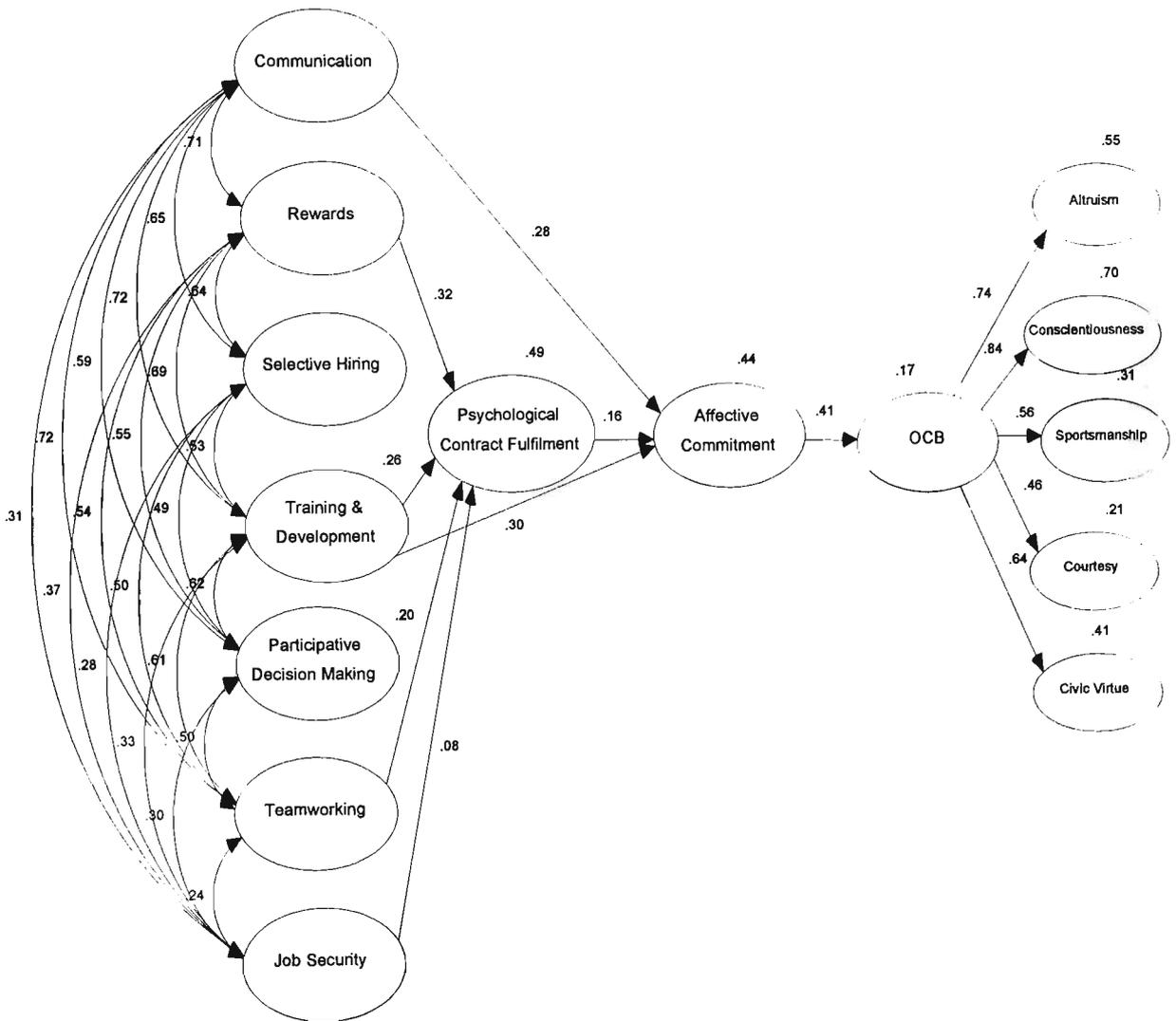


Note: N = 488. OCB = Organisational Citizenship Behaviour. Structural path estimates are the standardised parameter estimates. To simplify the presentation, the measurement model has been omitted.

The fit of this model was particularly good: $\chi 2$ (1291, N=488) = 2718.198, Bollen-Stine bootstrap $p$ = 0.002, $\chi 2/df$ = 2.105, SRMR = 0.066, TLI = 0.915, CFI = 0.920, and RMSEA = 0.048. Critical ratios of regression weights were all above the lower

limit of 1.96 except for that representing the relationship between job security and psychological contract fulfilment (C.R. = 1.952) (Table 6.19).

Table 6.19

*Maximum Likelihood Estimates for Initial Submodel 2*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Psychological Contract Fulfilment | <--- | Rewards | .349 | .063 | 5.524 | *** |
| Psychological Contract Fulfilment | <--- | Training and Development | .376 | .091 | 4.108 | *** |
| Psychological Contract Fulfilment | <--- | Team working | .254 | .065 | 3.887 | *** |
| Psychological Contract Fulfilment | <--- | Job Security | .064 | .033 | 1.952 | .051 |
| Affective Commitment | <--- | Training and Development | .407 | .094 | 4.339 | *** |
| Affective Commitment | <--- | Communication | .290 | .067 | 4.341 | *** |
| Affective Commitment | <--- | Psychological Contract Fulfilment | .150 | .047 | 3.185 | .001 |
| OCB | <--- | Affective Commitment | .156 | .023 | 6.685 | *** |
| Altruism | <--- | OCB | 1.000* |  |  |  |
| Conscientious. | <--- | OCB | 1.332 | .156 | 8.539 | *** |
| Sportsmanship | <--- | OCB | 1.055 | .132 | 7.979 | *** |
| Courtesy | <--- | OCB | .820 | .112 | 7.330 | *** |
| Civic Virtue | <--- | OCB | .929 | .122 | 7.632 | *** |

Notes: * The unstandardised regression values of 1.00 correspond to parameters assigned in order to achieve identification. *** ($P < 0.001$).

As mentioned earlier, there is a need to constrain one variable connected to each latent variable to achieve identification of the model. All other things being equal, the model supported the following hypothesis:

> H5: Affective commitment is positively associated with OCB.

### 6.10.3 Analysis of Submodel 3

The exogenous variable 'Intention to Quit' was added to submodel 2 to form the larger measurement model, which is depicted in Figure 6.30 and represents the full structural model of the study excluding the moderator variables. In this model, three links were added to submodel 2: (AC → IQ), (PCF → OCB), and (PCF → IQ) to test the following hypotheses:

> H6: Affective commitment is negatively associated with intention to quit.

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H7: Employee perceptions of psychological contract fulfilment are positively associated with OCB.

H8: Employee perceptions of psychological contract fulfilment are negatively associated with intention to quit.

Figure 6.30

*Path Diagram for Submodel 3*
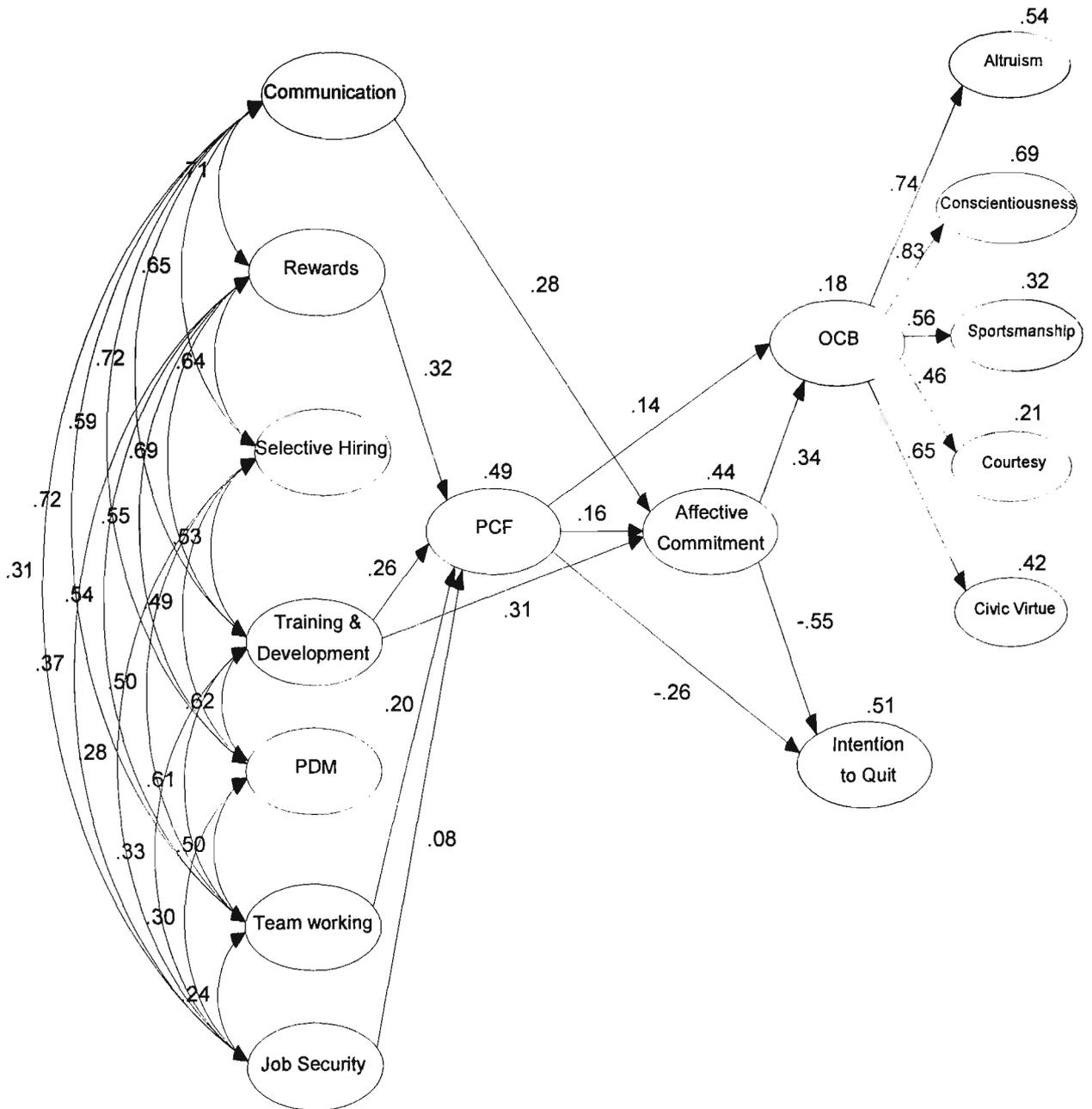


Note: N = 488. PDM = Participative Decision Making. PCF = Psychological Contract Fulfilment. OCB = Organisational Citizenship Behaviour. Structural path estimates are the standardised parameter estimates. To simplify the presentation, the measurement model has been omitted.

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The fit of this model was also good: χ2 (1447, N=488) = 3162.081, Bollen-Stine bootstrap $p$ = 0.002, χ2/df = 2.185, SRMR = 0.066, TLI = 0.904, CFI = 0.910, and RMSEA = 0.049. Critical ratios of regression depicted in Table 6.20 supported the effect of employees' affective commitment on their intention to quit (C.R. = -9.866, ß = -0.55, $p$ < 0.001). Therefore, in accordance with hypothesis 6, affective commitment was found to be negatively associated with turnover intentions, such that employees with higher affective commitment were less likely to leave the organisation.

Hypothesis 7, which predicted a positive relationship between employee perceptions of psychological contract fulfilment and OCB, was strongly supported (C.R. = 2.289, ß = .14, $p$ < .05). In addition, consistent with hypothesis 8, psychological contract fulfilment was also found to have a significant negative relationship with intention to quit (C.R. = -5.278, ß = -.26, $p$ < .001).

Table 6.20
*Maximum Likelihood Estimates for Final Submodel 3*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Psychological Contract Fulfilment | <--- | Rewards | .349 | .063 | 5.534 | *** |
| Psychological Contract Fulfilment | <--- | Training and Development | .376 | .091 | 4.119 | *** |
| Psychological Contract Fulfilment | <--- | Team working | .254 | .065 | 3.886 | *** |
| Psychological Contract Fulfilment | <--- | Job Security | .065 | .033 | 1.993 | .046 |
| Affective Commitment | <--- | Training and Development | .422 | .095 | 4.440 | *** |
| Affective Commitment | <--- | Communication | .289 | .068 | 4.280 | *** |
| Affective Commitment | <--- | Psychological Contract Fulfilment | .148 | .048 | 3.104 | .002 |
| OCB | <--- | Affective Commitment | .127 | .025 | 5.089 | *** |
| OCB | <--- | Psychological Contract Fulfilment | .048 | .021 | 2.289 | .022 |
| Altruism | <--- | OCB | 1.000* |  |  |  |
| Conscientiousness | <--- | OCB | 1.319 | .155 | 8.506 | *** |
| Sportsmanship | <--- | OCB | 1.071 | .133 | 8.030 | *** |
| Courtesy | <--- | OCB | .821 | .112 | 7.309 | *** |
| Civic Virtue | <--- | OCB | .944 | .123 | 7.692 | *** |
| Intention to Quit | <--- | Affective Commitment | -.555 | .056 | -9.866 | *** |
| Intention to Quit | <--- | Psychological Contract Fulfilment | -.241 | .046 | -5.278 | *** |

Notes: * The unstandardised regression values of 1.00 correspond to parameters assigned in order to achieve identification.
*** (P < 0.001).

In this model, the respective standardised coefficients for the effects between rewards and PCF, training and development and PCF, team working and PCF, and job security and PCF were 0.32, 0.26, 0.20, and 0.08. In addition, the respective standardised coefficients for the effects of communication and training and development on affective commitment were 0.28 and 0.31. The association between psychological contract fulfilment and affective commitment had a standardised coefficient of 0.16. The respective standardised coefficients for the associations between affective commitment and both OCB and intention to quit were 0.34 and -0.55. Finally, the standardised coefficients for the associations between PCF and both OCB and intention to quit were 0.14 and -0.26 respectively. Submodel 3, representing the final proposed model, excluding moderating effects, explained 49, 44, 18 and 51 percent of the respective variances of psychological contract fulfilment, affective commitment, OCB and intention to quit.

### 6.10.4   Additional Assessment of Structural Model

Finally, as an additional assessment of model fit, the researcher compared the hypothesised model (structural model: submodel 3) with alternative models that are nested within the hypothesised model. Alternative measurement models were estimated to determine the plausibility of alternative relationships among items and their latent constructs. Anderson and Gerbing (1988) suggested that such alternative models should be compared with the hypothesised model, using chi-square difference tests. The alternative models are depicted in Figure 6.31 and the fit indices for the alternative models are summarised in Table 6.21.

*Comparison to the More Constrained Models*

As Anderson and Gerbing (1988) suggested, models that are more constrained than the theoretical model, based on alternative theoretical rationale, were examined first. Anderson and Gerbing held that if the chi-square comparison between the theoretical model and the more constrained model is not significant, the more constrained model should be accepted; on the contrary, if this comparison is significant, the theoretical model is maintained and then compared to the less constrained models.

In the hypothesised model, it was proposed that affective commitment would play a partial mediating role in the relationship between psychological contract fulfilment and OCB. Although the structural model testing it hypothesised there is a direct linkage between perceived psychological contract fulfilment and OCB, it is possible that this effect may be fully mediated by affective commitment. To examine this possibility, in Alternative Model 1 (see Figure 6.31), the direct path from PCF to OCB was eliminated, testing a full mediating effect of affective commitment. Structural analysis of this alternative model (see Table 6.21) revealed that it provided a significantly lower fit to the data than the hypothesised model ($\Delta\chi2 = 5.24$, df = 1, $p < 0.025$). Therefore, according to this sequential chi-square difference test, it is concluded that the hypothesised structural model is superior to the more constrained model (Alternative Model 1). Subsequently, another more constrained model (Alternative Model 2) was tested in which the path between PCF and intention to quit was constrained. Structural analysis of Alternative Model 2 (see Table 6.21) also revealed that Alternative Model 2 provided a significantly lower fit to the data than the hypothesised structural model ($\Delta\chi2 = 27.01$, df = 1, $p < 0.001$). As a result, it was concluded that the hypothesised structural model is also superior when compared to the second more constrained model (Alternative Model 2). Since there are no strong theoretical justifications for constraining other paths in the hypothesised structural model, no other *more* constrained models were tested.

*Comparison to the Less Constrained Model*

As suggested by Anderson and Gerbing (1988), an alternative model was examined next, in which one parameter constrained in the theoretical model was estimated. According to Anderson and Gerbing, if there is no significant difference between the hypothesised model and the less constrained model, it indicates that relaxing the constraint in the hypothesised structural model does not significantly add to the explanation of the construct covariances, and the hypothesised structural model is accepted based on the preference for parsimony when given no difference in explanation. In contrast, a significant difference would suggest that the additional estimated parameter contributes to a better explanation than the hypothesised structural model, and the less constrained model should be accepted.

Although affective commitment is hypothesised to be an antecedent of both OCB and intention to quit, it is possible that OCB also affects intention to quit by partially mediating the effect of affective commitment on employee intention to quit. MacKenzie *et al.* (1998) argued that OCB, through helping others and practicing courtesy, enhance group attractiveness, cohesiveness and support, subsequently decreasing voluntary turnover. Empirical studies have explored the relationship between OCB, intention to quit and actual turnover. For instance, Chen *et al.* (1998) found a negative link between OCB and intention to quit and an even stronger association between OCB and actual turnover. To test this possibility, in Alternative Model 3 (see Figure 6.31), a path was added from OCB to intention to quit. According to the chi-square difference test, this alternative model did not provide a significantly better fit to the data than the proposed structural model ($\Delta\chi2 = 0.11$, df = 1, $p < 0.05$), suggesting that adding the path from OCB to intention to quit did not offer a better explanation of the data. Therefore, the hypothesised structural model was supported, rejecting the less parsimonious Alternative Model 3.

Figure 6.31
*Alternative Models 1, 2 and 3*
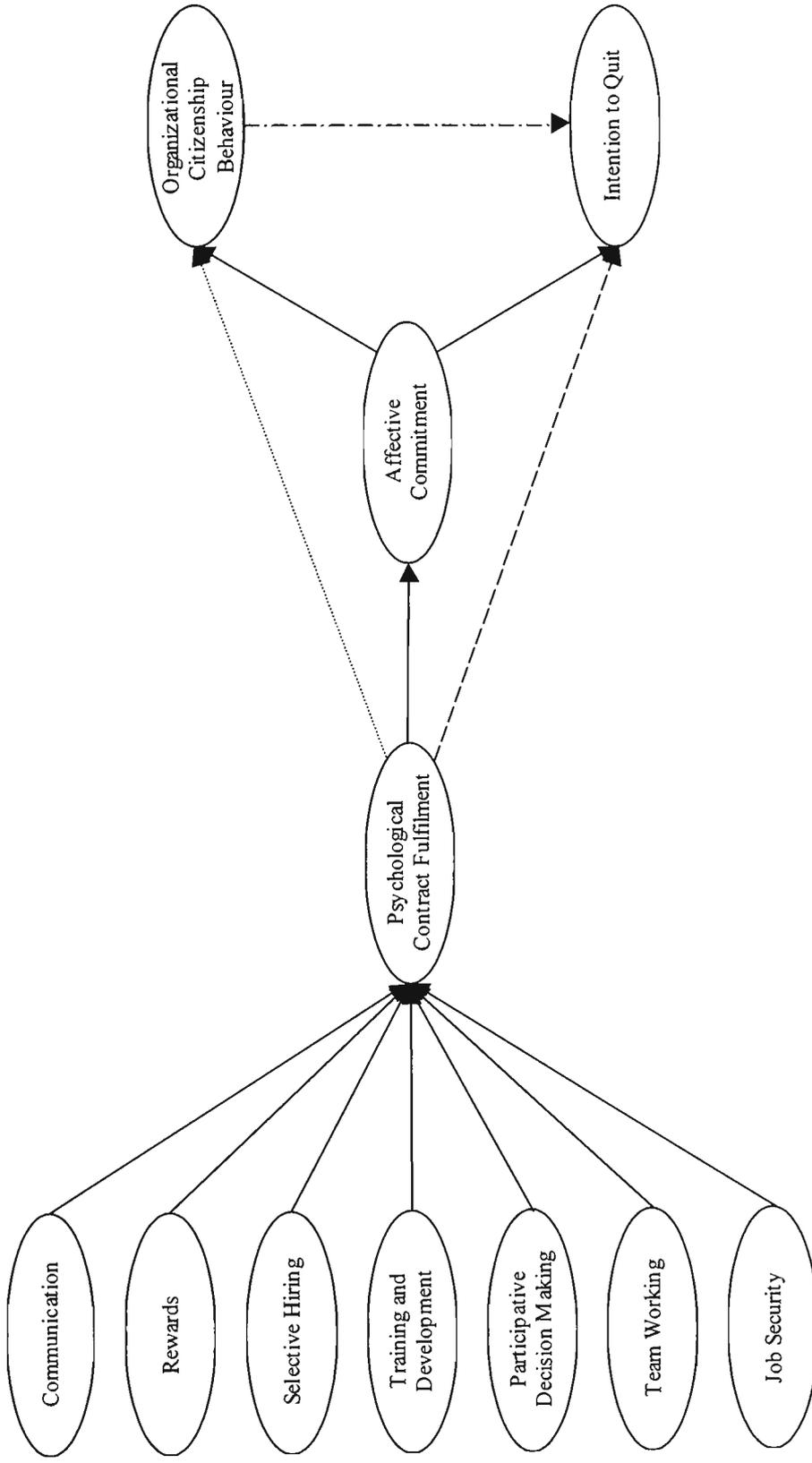


Note: Each of the dotted lines represents an added or a deleted path in one of the alternative models compared to the Hypothesised Structural Model.

············▶ Deleted path in Alternative Model 1  – – – – ▶ Deleted path in Alternative Model 2

– · – · – ▶ Added path in Alternative Model 3

Table 6.21

*Summary of Model Fit Indices*

| Model | χ2 | df | χ2/df | AIC | SRMR | TLI | CFI | RMSEA |
|---|---|---|---|---|---|---|---|---|
| Structural Model | 3162.08 | 1447 | 2.185 | 3460.08 | 0.066 | 0.904 | 0.910 | 0.049 |
| Alternative Model 1 | 3167.32 | 1448 | 2.187 | 3463.39 | 0.068 | 0.904 | 0.909 | 0.049 |
| Alternative Model 2 | 3189.09 | 1448 | 2.202 | 3485.09 | 0.069 | 0.902 | 0.908 | 0.050 |
| Alternative Model 3 | 3162.00 | 1446 | 2.187 | 3461.97 | 0.066 | 0.904 | 0.910 | 0.049 |

Kline (2005) recommended that a class of statistics known as predictive fit indexes be used to assess model fit. As can be seen in Table 6.21, a predictive fit index known as the Akaike information criterion (AIC) was examined to select among competing models estimated with the same data. This criterion addresses the issue of parsimony in the assessment of model fit while taking into account statistical goodness of fit and number of estimated parameters (Bozdogan, 1987). The AIC is used in the comparison of two or more models (Hu and Bentler, 1995) such that the model with the smallest AIC is chosen as the model with relatively better fit and fewer parameters compared to competing models. In this study, the AIC values for the proposed structural model were compared with those of the three alternative models discussed above. The AIC values presented in Table 6.21 demonstrate that the hypothesised structural model has the smallest AIC value representing a better fit than the alternative models. The AIC measure is calculated as (Kline, 2005):

$$AIC = \chi2 + 2q$$

where:

$q$ = the number of free model parameters

This equation thus increases the chi-square for the researcher's model by a factor of 2 times the number of free parameters. For example, the $\chi2$ value of the hypothesised structural model equals 3162.08 and the number of free parameters is 149 parameters. Thus, AIC for the hypothesised structural model = 3162.08 + 2*149 = 3460.08 (see Table 6.21).

Other fit statistics ($\chi2$, df, $\chi2$/df, SRMR, TLI, CFI, and RMSEA) of the proposed structural model and the three alternative measurement models are also presented in Table 6.21, and provide further support that the hypothesised structural model is a better fitting model.

## 6.10.5 Testing Moderating Effects of Procedual and Interactional Justice

According to Baron and Kenny (1986), a moderator variable is one that affects the relationship between two variables, so that the nature of the impact of the predictor on the criterion varies according to the level or value of the moderator. Questions involving moderators address 'when' or 'for whom' a variable most strongly predicts or causes an outcome variable. In particular, a moderator is a variable that alters the direction or strength of the relationship between a predictor and an outcome (James and Brett, 1984). For example, in Figure 6.25 procedural and interactional justices are introduced as moderators of the relationship between psychological contract fulfilment and employee attitudes and behaviours. If these forms of justice are significant moderators in this case, this would mean that perceptions of psychological contract fulfilment would likely lead to more positive employee attitudes and behaviours for higher levels of justice than for lower levels.

Several authors have maintained that because of the problem of compounding of measurement error when computing interaction terms, SEM provides a less biased estimation of the significance of the moderator effects (e.g., Peyrot, 1996; Ping, 1996). Further, according to Jaccard and Wan (1996), regression strategies tend to underestimate the effect of the size of the interaction term, particularly as the measurement error in the predictor and moderator variable increases.

A moderating hypothesis can be tested in AMOS using a multi-group analysis. In a multi-group analysis, a model is estimated in two or more groups simultaneously (see Jackard and Wan, 1996). The theoretical model of interest for the present program of research is shown in Figure 6.25. The moderating hypotheses state that the direct paths between psychological contract fulfilment and affective commitment, OCB and intention to quit, differ (in magnitude and/or direction) across high and low levels of

procedural justice and interactional justice. Thus, the following hypotheses can be tested using a two-group analysis:

H9: The relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of procedural justice. That is, employee affective commitment will be higher following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

H10: The relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of procedural justice. That is, employee OCB will be higher following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

H11: The relationship between perceived psychological contract fulfilment and intention to quit is moderated by perceptions of procedural justice. That is, employee intention to quit will be lower following a psychological contract fulfilment when perceptions of procedural justice are high than when they are low.

H12: The relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of interactional justice. That is, employee affective commitment will be higher following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

H13: The relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of interactional justice. That is, employee OCB will be higher following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

H14: The relationship between perceived psychological contract fulfilment and intention to quit is moderated by perceptions of interactional justice. That is, employee intention to quit will be lower following a psychological contract fulfilment when perceptions of interactional justice are high than when they are low.

Hypotheses 9 through 11 were tested first to assess the moderation effect of procedural justice on affective commitment, OCB and intention to quit. Initially, the total sample was split into two subgroups representing high and low levels of procedural justice. The next step was to estimate the paths in the model for both groups simultaneously. The resulting model is called the free or baseline model as the estimates of the direct paths are allowed to differ across the two subgroups. The chi-square for the free model was 4820.6 with 2894 degrees of freedom.

To assess the significance of the observed differences, the model was estimated again in both groups simultaneously however, during this second estimation, the parameter estimates in both groups were constrained to be equal. This model is referred to as the constrained model. That is, the parameter estimates across the high and low procedural justice groups are specified as invariant. Estimating the constrained model produced a chi-square of 4947.3 with 2950 degrees of freedom.

A chi-square difference test revealed a significant difference across the free and constrained models ($\Delta\chi2$ with 56 degrees of freedom = 126.7, $p < 0.001$). Thus, it is concluded from this initial test that at least one or more of the direct effects differ significantly across the two subgroups. Next, a series of models were estimated to identify the specific paths (relevant to hypotheses 9 through 11) that differ significantly across the two groups.

Subsequently, a model was assessed in which regression coefficients for each of the subgroups were forced to be equal except for the coefficient representing the direct path from psychological contract fulfilment to affective commitment. The chi-square for this model was 4944.1 with 2949 degrees of freedom. The difference in chi-square between this model and the constrained model ($\Delta\chi2$ with 1 degree of freedom = 3.2) was marginally significant at the 0.05 level and significant at the 0.07 level. Thus, hypothesis 9 that the relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of procedural justice received marginal support.

To identify if the direct path from psychological contract fulfilment to OCB differed significantly across high and low levels of procedural justice, a model was estimated in which all regression coefficients except for that representing the direct path PCF → OCB were forced to be equal in both groups. The chi-square for this model was 4938.7 with 2949 degrees of freedom. A chi-square difference test reveals a significant test across this model and the constrained model ($\Delta\chi2$ with 1 degree of freedom = 8.6, $p < 0.001$). Thus, moderating hypothesis 10 that the relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of procedural justice was supported.

A chi-square difference test revealed a non-significant difference across a model in which all parameter estimates except for that representing the direct path from PCF to intention to quit were constrained to be equal in both groups and the constrained model ($\Delta\chi2$ with 1 degree of freedom = 0.4, $p > 0.05$). Thus, hypothesis 11 that the relationship between perceived psychological contract fulfilment and intention to quit is moderated by perceptions of procedural justice, was not supported.

To assess the moderation effect of interactional justice on affective commitment, OCB and intention to quit, the same process explained above was implemented. Initially, the total sample was split into two subgroups representing high and low levels of interactional justice. Afterwards, the paths in this free or baseline model were estimated for both groups simultaneously. The chi-square for the free model was 4735.2 with 2894 degrees of freedom.

In the next model, factor loadings in each group were constrained to equality. This resulted in a chi-square of 4869.2 with 2950 degrees of freedom. A chi-square difference test revealed a significant difference across the free and constrained models ($\Delta\chi2$ with 56 degrees of freedom = 134, $p < 0.001$). Consequently, it is concluded from this initial test that at least one or more of the direct effects differ significantly across the two subgroups. This test was followed by a series of models that were estimated to identify the specific paths (relevant to hypotheses 12 through 14) that differ significantly across the two groups.

The procedure followed for testing the remaining moderating hypotheses was described and illustrated above. The difference in chi-square across the two models in which factor loadings in each group were constrained to be equal except for that representing the direct link between psychological contract fulfilment and affective commitment, and the direct link between psychological contract fulfilment and intention to quit, and the constrained model were not significant. Hence, support was not found for hypothesis 12 that the relationship between perceived psychological contract fulfilment and affective commitment is moderated by perceptions of interactional justice, and hypothesis 14 that the relationship between perceived

psychological contract fulfilment and intention to quit is moderated by perceptions of interactional justice

To test hypothesis 13, all factor loadings, except for that representing the direct relationship between psychological contract fulfilment and OCB in both groups were constrained to equality. The chi-square for this model was 4862.4 with 2949 degrees of freedom. A chi-square difference test reveals a significant test across this model and the constrained model ($\Delta\chi2$ with 1 degree of freedom = 6.8, $p < 0.01$). Accordingly, consistent with hypothesis 13 that the relationship between perceived psychological contract fulfilment and OCB is moderated by perceptions of interactional justice, there was a significant interaction effect of psychological contract fulfilment and interactional justice on OCB.

## 6.11 Conclusion

The overall objective of Chapter 6 was to determine whether there was support for the hypothesised model by testing it. This chapter also discusses the use of SEM as a main method for testing the hypothesised model. SEM was conducted in two stages, including measurement model and structural model. In sum, psychological contract fulfilment partially mediated the associations of high commitment HRM practices with affective commitment. These findings suggest that favourable work experiences attributable to the organisation's HRM practices (rewards, training and development and team working) contribute to perceptions of psychological contract fulfilment. Psychological contract fulfilment and affective commitment in turn enhanced employee OCB and decreased intention to quit. Further, procedural justice and interactional justice had differential moderating effects on employee attitudes and behaviours. Such findings have significant theoretical and practical implications, which are discussed in Chapter 7.

# CHAPTER SEVEN
# DISCUSSIONS AND CONCLUSIONS

## 7.1 Introduction

The present program of research was designed to assess the relationship between high commitment management and key employee attitudinal and behavioural outcomes. A core aim of the research was to examine the potential mediating role that psychological contract fulfilment might play in any high commitment management-employee outcome relationships. Whilst previous researchers have theorised that people oriented management practices like high commitment management may communicate an implied contract to employees (e.g., that by implementing HCM a given organisation cares about and values its employees as opposed to more Tayloristic type management practices that emphasise the transactional nature of the employment relationship), there has not yet been any research undertaken to examine whether HCM may influence employee levels of felt psychological contract fulfilment, and in turn, employee attitudes and behaviours. A second aim of the present program of research was to examine the potential moderating effects of organisational justice in any high commitment management-contract fulfilment-employee outcome relationships. In essence, it was assumed that procedural and interactional justice increase the positive impact of perceived contract fulfilment on employee attitudes and behaviours.

This concluding chapter presents an outline and subsequent interpretation of the research findings. Theoretical and practical implications of these findings are discussed, as are the strengths and limitations of the research conducted herein. Finally, suggestions for future research examining HCM linkages at the employee level are presented.

## 7.2 Major Findings

### 7.2.1 High Commitment Management and Employee Affective Commitment

Results of the present research suggest employee commitment is indeed related to the presence of high commitment management practices (specifically, rewards, training and development, and team working and communication). Based on social exchange theory

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(Blau, 1964) and the norm of reciprocity (Gouldner, 1960), employees develop a sense of obligation to respond positively to favourable treatment from their employer. The results of the present study suggest that one means by which such perception of favourable treatment can be created is via the use of high commitment management practices. In agreement with Blau (1964) and Gouldner (1960), Ogilvie (1986, p. 340) argued that 'employees' perceptions of HRM practices reflect a sense of reciprocity and the level of concern that the organisation appears to have for employees'. Consistent with these arguments, the results of this study confirmed the link between high commitment management and employee affective commitment and thus were in agreement with the few studies that relied on social exchange theory and the norm of reciprocity in developing hypotheses about the relationships among human resource practices and employee attitudes and performance (e.g., Ostroff and Bowen, 2000; Agarwala, 2003; Gould-Williams, 2004).

Figure 6.28 in Chapter 6 shows that certain HRM practices play a determining role in the development of affective commitment among employees. Specifically, an organisation that invests in its human capital and grants employees sufficient resources and opportunities to improve their skills (training and development), or sets up systems to recognise individual contributions (rewards), team working and communication, has a greater likelihood of developing a higher level of affective commitment and positive behaviours among its employees. Furthermore, as discussed in Chapter 3, such practices signal that the organisation is supportive of employees and is seeking to establish and maintain a social exchange relationship with them (Eisenberger *et al.*, 1986; Allen *et al.*, 2003).

## 7.2.2 The Mediating Role of Psychological Contract Fulfilment

It is assumed that organisational effectiveness can be attained by developing a working environment where employees identify with their organisation's goals, values and objectives, and develop a positive attitude towards their jobs (Mowday *et al.*, 1979; Boshoff and Mells, 2000). While there have been a number of researchers who have suggested that it is the psychological contract that mediates this relationship between

organisational factors and work outcomes such as commitment (Guzzo *et al.*, 1994; Guest, 1998; Marks and Scholarios, 2001), there has been limited empirical research to test whether perceived psychological contract fulfilment mediates the relationship between high commitment HRM practices and work outcomes such as affective commitment. Furthermore, it has been well documented that most high commitment management research has ignored the experience of employees altogether (see Grant and Shields, 2002; Guest, 2002). One of the major aims of this study was to identify whether an employee's perception of psychological contract fulfilment is indeed a mechanism through which high commitment HRM practices influence affective commitment and other work related outcomes.

The results of this study confirmed the hypothesis that psychological contract fulfilment mediates the relationship between high commitment management and affective commitment. As discussed in Chapter 6, from a sample of 488 banking employees, perceptions of three people-centred HRM practices – rewards, training and development, and team working – were partially mediated by psychological contract fulfilment.

Theoretically, the finding that the high commitment management-employee commitment relationship is mediated by psychological contract fulfilment supports the proposition that HCM practices provide a communicative function on the one hand (e.g., employees are valued by an organisation), and a perceptual filter effect on the other. That is to say, in relational exchanges between organisations and employees, the extent to which employees are vigilant in monitoring how well the organisation has fulfilled the terms of the psychological contract is lessened, thereby increasing the extent to which employees believe the psychological contract has been fulfilled. Guest and Conway (1998) contend that progressive people management practices establish a belief that employers will deliver on the implicit deal. In agreement with these authors, the results of this thesis suggest that high commitment management practices including training and development, rewards and working in a team, signal the organisation's preference for relational contracts. Morrison and Robinson (1997) suggest that these relational contracts discourage exchanges where employee vigilance occurs (they defined

vigilance as the extent to which an employee monitors how well the organisation has fulfilled the terms of the psychological contract), meaning that employees are more likely to perceive contract fulfilment. Moreover, the results are consistent with Aselage and Eisenberger's (2003) reasoning that employees who perceive a high degree of support from their employer (as is the case when high commitment management practices are implemented) tend to give the employer the benefit of the doubt when evaluating the degree to which they believe obligations have been fulfilled. The findings also confirm Rousseau's (1995, pp. 182-183) argument that 'HR practices shape the day-to-day behaviours of members...these practices are also major means through which workers and the organisation contract with each other. HR practices send strong messages to individuals regarding what the organisation expects of them and what they can expect in return'.

### 7.2.3  Affective Commitment and Employee Level Outcomes

The results of the present program of research support the utility of high commitment management by showing affective commitment is associated with important employee level outcomes like organisational citizenship and intention to quit. Meyer and Herscovitch (2001) recommend that wherever possible, organisations should foster affective commitment because an individual with high affective commitment towards an organisation is more likely to consider the best interests of that organisation. They further suggest that employees who develop strong affective commitment become less sensitive to signals or constraints that may demarcate their behaviour. Similarly, Morrison (1994) has demonstrated that employees with strong affective commitment are motivated to see their work role as extending beyond formal tasks, which in turn encourages them to adopt organisational citizenship behaviours. Consistent with the reasoning of a number of researchers (e.g., Meyer *et al.*, 1993; Iverson and Buttigieg, 1999; Carmeli and Gefen, 2005), affective commitment was also associated with lower intention to quit.

### 7.2.4 Consequences of Psychological Contract Fulfilment on Employee Attitudes and Behaviours

As mentioned earlier, the results of structural equation modelling revealed that a number of commitment enhancing management practices were associated with greater levels of perceived psychological contract fulfilment (i.e., one's cognitive evaluation of how well the organisation has fulfilled its promises). In turn, as predicted, perceived psychological contract fulfilment was positively associated with affective organisational commitment. Overall, the findings suggest that accounting for the global assessment of treatment by the organisation, specific judgements about the employer's contract behaviour significantly affect an employee's reciprocation in the form of affective commitment.

On the basis of social exchange theory (Gouldner, 1960; Blau, 1964; Levinson, 1965), it was also expected and hypothesised in Chapter 3 that employees would voice little intention to leave the organisation, and perform a variety of discretionary and extra-role behaviours, so long as they perceive the organisation to have fulfilled their psychological contracts (e.g., by reciprocating with rewards, ongoing training and development and team working (Stimpson, 2003)). The structural equation model proposed in this study supports these hypotheses. Consistent with social exchange theories that hold that employees are motivated to stay with the organisation, and help it reach its goals, so long as the organisation reciprocates with desired means such as acceptable material rewards and the fulfilment of training and development obligations (Rousseau, 1990; Eisenberger *et al.,* 2001), the findings of this thesis reveal that the paths that link perceived psychological contract fulfilment to OCB and to intention to quit are significant.

Employees demonstrated more loyalty to remain with their employer following a contract fulfilment. Since intention to quit is an important indicator of actual turnover in organisations (Griffeth *et al.,* 2000), the finding of this study is consistent with Stimpson's (2003) conclusion that when an organisation fulfils its obligations it exerts a strong positive influence in reducing the costs associated with the loss and replacement of staff. The results are also in agreement with that of Coyle-Shapiro and Kessler's

(2000) study, in which they found psychological contract fulfilment to have a positive effect on employees' perceived organisational support (POS), where high levels of POS create an impetus for employees to reciprocate as social exchange theorists maintain. They also found contract fulfilment to have a positive effect on OCB. Therefore, consistent fulfilment of one's psychological contract increases confidence that current contributions will be reciprocated by the organisation in the future.

### 7.2.5 The Complete HCM-Contract Fulfilment-Commitment-Outcome Relationship

Nested model comparisons reveal that the relationship between high commitment management practices and affective commitment were partially mediated by perceived psychological contract fulfilment. Similarly, the relationship between perceived psychological contract fulfilment and work outcomes (OCB and intention to quit) was partially mediated by affective commitment. These results confirm the basic theoretical structure of the proposed model, and provide some support for the notion that high commitment management practices are associated with more positive work outcomes due to their effects on perceptions of psychological contract fulfilment, and on employee attitudes, such as affective commitment.

Overall, this study highlights the importance of an employer's contract behaviour regarding the fulfilment of its obligations in affecting employees' attitudes and behaviours. Note that the present study is one of the first to demonstrate the mediating role of perceived psychological contract fulfilment in the relationship between HRM practices and both OCB and quit intentions. Specifically, the results of this study indicate that employees who benefit from high commitment HRM practices are more likely to give their employer the benefit of the doubt when evaluating the extent to which their psychological contract has been fulfilled. In turn, these employees are more likely to feel emotionally attached to the organisation, and to reciprocate through citizenship behaviours and lower intentions to quit.

### 7.2.6 The Moderating Role of Organisational Justice

The purpose of hypotheses 9 through 14 was to explore the interactive effects of psychological contract fulfilment, procedural justice and interactional justice in determining employees' attitudes and behaviours. The results demonstrate that perceptions of justices could have a considerable impact on work place attitudes and behaviours. While the study showed mixed results, these results extend and are consonant with literatures on contract fulfilment and organisational justice discussed in previous chapters.

The results of this study indicate that different types of justice are likely to influence important organisational outcomes in dissimilar ways. That is, such effects were stronger for particular outcomes compared to others. The study found that perceptions of high procedural and interactional justice along with psychological contract fulfilment do influence an employee's extra-role behaviours toward his/her organisation. Consistent with the hypotheses, this study found that organisational citizenship behaviours investigated were greater when one's psychological contract was perceived to have been fulfilled and there were perceptions of fair processes and treatment.

Contrary to the expectations set forth in this thesis, while procedural justice was found to marginally influence the relationship between psychological contract fulfilment and affective commitment, interactional justice did not have any influence on that relationship. Previous research indicates that the association between justice constructs and affective commitment may be mediated by other variables (e.g., Meyer and Smith, 2000; Rhoades *et al.*, 2001). Moreover, Gould-Williams (2003) recently observed that the association between justice and organisational commitment was conditioned by the perception of trust. As a whole, these findings suggest that organisational fairness may play a determining role in shaping employees' affective commitment, but only when employees perceive themselves to be in a trusting relationship and environment in their organisation. Another explanation could be that justice becomes less of a salient issue when contract fulfillment has been achieved. Similarly, both procedural and interactional justices were not found to influence the relationship between psychological

contract fulfilment and the intention to quit. One could argue that intention to quit is much more influenced by an individual's personal interests and needs than by the interaction effect of organisational fairness. For example, one's personality could influence his or her evaluation process regarding how or whether his or her psychological contract was fulfilled.

An alternative explanation for the non-significant relationships is that, while procedural and interactional justice might moderate the relationship between psychological contract fulfilment and affective commitment and intention to quit, it does not happen to affect these particular attitudes and behaviours in this one particular setting. Researchers should not consider these findings to be indicative of these relationships. Future research should certainly continue to examine the moderating effects of both procedural and interactional justice on these attitudes and behaviours in other settings. For example, would they be significant for other professions or industries? If so, what distinguishes these other samples from the one examined in this study? In other words, what factors determine which groups are likely to be affected by these moderators?

## 7.3 Implications for Theory and Practice

The results of this study suggest that managers interested in fostering commitment and positive behaviours amongst their employees might find guidance in the growing psychological contract literature. That is, people centered management practices that contribute to perceptions of support and commitment from the organisation to its employees might indirectly contribute to the development of affective commitment (Naumann, Bennett, Bies and Martin, 1999). From a theoretical perspective, the advantage of identifying such mediating mechanisms is that they can provide order to what have been largely unsystematic endeavors to explore the antecedents of commitment (Meyer and Allen, 1997). Furthermore, if we know what the mediating mechanisms are, then, we will be in a better position to explain why relationships between high commitment management and individual level outcomes exist.

The findings suggest that HRM practices are related, albeit indirectly, to affective commitment, which in turn, was found to be related to desirable work behaviour. Consequently, there are potential organisational benefits to be derived from the use of fair and supportive HRM practices. These results suggest it is possible that the financial benefits which have been shown to follow effective HRM strategies (e.g., Huselid, Jackson and Schiler, 1997) are, at least in part, mediated by the effects of these strategies on employee commitment. Of the HRM functions examined in this research, evaluations of training and development were found to be the best predictors of affective commitment. This is not surprising given that these practices are involved in preparing employees for a future in the organisation. Organisations that help employees to prepare themselves for advancement in the organisation, and do so in a way that generates a perception of support, might cultivate a stronger bond to the organisation than those that do not. Employees' evaluations of rewards, communications and team working were also found to contribute to the prediction of affective commitment. Therefore, high commitment management practices allow an organisation to demonstrate its assessment of and commitment to employees. Consequently, this suggests that HRM practices, apart from serving a functional role, also play an important non-instrumental role in communicating to employees that they are valued and cared for by the organisation.

Given that employee attitudes and behaviours improved following a contract fulfilment, organisations should attempt to understand how individuals perceive promises within the framework of the employment relationship. More importantly, organisations should attempt to manage those promises by being transparent on employment terms and conditions, by giving realistic information concerning an employee's position within the company and by communicating any changes throughout the employee's tenure in the organisation. Moreover, in cases where there has to be changes in the employment relationship, employers should seek to renegotiate the contract and thereby create new terms that are reflective of the new employment conditions.

Finally, through perceiving the process by which a decision is made and how the organisation actually carries out fair procedures, an employee may readily conclude that

the organisation values his/her importance to the company, thus increasing the chance that the employee's socio-emotional needs of self-worth and self-respect will be fulfilled (Lind and Tyler, 1988). Thus, as also seen in this study, fulfilled obligations combined with positive procedural justice and interpersonal cues can engender particularly positive employee attitudes and behaviours (specifically greater affective commitment and organisational citizenship behaviours) and can therefore be used to increase the positive outcomes for the organisation. From an organisational development perspective, this can be done by: instituting communication mechanisms that inform employees how decisions and fulfilment of promises are made, and implementing procedures that allow employees to challenge or appeal decisions made by the organisation. In addition, the training of managerial staff on interactional justice should also be incorporated in an organisation's strategy (e.g., managerial personnel should receive guidance on treating employees with interpersonal dignity and providing subordinates with corroboration for explanations relating to all decisions).

## 7.4 Study Limitations and Directions for Future Research

It is contended that the pre-testing of the questionnaire, and the care taken in choosing the measures from previously validated and reliable scales led to the collection of valid data and that the analysis techniques employed were appropriate. Yet despite shedding further light on the linkages between high commitment management and employees' attitudinal and behavioural responses to this type of management, this study has its limitations. First of these is the study's use of self-report questionnaires to collect data on all measures. Data collected and used to test the hypotheses came from a single source – employees. Accordingly, the observed relationships may have been overstated as a result of employees' tendencies to respond in a consistent fashion to the items on the questionnaire. Consequently, the data for the present program of research may be susceptible to common method bias (i.e., that self-report measures might inflate correlations with other variables because any bias in the respondent's rating is likely to cut across measures). Moreover, according to Podsakoff and Organ (1986), respondents may have had a skeptical view of management practice and quality constraints affecting their own perceptions of work-related attitudes.

Whilst common method variance issues may have been reduced by using supervisor ratings of some variables, such as OCB, it was believed that this would have significantly reduced the sample size. Even more importantly, it may have also biased the results, as it seems reasonable to expect that if employees had to ask their supervisors to provide ratings of their OCB, those employees with good relationships with their supervisors would have been more likely to fill out the questionnaires. Further, while self-report questionnaires may be criticized as inaccurate measures, Spector (1987) reviewed previous research to detect method variance resulting from questionnaire measurement of subject perceptions of organisations and subject affect, and found little evidence to support a biasing effect. In addition, according to Sullivan and Bhagat (1992), self-report measures may add a richness of how individuals perceive themselves rather than how others observe and understand them. However, it is still important to recognize the social desirability effect, as people have a tendency to engage in self-deception and impression management where negative behaviours are concerned (Turvey and Salovey, 1994). Conclusions could have been more robust had peer or supervisory evaluations of individual behaviours been used. Thus, future research on the relationships between the variables investigated in the present program of research should try to obtain supervisor or peer reports of some of the variables being investigated. In this study, social desirability effects were minimized by ensuring respondents of the anonymity of their responses. Furthermore, the results of the confirmatory factor analysis performed in Chapter 6 showed the respondents have clearly distinguished between all the variables used in the study.

Another possible methodological limitation of this study was the inability to assess causality in the relationships between study variables. The present research involved cross-sectional data and so no definitive statements can be made regarding the relationships between high commitment management practices, psychological contract fulfilment, and employee attitudes and behaviours. That is, despite the evidence of relationships provided in Chapter 6, the direction of causality cannot be conclusively determined in this study. For example, one could argue that the relationship that was found between psychological contract fulfilment and affective commitment towards the

organisation was actually the result of reverse causality. In other words, one's affective commitment to the organisation could have led him or her to have perceived a fulfilment of his or her psychological contract. To partially address this, future research using longitudinal data is needed.

A further limitation to this study involves the characteristics of the sample. While it is possible and likely that this sample is representative of organisations within the banking and financial services industries, this could restrict the generalisability of this sample beyond these industries. However, it is important to note that to the extent that banking and finance share similarities with most white-collar jobs, then the results of this study should hold across a great number of jobs. Yet, one should remain cautious to generalise these findings to other or more general populations.

In the present program of research, attention was focused on employees' beliefs regarding HRM practices, employment promises and organisational justice independent of their employers' perspectives. In order to more fully understand changes in psychological contract perceptions it is necessary for future research to include employers' perspectives. Further investigating the employers' stance of their set of promises and HRM practices may be useful in uncovering any discrepancies between the two parties about issues concerning the psychological contract, and the conduct and actions of the organisation. Once these discrepancies are exposed, possible remedies can be found to re-establish the relationship between the employee and the employer.

Furthermore, while the concept of the psychological contract has grown in acceptance in both the workplace and the literature, most of the work on psychological contract fulfilment/breach has been conducted with MBA students (e.g., Robinson, 1996). These students may have different needs and expectations from those who are not enrolled in such programs and who are not considered for managerial positions. Thus, as done in this study, further research needs to be conducted on a variety of employees such as full-time and part-time employees, union, and non-union employees to better understand their point of view of the psychological contract.

Also, Rousseau and Tijoriwala (1998) have called for further methodological development and the use of alternative ways of operationalising psychological contracts. This study used a comprehensive number of items that characterise the psychological contract. Further, psychological contract fulfilment was measured using a global scale as well as a content scale. Further research using different methods of operationalising psychological contract fulfilment is needed.

As discussed throughout the thesis, one major area that has remained virtually unexplored involves the mechanism through which high commitment HRM practices affect work outcomes. While this study proposed that perceived psychological contract fulfilment is one primary means by which such practices have their indirect effects, there are certainly other variables that could potentially mediate the relationship between HR practices and its outcomes and this should be investigated by future research. For example, Meyer and Smith (2000) demonstrated that perceived organisational support plays a mediating role in relations between HR practices and employees' affective commitment. Within the context of evaluating the impact of high commitment management, measuring underlying mechanisms (i.e. mediators) as well as outcomes provides information on which mechanisms are critical for influencing outcomes. This information can enable us to build and test theory regarding the causal mechanisms responsible for certain work outcomes.

High commitment human resource management practices include a range of human resource activities. While the present program of research investigated a wide range of practices consistent with previous research, the survey measures did not include all possible practices. Future research should remedy this shortfall. In addition, future research should continue to investigate whether HRM practices affect organisational variables in a bundle or independently. Also, more research using objective measures of HRM practices at the individual level is necessary.

Finally, while there is a considerable body of empirical evidence uncovering the detrimental effects of employer injustice (e.g., Price and Mueller, 1986; Bies, 1987;

2001), it is also important to expose the positive and beneficial results of work place justice as was achieved in this study. Moreover, Greenberg (1990) argues that justice researchers should shift from investigating perceptions of the different types of justice as dependent variables, and called upon moderating variables to provide the basis for improved conceptualisations. This study realises this by examining how procedural and interactional justices interact with psychological contract fulfilment to affect work place outcomes.

## 7.5 Concluding Remarks

At present, the HRM literature provides an inadequate understanding of the linkages between HRM and the employee. This inadequacy is highlighted by a number of researchers (Gibb, 2001; Gallie *et al.,* 2001), who believe that the scarcity of research into employee reactions to HRM needs to be addressed. Such an approach is congruent with Guest's (1999, p. 5) observation that 'any concern for the impact of HRM should be as much with outcomes of relevance to workers as to business'. Grant and Shields (2002) also indicate that the need for valid and accurate assessment of employee reactions to HRM has never been greater. They also suggest that a possible answer to employee reactions to HRM may be found in the psychological contract, that aspect of the employment relationship that binds employers and employees together beyond any formal underpinning. In addition, empirical evidence on the relationship of high commitment HRM practices with employee commitment mostly focuses on single HRM practices. Therefore, as we have very little understanding of exactly how such practices work to bring about these positive performance gains, it was considered necessary in this study to go down to the individual level of analysis to examine how employees may perceive and react to HRM and how these perceptions may help explain the HRM-firm performance relationship. It was also considered essential to investigate several high commitment HRM practices because organisations simultaneously use these practices in an effort to enhance attitudinal and operational outcomes.

The present research began with the goal of investigating the mechanisms through which commitment management practices influence employee attitudes and behaviours. This

study added to the body of knowledge in the HR literature by suggesting perceived psychological contract fulfilment plays an important mediating role in the relationship between high commitment management and employee outcomes.

Employees interpret high commitment human resource management practices (Eisenberger *et al.*, 1990) as indicative of the organisation's commitment to them. Findings of the present program of research indicate that more favourable employee appraisals of a number of high commitment management practices create an increased perception of psychological contract fulfilment. Consequently, employees respond by way of increased emotional attachment to the organisation. Increased attachment as such has the potential to limit the withdrawal cognitions displayed by employees and to increase the occurrence of proactive acts by the employee to benefit the organisation. Several researchers have argued that these proactive acts (OCBs) are especially appropriate expressions of reciprocity because workers have much discretion in performing it and because such behaviours tend to increase the organisation's efficiency and effectiveness (Smith *et al.*, 1983; Organ, 1988). The findings are also important for organisations seeking ways of addressing employee retention. Hence, by understanding and more importantly attempting to manage the psychological contract, organisations will be better able to ensure that their employees are more committed to their organisation, engage in organisational citizenship behaviours, and have lower intentions to quit. These attitudes and behaviours are indispensable for successful performance of the organisation.

Finally, procedural and interactional justice may also play an important role in promoting a highly committed workforce with self-starting, action orientated behaviour designed to make improvement oriented changes to the work environment (Griffin *et al.*, 2001). Such self-initiating behaviour (OCB) from employees is considered vital to modern organisations increasingly reliant on a flexible and self-directed work force for competitive advantage (Parker, 2000). Some even argue that the benefits of OCB are key to ensuring an organisation's survival (Katz, 1964; Katz and Khan, 1978). Furthermore, as Romzek (1990) emphasized, building and maintaining a strongly committed

workforce will be a fundamental factor in overcoming a variety of challenges facing organisations. By addressing these issues, managers can expect employees to respond with higher levels of performance, and thus gain a competitive advantage by keeping employees' skills and experience within the organisation rather than outside it.

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# APPENDIX A

*Items Included in the Measure of the Constructs Investigated in this Study*

Table A1
*Measures of the Seven High Commitment HRM Practices*

| High commitment HRM practices investigated | Items | Source & Reliability Score |
|---|---|---|
| Participative Decision Making | 1. I have sufficient authority to fulfill my job responsibilities<br>2. I have enough input in deciding how to accomplish my work<br>3. I am encouraged to participate in decisions that affect me<br>4. I have enough freedom over how I do my job<br>5. I have enough authority to make decisions necessary to provide quality customer service<br>6. For the most part, I am encouraged to participate in and make decisions that affect my day-to-day activities<br>7. All in all, I am given enough authority to act and make decisions about my work | Vandenberg *et al.,* (1999)<br><br>Alpha = 0.89 |
| Communication/Information Sharing | 1. Company (Organisation) policies and procedures are clearly communicated to employees<br>2. Management gives sufficient notice to employees prior to making changes in policies and procedures<br>3. Most of the time I receive sufficient notice of changes that affect my work group<br>4. Management takes time to explain to employees the reasoning behind critical decisions that are made<br>5. Management is adequately informed of the important issues in my department<br>6. Management makes a sufficient effort to get the opinions and feelings of people who work here<br>7. Management tends to stay informed of employee needs<br>8. The channels of employee communication with top management are effective<br>9. Top management communicates a clear organisational mission and how each division contributes to achieving that mission<br>10. Employees of this company (organisation) work toward common organisational goals | Vandenberg *et al,* (1999)<br><br>Alpha = 0.88 |
| Reward (reward systems / internal promotion / developmental performance appraisal) | 1. My performance evaluations within the past few years have been helpful to me in my professional development<br>2. There is a strong link between how well I perform my job and the likelihood of my receiving recognition and praise<br>3. There is a strong link between how well I perform my job and the likelihood of my receiving a raise in pay/salary<br>4. There is a strong link between how well I perform my job and the likelihood of my receiving high performance appraisal ratings | Vandenberg *et al.* (1999)<br><br>Alpha = 0.86 |

| | | |
|---|---|---|
| | 5. Generally, I feel this company (organisation) rewards employees who make an extra effort<br>6. I am satisfied with the amount of recognition I receive when I do a good job<br>7. If I perform my job well, I am likely to be promoted | |
| Selectivity in Hiring / Selective Staffing | 1. This organisation often hires people who do not have the necessary skills to work here (R)<br>2. In my work unit, I believe we hire people who can do the job<br>3. New staff members often lack the competence to do their job well (R)<br>4. This company (organisation) does a good job of hiring competent people<br>5. This company (organisation) strongly believes in the importance of hiring the right people for the job | Knight-Turvey and Neal (2003)<br><br>Alpha = 0.84 |
| Team working | 1. This company (organisation) encourages people to work in teams.<br>2. Working in teams is considered very important in this organisation<br>3. There is a commitment to training people to work in teams in this organisation<br>4. Management organise work so that most people work in teams<br>5. People here work individually rather than as members of teams (R)<br>7. Teamwork exists in name only here (R) | Lawthon, Patterson, West, & Maitlis, (1992)<br><br>Alpha = 0.89 |
| Training and Development | 1. Training is regarded as a way to improve performance<br>2. I have the opportunity to expand the scope of my job<br>3. I have been well trained by this company (organisation) for my job<br>4. I have the opportunity to improve my skills in this company (organisation)<br>5. This company (organisation) has not trained me well for future jobs (R) | Gaertner & Nollen (1989)<br><br>Alpha = 0.805 |
| Job Security | 1. I am worried about having to leave my job before I would like to (R)<br>2. There is a risk I will have to leave my present job in the year to come (R)<br>3. I feel uneasy about losing my job in the near future (R) | Hellgren & Sverke (2003)<br><br>Alpha = 0.78 at time 1, and 0.79 at time 2 |

Notes: With all items, the word 'company' was replaced by 'organisation', (R) = reverse scored.

Table A2

*Perceived Psychological Contract Fulfilment Measure*

| Items | Source & Reliability Score |
|---|---|
| *Overall Global Scale* <br> 1. Almost all promises made by my employer during recruitment have been kept so far <br> 2. I feel that my employer has come through in fulfilling the promises <br> 3. So far my employer has done an excellent job of fulfilling its promises to me <br> 4. I have not received everything promised to me in exchange for my contributions (R) <br> 5. My employer has broken many of its promises to me even though I've upheld my side of the deal (R) | Robinson and Morrison (2000) <br> Alpha = 0.92 |
| *Content-oriented Scale* <br> Respondents were asked to indicate how well their organisation has fulfilled the following obligations to them: <br> 1. Long-term job security <br> 2. Training <br> 3. Career development <br> 4. Involvement in decision making <br> 5. Freedom to do job well <br> 6. Information on important developments <br> 7. Pay increases to maintain standard of living <br> 8. Reasonable pay in comparison to employees doing similar work in other organisations <br> 9. Pay based on current level of performance <br> 10. Fringe benefits that are comparable to what employees doing similar work in other organisations get <br> 11. Rapid advancement <br> 12. Team working <br> 13. Hiring competent people | Rousseau (1990) <br> Robinson, Kraatz and Rousseau (1994) <br> Two items: fulfilment of team working and of hiring competent people were added by the researcher. |

Note: (R) = reverse scored


Table A3

*Affective Commitment Measure*

| The Original Affective Commitment Scale (Meyer, Allen and Smith, 1993) (Alpha = 0.87) | Items used in this study: Slightly modified (reverse-coded items rewritten in a positive direction) |
|---|---|
| 1. I would be very happy to spend the rest of my career with this organisation | 1. I would be very happy to spend the rest of my career with this organisation |
| 2. I really feel as if this organisation's problems are my own | 2. I really feel as if this organisation's problems are my own |
| 3. I do not feel a strong sense of 'belonging' to my organisation (R) | 3. I feel a strong sense of 'belonging' to my organisation |
| 4. I do not feel 'emotionally attached' to this organisation (R) | 4. I feel 'emotionally attached' to this organisation |
| 5. I do not feel like 'part of the family' at my organisation (R) | 5. I feel like 'part of the family' at my organisation |
| 6. This organisation has a great deal of personal meaning for me | 6. This organisation has a great deal of personal meaning for me |

Note: (R) = reverse scored.

Table A4
*OCB Measure*

| The Original Organisational Citizenship Behavioural Scale (Podsakoff et al., 1990): | Items used in this study: Slightly modified / reworded to fit with self-report measures |
|---|---|
| **Conscientiousness (Alpha = 0.83)**<br>1. Attendance at work is above the norm<br>2. Does not take extra breaks<br>3. Obeys company rules and regulations even when no one is watching<br>4. Is one of my most conscientious employees<br>5. Believes in giving an honest day's work for an honest day's pay | **Conscientiousness**<br>1. My attendance at work is above the norm<br>2. I do not take extra breaks<br>3. I obey organisation rules and regulations even when no one is watching<br>4. I am one of the most conscientious employees in the organisation<br>5. I believe in giving an honest day's work for an honest day's pay |
| **Sportsmanship (Alpha = 0.87)**<br>6. Consumes a lot of time complaining about trivial matters (R)<br>7. Always focuses on what's wrong, rather than the positive side. (R)<br>8. Tends to make 'mountains out of molehills'. (R)<br>9. Always finds fault with what the organisation is doing (R)<br>10. Is the classic 'squeaky wheel' that always needs greasing (R) | **Sportsmanship**<br>6. I consume a lot of time complaining about trivial matters (R)<br>7. I always focus on what's wrong, rather than the positive side (R)<br>8. I tend to make 'mountains out of molehills' (R)<br>9. I always find fault with what the organisation is doing (R)<br>10. I am the classic 'squeaky wheel' that always needs greasing (R) |
| **Civic Virtue (Alpha = 0.77)**<br>11. Attends meetings that are not mandatory, but are considered important.<br>12. Attends functions that are not required, but help the company image<br>13. Keeps abreast of changes in the organisation<br>14. Reads and keeps up with the organisation announcements, memos, and so on. | **Civic Virtue**<br>11. I attend meetings that are not mandatory, but are considered important<br>12. I attend functions that are not required, but help the organisation image<br>13. I keep abreast of changes in the organisation<br>14. I read and keep up with the organisation announcements, memos, and so on |
| **Courtesy (Alpha = 0.87)**<br>15. Takes steps to try to prevent problems with other workers.<br>16. Is mindful of how his/her behaviour affects other people's jobs<br>17. Does not abuse the rights of others<br>18. Tries to avoid creating problems for co-workers<br>19. Considers the impact of his/her actions on co-workers | **Courtesy**<br>15. I take steps to try to prevent problems with other workers<br>16. I am mindful of how my behaviour affects other people's jobs<br>17. I do not abuse the rights of others<br>18. I try to avoid creating problems for co-workers<br>19. I consider the impact of my actions on co-workers |
| **Altruism (alpha = 0.81)**<br>20. Helps others who have been absent<br>21. Helps others who have heavy work loads<br>22. Helps orient new people even though it is not required<br>23. Willingly helps others who have work related problems<br>30. Is always ready to lend a helping hand to those around him/her | **Altruism**<br>20. I help others who have been absent<br>21. I help others who have heavy work loads<br>22. I help orient new people even though it is not required<br>23. I willingly help others who have work related problems<br>24. I am always ready to lend a helping hand to those around me |

Note: (R) = reverse scored.

## Table A5
### Intention to Quit

| Items | Source & Reliability Score |
|---|---|
| 1. It is likely that I will leave my employment with this organisation within a year<br>2. I intend to keep working at this organisation for at least the next 3 years (R)<br>3. I frequently think about quitting my job | The first two items were adapted from Cammann, Fichman, Jenkins and Klesh (1979, cited in Cook, Hepworht, Wall and Warr 1981). Cronbach's alpha was 0.85. The third item was adapted from the Overall Job Satisfaction Scale developed by Seashore, Lawler, Mivris and Cammann (1982). |

## Table A6
### Procedural and Interactional Justice Measures

| Original Scale: Procedural and Interactional Justice Scales (Niehoff and Moorman, 1993) | Items used in this study |
|---|---|
| *Procedural Justice* (alpha = 0.85)<br>  1. Job decisions are made by the general manager in an unbiased manner<br>  2. My general manager makes sure that all employee concerns are heard before job decisions are made<br>  3. To make job decisions, my general manager collects accurate and complete information<br>  4. My general manager clarifies decisions and provides additional information when requested by employees<br>  5. All job decisions are applied consistently across all affected employees<br>  6. Employees are allowed to challenge or appeal decisions made by the general manager | *Procedural Justice*<br>  1. Job decisions are made by the organisation in an unbiased manner<br>  2. My organisation makes sure that all employee concerns are heard before job decisions are made<br>  3. To make job decisions, my organisation collects accurate and complete information<br>  4. My organisation clarifies decisions and provides additional information when requested by employees<br>  5. All job decisions are applied consistently across all employees<br>  6. Employees are allowed to challenge or appeal decisions made by the organisation |
| *Interactional Justice* (alpha = 0.92)<br>  1. When decisions are made about my job, the general manager treats me with kindness and consideration<br>  2. When decisions are made about my job, the general manager treats me with respect and dignity<br>  3. When decisions are made about my job, the general manager is sensitive to my personal needs<br>  4. When decisions are made about my job, the general manager deals with me in a truthful manner<br>  5. When decisions are made about my job, the general manager shows concern for my rights as an employee<br>  6. Concerning decisions made about my job, the general manager discusses the implications of the decisions with me.<br>  7. The general manager offers adequate justification for decisions made about my job<br>  8. When decisions are made about my job, the general manager offers explanations that make sense to me.<br>  9. My general manager explains very clearly any decision made about my job. | *Interactional Justice*<br>  1. When decisions are made about my job, the organisation treats me with kindness and consideration<br>  2. When decisions are made about my job, the organisation treats me with respect and dignity<br>  3. When decisions are made about my job, the organisation is sensitive to my personal needs<br>  4. When decisions are made about my job, the organisation deals with me in a truthful manner<br>  5. When decisions are made about my job, the organisation shows concern for my rights as an employee<br>  6. Concerning decisions made about my job, the organisation discusses the implications of the decisions with me.<br>  7. The organisation offers adequate justification for decisions made about my job<br>  8. When decisions are made about my job, the organisation offers explanations that make sense to me.<br>  9. My organisation explains very clearly any decision made about my job. |

Table A7

*Demographic Survey Questions*

| Question or Statement | Argument for inclusion |
|---|---|
| 1. Please indicate your gender | Provides database profile |
| 2. Please indicate your age group | Provides database profile |
| 3. What is the highest educational qualification you hold? | Provides database profile |
| 4. How long have you worked for *Organisation Name*? | Provides database profile |
| 5. Do you work on a full time or part time basis for this organisation? | Provides database profile |
| 6. Do you work on a permanent or casual basis for this organisation? | Provides database profile |
| 7. What is your position within *Organisation Name?* | Provides database profile |
| 8. Please indicate your income group | Provides database profile |

# APPENDIX B

Table B1

*Measuring and Collecting OCB Data using Different Scales and Sources*

| Author | Sample | Information Source | Measures |
|---|---|---|---|
| Smith, Organ and Near (1983) | 422 respondents from 58 departments of two banks in a large Midwestern city in the US. | Supervisor-ratings | 1. Helps others who have been absent<br>2. Punctuality<br>3. Volunteers for things that are not required<br>4. Takes undeserved breaks<br>5. Orients new people even though it's not required<br>6. Attendance at work is above the norm<br>7. Helps others who have heavy work loads<br>8. Coasts towards the end of the day<br>9. Gives advance notice if unable to come to work<br>10. Great deal of time spent with personal phone conversations<br>11. Does not take unnecessary time off work<br>12. Assists supervisor with his or her work<br>13. Makes innovative suggestions to improve department<br>14. Does not take extra breaks<br>15. Attend functions not required but that help company image<br>16. Does not spend time in idle conversation<br>The 16 items were factor analysed and yielded three factors: Altruism, conscientiousness, and a compliance factor |
| Ang, Van Dyne, and Begley (2003) | The authors collected data from 466 highly skilled technical employees at a large property management and development organisation in Singapore. All participants were ethnic Chinese. | Supervisor-ratings | The authors used four items from Van Dyne and LePine's (1998) helping measure for organisational citizenship behavior. Items included 'helps orient new employees and helps others who have heavy workloads' |

| | | |
|---|---|---|
| Van Dyne and Pierce (2004) | 3 field samples in the US. The first 2 studies were conducted in specific organisations. The third one sampled a range of employees from a wide range of organisations from throughout the country. Number of respondents was over 800 | Employees, Supervisors & Work group peers-ratings | OCB was assessed with five items from Van Dyne and LePine's (1998) helping organisational citizenship scale, e.g.: 'Volunteers to do things for this work group' 'Helps orient new employees' 'Attends functions that help the group' |
| Moorman, Niehoff and Organ (1993) | Sample included 420 employees and in a cable television company in the US. | Manager/supervisor-ratings | Organisational Citizenship Behaviour was measured using the five-factor; Organisational Citizenship Behaviour scale developed by Podsakoff et al. (1990) was used. |
| Diefendroff, Brown, Kamin and Lord (2002) | The sample consisted of 130 employees, undergraduate students (43 males and 87 females). An initial group of 248 individuals, and their supervisors, were recruited from a large urban, commuter campus. Final sample included 130 employees. | Supervisor-ratings | OCB was measured using the Organisational Citizenship Behavior Questionnaire developed by Podsakoff et al. (1990). This scale measures five dimensions of OCB: conscientiousness (five items, alpha = 0.82), sportsmanship (five items, alpha = 0.85), courtesy (five items; alpha = 0.85), altruism (five items, alpha = 0.85), and civic virtue (four items, alpha = 0.70). |
| Schappe (1998) | The participants, 150 employees of a mid-Atlantic insurance company, were given surveys to complete during regular working hours; 130 completed surveys were returned yielding a response rate of 87 %. | Self report-ratings | OCB measure: A variation of the citizenship-behavior scale developed by Smith et al. (1983) was used. Three items each measured the altruism and generalized compliance dimensions of OCB and combined to form a single 6-item scale: 1. I help others who have heavy workloads 2. I help others who have been absent 3. I willingly give up my time to help others who have work-related problems 4. I take longer lunches or breaks 5. I take unnecessary time off work 6. I take extra breaks |

| Study | Sample | Rating | Measure |
|---|---|---|---|
| Moorman (1991) | Sample was drawn from 225 employees of two firms in the Midwestern United States. | Supervisor-ratings | OCB was measured using the 5-dimension scale developed by Podsakoff *et al.* (1990). |
| Williams and Anderson (1991) | 141 full time employees of various organisations from a Midwestern city who were attending evening MBA classes at local universities. | Supervisor-ratings | OCB was measured using OCB directed at individuals (OCBI) and OCB directed at the organisation (OCBO)<br><br>OCBI items: Alpha = 0.88<br>1. Helps others who have been absent<br>2. Helps others who have heavy work loads<br>3. Assists supervisor with his/her work (when not asked)<br>4. Takes time to listen to co-workers' problems and worries<br>5. Goes out of way to help new employees<br>6. Takes a personal interest in other employees<br>7. Passes along information to co-workers<br><br>OCBO items: Alpha = 0.75<br>1. Attendance at work is above the norm<br>2. Gives advance notice when unable to come to work<br>3. Takes undeserved work breaks (R)<br>4. Great deal of time spent with personal phone conversations (R)<br>5. Complains about insignificant things at work (R)<br>6. Conserves and protects organisational property (was excluded after factor analysis was conducted).<br>7. Adheres to informal rules devised to maintain order. |
| Pond, Nacoste, Mohr and Rodriguez (1997) | Sample consisted of144 managerial level county government employees in the southeastern United States voluntarily. Positions ranged from office supervisors to directors | Self report-ratings | OCB was measured using a modified version of a scale developed by Smith *et al.* (1983). Rather than have supervisors rate subordinates on the frequency of observed OCBs, employees were asked to directly rate their own behavior. Other than this modification, the scale was identical to the one used by Smith *et al.*, (1983). |
| Feather and Rauter (2004) | Data was collected from a sample of 154 school teachers from Victoria Australia | Self-report ratings of OCB | OCB was measured by adapting a 10-item scale devised by Wittig-Berman and Lang (1990). Example item: 'I go out of my way to help a co-worker who is having difficulty in his or her job'. |

| Study | Sample | Rating | Measure description |
|---|---|---|---|
| Konovsky and Pugh (1994) | 427 employees of a hospital located in the South Central United States | Supervisor-ratings | Organisational citizenship behavior: A set of items similar to the items in the Organisational Citizenship Behavior Scale developed by Podsakoff, MacKenzie (1989) and used and validated and modified by Podsakoff, MacKenzie, Moorman, and Fetter (1990) was used. Conscientiousness was assessed with four items including "maintains a clean work place" (alpha=.84). Altruism was assessed by five items, including "helps others who have been absent". Sportsmanship was assessed by five items, including "always finds fault with what the organisation is doing". Courtesy was measured by three items including "consults with me or other people who might be affected by his/her actions or decisions. Civic virtue was assessed by two items, including "attends and participates in meetings regarding the company". |
| VanYperen, Van den Berg, and Willering (1999) | The data were collected in a medium-sized distributive trade company. A total of 142 employees across 10 departments holding white collar and professional positions participated in this study. | Supervisor-ratings | Organisational citizenship behavior was measured by a 5-dimension scale developed Podsakoff & MacKenzie (1989; MacKenzie, Podsakoff and Fetter, 1991): (1) altruism, (2) conscientiousness, (3) sportsmanship, (4) courtesy, and (5) civic virtue |
| Podsakoff, MacKenzie and Bommer (1996) | Sample consisted of 1200 employees drawn from multiple divisions of several large companies located throughout the U.S. and Canada. The sample was chosen from a wide range of industries (printing, automotive, banks, | Managers-ratings | Extra-role or organisational citizenship behaviours were measured using a modified version of the 5-dimension scale developed by Podsakoff and MacKenzie (1989) and Podsakoff *et al.* (1990). The items included in this scale measure all five of the "citizenship behavior" dimensions identified by Organ (1988), including altruism, courtesy, conscientiousness, civic virtue, and sportsmanship. Previous research by a number of researchers (Niehoff & Moorman, 1993; Podsakoff and MacKenzie & Fetter, 1993; Tansky, 1993) has been very encouraging, and generally |

| Study | | Rating | Description |
|---|---|---|---|
| | electronics, pharmaceutical, diversified financial services...) and organisational levels (entry level through CEOs and presidents). | | shows this scale to possess good validity and very acceptable levels of internal consistency reliability. |
| Mackenzie, Podsakoff, and Fetter (1991) | Data was obtained from 259 multiline insurance agents, as well as a cross validation sample of 113 agents. | Manager-ratings | Four of Organ's (1988) dimensions were used to measure OCB: altruism, civic virtue, courtesy, and sportsmanship. The fifth dimension (conscientiousness) was not included in the study because it was not seen as applicable to the insurance sales. These items were used for the current program of research (see appendix 1). |
| Moorman (1993) | The sample was drawn from the employees of two medium-sized Midwestern companies. When the two companies were combined, the final sample size was 270 employee surveys and 225 matched pairs of employee and managerial surveys. | Supervisor-ratings | OCB was measured using the Organisational Citizenship Behavior Scale developed by Podsakoff and MacKenzie (1989) and validated and modified by Podsakoff et al. (1990). The five OCB factors included altruism, courtesy, sportsmanship, conscientiousness, and civic virtue. |
| Moorman and Blakely (1995) | Sample consisted of 155 employees of a southeastern financial services organisation in the US. | Self report-ratings | OCB was assessed with self-reports using the four-dimensional scale described in more detail in Moorman and Blakely (1992). This scale was based on Graham's (1989) dimensions of OCB, but contained items, which referenced Organ's (1988) dimensions, as well. After confirmatory analysis, 19 items were chosen to measure the 4 dimensions suggested by Graham (1989) and used in this paper: Interpersonal helping: 1. Goes out of his/her way to help co-workers with related work problems 2. Voluntarily helps new employees settle into the job 3. Frequently adjusts his/her work schedule to |

accommodate other employees' requests for time-off.

4. Always goes out of the way to make newer employees feel welcome in the work group

5. Shows genuine concern and courtesy toward co-workers, even under the most trying business or personal situations

## Individual Initiative

6. For issues that may have serious consequences, expresses opinions honestly even when others may disagree

7. Often motivates others to express their ideas and opinions

8. Encourages others to try new and more effective ways of doing their job

9. Encourages hesitant or quiet co-workers to voice their opinions when they otherwise might not speak up.

10. Frequently communicates to co-workers suggestions on how the group can improve

## Personal Industry

11. Rarely misses work even when he/she has a legitimate reason for doing so

12. Performs his/her duties with unusually few errors

13. Performs his/her job duties with extra-special care

14. Always meets or beats deadlines for completing work

## Loyal Boosterism

15. Defends the organisation when other employees criticize it

16. Encourages friends and family to utilize organisation products

17. Defends the organisation when outsiders criticize it

18. Shows pride when representing the organisation in public

19. Actively promotes the organisation's products and services to potential users.

| Podsakoff *et al.* (1990) | Supervisor-ratings | The OCB measure was based on the five types of citizenship behavior mentioned by Organ (1988). Podsakoff and MacKenzie (1989) and Podsakoff and colleagues (1990) developed a scale to measure those five OCB behaviours: Altruism, conscientiousness, sportsmanship, courtesy and civic virtue. This resulted in a 24-item scale referred to as 'The Organisational Citizenship Behavior Scale' (See appendix A for scale items) |
|---|---|---|
| | Data were collected from all exempt employees of a diversified petrochemical company. The company's corporate offices are located in Midwest, but divisions throughout the United States, Canada, and Europe were represented in the sample. | |
| Cardona, Lawrence and Bentler (2004) | Self report-ratings | OCB is measured with four self-report items adapted from Smith *et al.* (1983). Even though this scale contains items from both the altruism and compliance factors of OCB (Smith *et al.*, 1983), the exploratory factor analysis found only one factor when these items were analysed together with the rest of the items. OCB 4-item self report scale used in this study: 1. When the workload is most intense I work extra hours, by shortening the usual breaks or staying at work later than usual. 2. I frequently suggest new ideas to improve my department 3. I only have to do the job I am paid to do (R) 4. Even when it is not required, I try to guide the new members of my department |
| | The sample used for the analysis included 1,084 questionnaires. Respondents included physicians working in hospitals in Madrid and Barcelona, Spain | |
| Stamper and Van Dyne (2001) | Manager-ratings | Managers assessed two forms of OCB for each participant using the five-item altruism scale developed and validated by Podsakoff *et al.* (1990). Sample helping items included 'Helps others who have been absent' 'Helps orient other employees even though it is not required' Voice was measured with the 8-item scale developed and validated by Van Dyne *et al.*, (1994). Items included 'Frequently makes creative suggestions to coworkers' and 'Encourages others to speak up at meetings' (alpha=0.85). |
| | Sample included 257 entry-level restaurant service employees who worked in medium sized restaurants located in the Midwestern region of the United States. | |

367

| | | |
|---|---|---|
| Shore and Wayne (1993) | Sample was 283 employees working in a large multinational firm headquartered in the southeastern United States and holding a variety of job positions, such as mechanic, secretary, and accountant. | Supervisor-ratings | OCB was assessed with a 16-item scale developed by Smith, Organ, and Near (1983). |
| Moorman, Blakely and Niehoff (1998) | Sample consisted of 157 civilian subordinates from all departments of a large military hospital located in the Midwest of the US. | Supervisor-ratings | OCB was assessed with a modified version of the four-dimensional scale developed by Moorman and Blakely: (1) interpersonal helping; (2) individual initiative, (3) personal industry, and (4) loyal boosterism. |
| Farh, Podsakoff and Organ (1990) | The sample consisted of employees drawn from three major divisions of the Ministry of Communications in Taiwan. Questionnaires were distributed to a total of 250 subordinates and their supervisors, and were returned to the researchers directly through mail, or via coordinators that were designated for each unit. | Supervisor-ratings | OCB were assessed by supervisor ratings using the 16-item scale developed by Smith, Organ, and Near (1983). |
| Tepper and Taylor (2003) | Data was collected from 373 National Guard members and their military supervisors In the US | Supervisor-ratings | Supervisors rated their subordinates' OCB using 20 items from Podsakoff et al. (1990) measure |
| Rifai (2005) | Nurses across 8 hospitals in Indonesia (n=383) | Self-report ratings | OCB was measured using a 4-item scale adapted from the 16-item scale developed by Smith, Organ, and Near (1983) |

| Study | Measure | Sample | Description |
|---|---|---|---|
| Tansky (1993) | Supervisor-ratings | 75 participants who were non-union employees working in various locations for a division of a subsidiary of a Fortune 100 company. | The five categories of OCB (altruism, courtesy, sportsmanship, conscientiousness, and civic virtue) were measured with scales based upon the work of Podsakoff *et al.* (1990). This article recommended that future research should use OCB ratings by the employee to examine the relationship between commitment and OCB, and suggested that OCB ratings by the employee may be more appropriate for examining this type of relationship, because employees may see themselves exhibiting behaviours that the supervisor does not observe. |
| Tang and Ibrahim (1998) | Self report-ratings | 155 workers in the Department of Mental Health and Mental Retardation in the Southeastern U.S and 378 police officers and military personnel in the Middle East (Egypt and Saudi Arabia) | OCB was measured by the 16-item scale developed by Smith, Organ, and Near (1983) |
| O'Reilly and Chatman (1986) | Self-report ratings of extra-role prosocial behaviours | University employees, wide variety of jobs (n=82) Undergraduate business students (n=162) | On the basis of Smith *et al.'s* (1983) study, a set of 11 items were included to measure extra-role behaviours |
| Riketta and Landerer (2005) | Self-report ratings | Employees from a large German Health Service organisation (n=63) | OCB was measured with 8 items adapted from Smith, Organ and Near (1983): I have voluntarily done more work than required I helped colleagues when they had much work to do I have tried to recruit volunteers for (organisation) I have voluntarily helped my supervisor with his/her work I have spontaneously made suggestions to improve work processes I have talked favourably about (organisation) to my acquaintances I have taken more or longer breaks during working hours than allowed (R) I have criticised (organisation) in front of my acquaintances (R) |

| Study | Sample | Measurement | Description |
|---|---|---|---|
| Skarlicki and Latham (1995) | The sample consisted of 71 faculty from the business schools of 2 universities and the psychology department of a third university | Peer-ratings of individual OCB | Factor analysis resulted in 2 dimensions of OCB: OCBO (5 items): represents an individual's tendency to be a good citizen to the institution OCBI (6-items): refers to helping colleagues and students |
| Chang and Chelladurai (2003) | Part-time (n=96) workers and full-time (n=82) workers in Korean sports organisations | Self-report ratings | OCB was assessed with a 16-item scale developed by Smith *et al.* (1983) |
| Tierney, Bauer and Potter (2002) | The study sample consisted of 100 professional, white-collar employees from a variety of companies in Mexico | Self-report ratings | Extra role behaviour was measured using 6 altruism items from Williams and Anderson (1991) |
| Robinson and Morrison (1995) | Respondents were 126 MBA alumni of a midwestern business school in the US | Self-report ratings | Civic virtue (a dimension of organisational citizenship behaviour) was assessed using a 5-item measure designed by Podsakoff *et al.* (1990) |
| Van Dyne and Pierce (2004) | Data was collected from three field samples within the United States using responses from over 800 employees | Supervisor and peer-ratings | Five items from Van Dyne and Le Pine's (1998) helping organisational citizenship behaviour scale were used to measure OCB (e.g., volunteers to do things for this work group, helps orient new employees, attends functions that help the group) |
| Van Dyne, Graham and Dienesch (1994) | Data from 950 employees in diverse organisational and occupational contexts | Supervisor-ratings & Self-report ratings of OCB | The authors developed a new measure of 34 items to assess OCB. This resulted in three dimensions: Obedience (describing conscientious work habits), loyalty, and participation |

# APPENDIX C

*Residual Matrix and Critical Ratios of Parameter Estimates for One-Factor Congeneric Models*

Table C1
*Standardised Residual Matrix for Training*

|     | Q11   | Q10   | Q9   | Q8   |
|-----|-------|-------|------|------|
| Q11 | .000  |       |      |      |
| Q10 | .130  | .000  |      |      |
| Q9  | .140  | -.495 | .000 |      |
| Q8  | -.425 | .546  | .253 | .000 |

Table C2
*Standardised Residual Matrix for Selective Hiring*

|     | Q40   | Q39   | Q37  | Q36  |
|-----|-------|-------|------|------|
| Q40 | .000  |       |      |      |
| Q39 | .127  | .000  |      |      |
| Q37 | -.670 | .012  | .000 |      |
| Q36 | .053  | -.204 | .920 | .000 |

Table C3
*Standardised Residual Matrix for Job Security*

|     | Q43   | Q42   | Q41  |
|-----|-------|-------|------|
| Q43 | -.013 |       |      |
| Q42 | .039  | .000  |      |
| Q41 | .000  | -.041 | .014 |

Table C4
*Standardised Residual Matrix for Participative Decision Making*

|     | Q7    | Q5    | Q4    | Q1   |
|-----|-------|-------|-------|------|
| Q7  | .000  |       |       |      |
| Q5  | -.055 | .000  |       |      |
| Q4  | .135  | -.293 | .000  |      |
| Q1  | -.047 | .436  | -.283 | .000 |

Table C5
*Standardised Residual Matrix for Teamworking*

|     | Q33   | Q31  | Q30   |
| --- | ----- | ---- | ----- |
| Q33 | .000  |      |       |
| Q31 | -.126 | .043 |       |
| Q30 | .118  | .002 | -.041 |

Table C6
*Standardised Residual Matrix for Rewards*

|     | Q29   | Q28   | Q27   | Q24   | Q23  |
| --- | ----- | ----- | ----- | ----- | ---- |
| Q29 | .000  |       |       |       |      |
| Q28 | .201  | .000  |       |       |      |
| Q27 | .100  | -.117 | .000  |       |      |
| Q24 | -.690 | -.064 | .354  | .000  |      |
| Q23 | .618  | .203  | -.476 | -.010 | .000 |

Table C7
*Standardised Residual Matrix for Communication*

|     | Q22   | Q20   | Q18   | Q17  | Q16  |
| --- | ----- | ----- | ----- | ---- | ---- |
| Q22 | .000  |       |       |      |      |
| Q20 | .262  | .000  |       |      |      |
| Q18 | -.188 | .055  | .000  |      |      |
| Q17 | .505  | -.248 | -.199 | .000 |      |
| Q16 | -.738 | -.110 | .252  | .468 | .000 |

Table C8
*Standardised Residual Matrix for Psychological Contract Fulfillment*

|      | Q101  | Q100 | Q99  |
| ---- | ----- | ---- | ---- |
| Q101 | -.127 |      |      |
| Q100 | -.078 | .000 |      |
| Q99  | -.026 | .051 | .087 |

Table C9
*Standardised Residual Matrix for Transactional Psychological Contract Fulfillment*

|      | Q131 | Q130 | Q129 | Q128 |
|------|------|------|------|------|
| Q131 | .000 |      |      |      |
| Q130 | -.087 | .000 |     |      |
| Q129 | .199 | -.099 | .000 |     |
| Q128 | -.280 | .258 | -.041 | .000 |

Table C10
*Standardised Residual Matrix for Relational Psychological Contract Fulfillment*

|      | Q134 | Q133 | Q132 | Q127 | Q125 | Q123 | Q122 |
|------|------|------|------|------|------|------|------|
| Q134 | .000 |      |      |      |      |      |      |
| Q133 | .674 | .000 |      |      |      |      |      |
| Q132 | .598 | .175 | .000 |      |      |      |      |
| Q127 | -.103 | .042 | -1.037 | .000 |    |      |      |
| Q125 | -.599 | -.270 | .140 | .760 | .000 |    |      |
| Q123 | -.388 | -.666 | .000 | .264 | .070 | .000 |   |
| Q122 | -.629 | -.072 | .350 | -.566 | -.212 | 2.021 | .000 |

Table C11
*Standardised Residual Matrix for Affective Commitment*

|     | Q49 | Q48 | Q47 | Q46 | Q44 |
|-----|-----|-----|-----|-----|-----|
| Q49 | .000 |    |     |     |     |
| Q48 | .002 | .000 |   |     |     |
| Q47 | .148 | -.124 | .000 |  |     |
| Q46 | -.119 | .064 | .035 | .000 |  |
| Q44 | .018 | .078 | -.260 | .122 | .000 |

Table C12
*Standardised Residual Matrix for Altruism*

|     | Q57 | Q56 | Q55 | Q54 |
|-----|-----|-----|-----|-----|
| Q57 | .000 |    |     |     |
| Q56 | .207 | .000 |   |     |
| Q55 | -.566 | .056 | .000 |  |
| Q54 | .056 | -.254 | .505 | .000 |

Table C13

*Standardised Residual Matrix for Conscientiousness*

|      | Q62   | Q61   | Q59   | Q58  |
|------|-------|-------|-------|------|
| Q62  | .000  |       |       |      |
| Q61  | -.283 | .000  |       |      |
| Q59  | .360  | -.058 | .000  |      |
| Q58  | -.075 | .242  | -.185 | .000 |

Table C14

*Standardised Residual Matrix for Sportsmanship*

|      | Q78   | Q77   | Q76  | Q74  |
|------|-------|-------|------|------|
| Q78  | .000  |       |      |      |
| Q77  | .102  | .000  |      |      |
| Q76  | .070  | -.176 | .000 |      |
| Q74  | -.156 | .140  | .043 | .000 |

Table C15

*Standardised Residual Matrix for Courtesy*

|      | Q83   | Q82   | Q81   | Q79  |
|------|-------|-------|-------|------|
| Q83  | .000  |       |       |      |
| Q82  | -.027 | .000  |       |      |
| Q81  | -.037 | .099  | .000  |      |
| Q79  | .453  | -.333 | -.360 | .000 |

Table C16

*Standardised Residual Matrix for Civic Virtue*

|      | Q66   | Q65  | Q63  |
|------|-------|------|------|
| Q66  | -.035 |      |      |
| Q65  | .029  | .037 |      |
| Q63  | .217  | .129 | .073 |

Table C17

*Standardised Residual Matrix for Intention to Quit*

|      | Q52   | Q51  | Q50   |
|------|-------|------|-------|
| Q52  | .000  |      |       |
| Q51  | -.190 | .100 |       |
| Q50  | .162  | .011 | -.089 |

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Table C18

*Critical Ratios of Parameter Estimates for Training*

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q8 | <--- | Training | .885 | .053 | 16.643 | *** |
| Q9 | <--- | Training | 1.245 | .061 | 20.518 | *** |
| Q10 | <--- | Training | 1.143 | .062 | 18.409 | *** |
| Q11 | <--- | Training | 1.204 | .053 | 22.588 | *** |

Note: ***P < 0.001

Table C19

*Critical Ratios of Parameter Estimates for Selective Hiring*

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q36 | <--- | Selective Hiring | .966 | .069 | 14.090 | *** |
| Q37 | <--- | Selective Hiring | .802 | .053 | 15.010 | *** |
| Q39 | <--- | Selective Hiring | 1.171 | .052 | 22.731 | *** |
| Q40 | <--- | Selective Hiring | .938 | .056 | 16.735 | *** |

Note: ***P < 0.001

Table C20

*Critical Ratios of Parameter Estimates for Job Security*

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q41 | <--- | Job Security | 1.641 | .068 | 24.258 | *** |
| Q42 | <--- | Job Security | 1.380 | .076 | 18.127 | *** |
| Q43 | <--- | Job Security | 1.683 | .069 | 24.498 | *** |

Note: ***P < 0.001

Table C21

*Critical Ratios of Parameter Estimates for Participative Decision Making*

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q1 | <--- | Participative Decision Making | 1.019 | .044 | 22.897 | *** |
| Q4 | <--- | Participative Decision Making | 1.045 | .050 | 20.949 | *** |
| Q5 | <--- | Participative Decision Making | 1.155 | .052 | 22.364 | *** |
| Q7 | <--- | Participative Decision Making | 1.241 | .044 | 28.033 | *** |

Note: ***P < 0.001

Table C22

*Critical Ratios of Parameter Estimates for Team working*

| | | | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q30 | <--- | Team working | 1.008 | .043 | 23.654 | *** |
| Q31 | <--- | Team working | .974 | .042 | 23.314 | *** |
| Q33 | <--- | Team working | .947 | .055 | 17.079 | *** |

Note: ***P < 0.001

Table C23

*Critical Ratios of Parameter Estimates for Rewards*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q23 | <--- | Rewards | 1.206 | .064 | 18.756 | *** |
| Q24 | <--- | Rewards | 1.494 | .065 | 22.871 | *** |
| Q27 | <--- | Rewards | 1.461 | .063 | 23.342 | *** |
| Q28 | <--- | Rewards | 1.539 | .064 | 24.140 | *** |
| Q29 | <--- | Rewards | 1.226 | .070 | 17.491 | *** |

Note: ***P < 0.001

Table C24

*Critical Ratios of Parameter Estimates for Communication*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q16 | <--- | Communication | 1.187 | .061 | 19.403 | *** |
| Q17 | <--- | Communication | 1.012 | .052 | 19.394 | *** |
| Q18 | <--- | Communication | 1.381 | .059 | 23.368 | *** |
| Q20 | <--- | Communication | 1.434 | .059 | 24.159 | *** |
| Q22 | <--- | Communication | 1.063 | .056 | 19.077 | *** |

Note: ***P < 0.001

Table C25

*Critical Ratios of Parameter Estimates for Psychological Contract Fulfillment*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q99 | <--- | Psychological Contract Fulfillment | 1.335 | .047 | 28.597 | *** |
| Q100 | <--- | Psychological Contract Fulfillment | 1.362 | .048 | 28.314 | *** |
| Q101 | <--- | Psychological Contract Fulfillment | 1.335 | .047 | 28.597 | *** |

Note: ***P < 0.001

Table C26

*Critical Ratios of Parameter Estimates for Transactional Psychological Contract Fulfillment*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q128 | <--- | Transactional PCF | 1.373 | .058 | 23.661 | *** |
| Q129 | <--- | Transactional PCF | 1.519 | .057 | 26.443 | *** |
| Q130 | <--- | Transactional PCF | 1.433 | .059 | 24.417 | *** |
| Q131 | <--- | Transactional PCF | 1.326 | .059 | 22.333 | *** |

Note: ***P < 0.001

Table C27

*Critical Ratios of Parameter Estimates for Relational Psychological Contract Fulfillment*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q122 | <--- | Relational PCF | .836 | .070 | 11.860 | *** |
| Q123 | <--- | Relational PCF | .968 | .066 | 14.650 | *** |
| Q125 | <--- | Relational PCF | 1.228 | .060 | 20.564 | *** |
| Q127 | <--- | Relational PCF | 1.056 | .056 | 18.792 | *** |
| Q132 | <--- | Relational PCF | 1.114 | .063 | 17.752 | *** |
| Q133 | <--- | Relational PCF | 1.121 | .055 | 20.225 | *** |
| Q134 | <--- | Relational PCF | 1.045 | .059 | 17.559 | *** |

Note: ***P < 0.001

Table C28

*Critical Ratios of Parameter Estimates for Affective Commitment*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q44 | <--- | Affective Commitment | 1.222 | .064 | 19.193 | *** |
| Q46 | <--- | Affective Commitment | 1.379 | .054 | 25.379 | *** |
| Q47 | <--- | Affective Commitment | 1.404 | .058 | 24.010 | *** |
| Q48 | <--- | Affective Commitment | 1.349 | .057 | 23.754 | *** |
| Q49 | <--- | Affective Commitment | 1.373 | .055 | 25.169 | *** |

Note: ***P < 0.001

Table C29

*Critical Ratios of Parameter Estimates for Altruism*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q54 | <--- | Altruism | .636 | .040 | 15.954 | *** |
| Q55 | <--- | Altruism | .587 | .044 | 13.319 | *** |
| Q56 | <--- | Altruism | .597 | .032 | 18.399 | *** |
| Q57 | <--- | Altruism | .481 | .030 | 16.228 | *** |

Note: ***P < 0.001

Table C30

*Critical Ratios of Parameter Estimates for Conscientiousness*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q58 | <--- | Conscientiousness | .774 | .057 | 13.557 | *** |
| Q59 | <--- | Conscientiousness | .771 | .059 | 13.181 | *** |
| Q61 | <--- | Conscientiousness | .832 | .063 | 13.112 | *** |
| Q62 | <--- | Conscientiousness | .437 | .039 | 11.236 | *** |

Note: ***P < 0.001

Table C31
*Critical Ratios of Parameter Estimates for Sportsmanship*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q74 | <--- | Sportsmanship | .898 | .045 | 19.893 | *** |
| Q76 | <--- | Sportsmanship | .904 | .042 | 21.446 | *** |
| Q77 | <--- | Sportsmanship | .824 | .049 | 16.717 | *** |
| Q78 | <--- | Sportsmanship | .819 | .042 | 19.357 | *** |

Note: ***P < 0.001

Table C32
*Critical Ratios of Parameter Estimates for Courtesy*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q79 | <--- | Courtesy | .614 | .054 | 11.385 | *** |
| Q81 | <--- | Courtesy | .827 | .035 | 23.852 | *** |
| Q82 | <--- | Courtesy | .828 | .033 | 24.748 | *** |
| Q83 | <--- | Courtesy | .870 | .033 | 26.039 | *** |

Note: ***P < 0.001

Table C33
*Critical Ratios of Parameter Estimates for Civic Virtue*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q63 | <--- | Civic Virtue | .491 | .032 | 15.473 | *** |
| Q65 | <--- | Civic Virtue | .904 | .057 | 15.946 | *** |
| Q66 | <--- | Civic Virtue | .537 | .042 | 12.713 | *** |

Note: ***P < 0.001

Table C34
*Critical Ratios of Parameter Estimates for Intention to Quit*

|  |  |  | Estimate | S.E. | C.R. | P |
|---|---|---|---|---|---|---|
| Q50 | <--- | Intention to Quit | 1.299 | .064 | 20.378 | *** |
| Q51 | <--- | Intention to Quit | 1.184 | .061 | 19.306 | *** |
| Q52 | <--- | Intention to Quit | 1.245 | .077 | 16.216 | *** |

Note: ***P < 0.001