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**The Improbable Commitment: Organizational
Commitment Amongst South African Knowledge Workers**

by

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**A thesis submitted in fulfilment of the requirements for
the degree of Doctor of Philosophy**

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ACKNOWLEDGEMENTS

Writing this dissertation was like running a marathon. Marathons are great testaments to the human spirit; they are gruelling, physically draining, and emotionally exhausting. They require countless hours of preparation, all of which may be thwarted by the common cold on race day. The final hours of a marathon extract the most and successful completion is a bittersweet combination of relief and satisfaction. In short, marathons are best watched on television.

The marathon metaphor is an especially apt metaphor in the South African context, where the Comrades Marathon is a long-standing national institution. Its legacy of comradeship between participants and unstinting support from bystanders along the road are legendary. Similarly, while this was a solitary race whose end performance remains my responsibility, I had many helpers who made this submission possible. To each of them I am grateful.

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DECLARATION

I confirm that my thesis has been prepared in accordance with the University's guidelines on the presentation of a research thesis

The work presented in this thesis is entirely original and my own, unless otherwise indicated. This thesis has not been submitted for a degree at any other university.

ABSTRACT

Knowledge workers, who typically enjoy global labour mobility, are considered critical to economic growth in developing countries. The purpose of this dissertation was to examine the organizational commitment of South African knowledge workers, a commitment widely considered both improbable and unobtainable. In this study, a critical review of the organizational commitment literature, to ascertain its psychometric applicability to knowledge workers in South Africa, uncovered an unsystematic and fragmented body of research that has been imperfectly integrated in previous research models. A new definition of organizational commitment is therefore developed to account for current contextual complexities and theoretical advances in commitment research (e.g. multiple foci, variable duration, and changing intensities).

A mixed-method research design was used in all stages of the investigation. To establish the construct validity and practical validity of the organizational commitment construct, a multidisciplinary explanatory model was developed based on the extant literature and focus group discussions with knowledge workers. To test the proposed model, a self-administered survey questionnaire was developed. A total of 637 usable questionnaires from knowledge workers employed in the accounting and information technology occupations in both the public and private sector were analysed using a variety of statistical techniques, primarily hierarchical regression analysis and structural equation modelling. Particular care was taken that appropriate and strict statistical criteria guided the analyses. The survey results were then presented to focus groups for discussion.

The results clearly evidence the widely accepted three-component structure of organizational commitment but provide new insight into the nature of the relationship between the commitment components. The veracity of a multiple foci approach is demonstrated and interaction effects between commitment bases and commitment foci are examined. The results are mixed concerning the proposed model, which required revision after the psychometric analyses. Overall, however, the results are both surprising and encouraging. Surprising given the evidence of high levels of organizational commitment amongst knowledge workers, and encouraging given the amount of variance explained in salient organizational outcomes such as turnover intentions (37%) and boosting behaviour (24%).

Analysis per employment sector showed no overall effect of sector in the regression models but further analyses showed different patterns of significant antecedents amongst knowledge workers employed in the public and private sectors.

The empirical findings and theoretical position of this study challenge prevailing assumptions about the organizational commitment of knowledge workers and provide refreshment to both scholars and practitioners faced with the development of new management approaches and insights.

ABBREVIATIONS

ACCW	Affective Commitment to Co-Workers
ACMAN	Affective Commitment to the Immediate Manager
ACORG	Affective Commitment to the Organization
AGFI	Jöreskog Adjusted Goodness of Fit Index
AIC	Akaike Information Criterion
CCCW	Continuance Commitment to Co-Workers
CCMAN	Continuance Commitment to the Immediate Manager
CCORG	Continuance Commitment to the Organization
CFI	Comparative Fit Index
DF	Degrees of Freedom
ECVI	Browne-Cudeck Expected Cross Validation Index
GFI	Jöreskog Goodness of Fit Index
NCCW	Normative Commitment to Co-Workers
NCMAN	Normative Commitment to the Immediate Manager
NCORG	Normative Commitment to the Organization
NFI	Bentler-Bonnet Normative Fit Index
NNFI	Bentler-Bonnett Non-Normed Fit Index
OBSE	Organization Based Self-Esteem
PFI	James-Muliak-Brett Parsimonious Fit Index
POS	Perceived Organizational Support

CHAPTER 1: INTRODUCTION

*And I, who had my head with horror bound,
Said: Master what s this which now I hear?
What folk is this, which seems by pain so vanquished?*

*And he said to me: This miserable mode
Maintain the melancholy souls of those
Who lived withouten infamy or praise.
[---]*

*And I: O Master, what so grievous is
To these, that maketh them lament so sore?
He answered: I will tell thee very briefly.*

*These have no longer any hope of death;
And this blind life of theirs is so debased,
They envious are of every other fate.*

*No fame of them the world permits to be;
Misery and Justice both disdain them.
Let us not speak of them, but look, and pass.*

- The Divine Comedy of Dante Alighieri: Canto 3

The current confluence of economic turbulence, corporate scandals, and global uncertainty represent an exciting context in which to investigate employee commitment. The above lines from Dante's *Divine Comedy* refer to the uncommitted, destined to join a despicable collection of souls that will suffer in a vestibule beyond the gates of Hell because "both saints and sinners" hold them in contempt. Of course, Dante is writing about those who lacked commitment to their "sublime Creator" but the reprehensibility of those

lacking commitment to entities to which their commitment is expected persists even in this more secular age. For example, commitment to one's family or to a just cause is almost universally seen as virtuous. Media images of New York fire-fighters entering the collapsing *Twin Towers*, the doctors of *Doctors without Borders* tending to those with unidentified infectious diseases, and the tireless unnamed researchers seeking a vaccine for the HI virus are a profound, public, and contemporary testament to the power of commitment.

Turning now to consider commitment in the workplace, the expectation that an employment relationship will last from the cradle to the grave may no longer be reasonable but even social analysts admit that organizational commitment "has not disappeared entirely" (Reich, 2000, p.87). Within organizations, the frequently witnessed commitment demonstrated by employees to their employing organizations during a crisis and their determination to "go the extra mile" for their organization regardless of possible reward bear testimony to the abiding power of commitment. For the organizational researcher this is an auspicious time to examine organizational commitment and assess the appropriateness of the construct amongst those most affected by contemporary changes to the nature of work and the nature of the employment relationship.

This dissertation examines the nature, antecedents, and outcomes of organizational commitment amongst South African knowledge workers. The decision to focus sustained research energy on this topic begs three questions: (a) Why study organizational commitment? (b) Why study the

organizational commitment of knowledge workers? (c) Why study the organizational commitment of knowledge workers in South Africa? Each of these questions will be considered in turn.

Why study organizational commitment?

Baruch's (1998) argument that commitment to organizations is no longer prevalent, is no longer expected, and may not even be desirable implies that studying organizational commitment and investigating its antecedents and outcomes is not a valuable research activity. In fact, dramatic shifts in economic and social realities make organizational commitment seem like a naïve sentiment (Baruch, 1998). Increasing cynicism about organizations in the wake of corporate scandals (e.g. Enron, WorldCom, and Arthur Anderson), restructuring efforts that betray employee trust by downsizing during times of record profits, and management rhetoric about the "post-commitment era" are grist for the mill of those who question the continued relevance of the organizational commitment construct. But there are important countervailing voices that are supported by recent empirical investigations.

Rousseau (1998) argued that employees derive "psychological benefits from their actions by identifying" (p.222) with their employing organization and acting for its benefit. She supports her argument by highlighting the steady stream of empirical research evidencing a strong reciprocal relationship between perceived organizational support and attachment (Rhoades & Eisenberger, 2002; Rousseau, 1998).

Recent empirical research shows that organizational commitment is stable across and between generations. Valenti (2001) found that the affective and normative commitment of "Generation X" (i.e. individuals born between 1965 and 1978) in the United States increased as a function of career stage development and that those in later stages of their careers reported higher levels of affective and normative commitment than those in the early stages of their careers. These career stage effects are consistent with those found by Meyer, Bobocel, and Allen (1991) and the mean commitment scores they calculated were consistent with scores reported in earlier research (Meyer & Allen, 1997). These results challenge assumptions that "Generation X" employees are less committed to organizations than previous generations. Reflecting on the enduring nature of employee identification with their employing organization, Rousseau (1998) noted that identification with an organization remains an important aspect of socialization, especially in high-involvement workplaces and particularly for permanent, full-time employees.

If organizational commitment displays sufficient stability, as evidenced above, then three further arguments can be made for continued organizational commitment research. First, organizations remain the primary domain of work activity. Permanent employees form a core group in most organizations, even in flexible, knowledge-based organizations that outsource many job functions (Handy, 1994).

Second, organizational commitment has consistently been shown to predict important organizational outcomes. Many traditionally important

effectiveness indicators such as long-term employee retention may no longer be important to some organizations (Brown, 1996) but other indicators of effectiveness have emerged (e.g. role innovation and service), which require commitment energy during the employee's period of employment. Highly responsive customer service that requires self-initiative, creativity and discretion while ensuring that service is consistent with organizational goals has created what Lincoln and Kallenberg (1990) labelled the "imperative of maximising workforce commitment" (p.1).

Third, commitment relationships are important for human wellbeing. Most people have a need to establish commitment relationships (even hermits claim to "commune" in "spiritual" relationships). Failure to satisfy this need may result in personal feelings of alienation that are stressful and ultimately unhealthy (Kobasa, Maddi, & Kahn, 1982). In a world in which many people no longer subscribe to traditional sources of commitment (e.g. nation, marriage, religion), organizations that fail to facilitate organizational commitment may further foment feelings of personal alienation and encourage employees to find objects of commitment outside the organization. This represents a loss of commitment energy to the organization and the achievement of its objectives (Meyer & Allen, 1997). Similarly, overcommitment may also have deleterious effects on employee wellbeing and organizational outcomes. Randall (1987) argued that very high levels of commitment could be unhealthy, stunt individual growth, and limit opportunities for mobility and career success. Pfeffer (1997) documented the resistance to change and irrational perseverance in behaviour that

sometimes characterise the highly committed employee. The above suggests that commitment be understood and managed to develop optimal levels of commitment and avoid both alienation and overcommitment.

In sum, there is sound theoretical argument and consistent empirical research evidence to argue that organizational commitment remains an important, organizationally salient construct that deserves sustained research attention.

Why study the organizational commitments of knowledge workers?

Knowledge workers, highly qualified and mobile individuals that exercise expertise in organizations (Despres & Hiltrop, 1995), are particularly important in organizational research given the knowledge intensification of work and the emergence of important new sectors of knowledge production within the global economy (See Scarbrough, 1999). Munk (1998) even referred to knowledge workers as “gold-collar workers” (p.64), an elitist term that has not gained much currency but still emphasises the distinct position that these workers occupy.

Organizations with Fordist production methods and high levels of employee surveillance (e.g. McDonalds) may not need high commitment from employees but organizations where employees need to apply their discretion, exercise autonomy, demonstrate citizenship behaviour, and apply their mind to client problems will not be able to rely on surveillance or simple performance measures but will require the commitment of employees.

Research concerning the organizational commitment of knowledge workers is of particular interest because of the level of ambiguity in knowledge work. The ambiguity inherent in knowledge work often means that management cannot rely on direct means of evaluation and control (Alvesson, 2000, Sveiby, 1997). There are typically few criteria on how to evaluate work results, which are often not amenable to observation (e.g. problem solving expertise). Client evaluation may not be useful as clients may have little insight into the quality of the work undertaken (Alvesson, 2000). Expert panels (a rare form of evaluation) often fail to reach consensus or differ from client's evaluations (Alvesson, 2000). Organizations can therefore no longer rely on traditional control mechanisms that require minimal levels of co-operation and commitment from employees.

Organizations can also not rely on the findings in much of the extant literature. Most empirical research on organizational commitment has been conducted with participants in service-oriented employment, with hospital nurses and non-academic employees at universities the most frequently surveyed (Meyer & Allen, 1997). The typical structural characteristics of the work conducted by service-oriented employees (fragmentation, routinization, lack of autonomy, lack of participation in decision-making) are widely believed to contribute to alienation (Gouldner, 1954; Braverman, 1974). For many service-oriented workers, the job is often "just a job". This is in sharp contrast to the work experiences of knowledge workers who typically experience their work as challenging and demanding (of course, the

structural aspects of work also depend on the nature of the employing organization).

The reason why knowledge workers remain committed (or not) to their organizations remains unclear and under-examined. Given the importance of knowledge workers as levers of competitive advantage it can be concluded that insufficient attention has been given to empirical investigations of this question.

Why study the organizational commitments of knowledge workers in South Africa?

South Africa is no longer isolated from changes in the wealth creation processes of contemporary capitalism. In the last ten years it has become an open economy that must compete, in certain economic sectors, with post-industrial, post-Fordist economies in which knowledge workers are a critical resource for gaining competitive advantage. Progress in information technologies may have been the catalyst for a fundamental transformation in human life, relationships, and work (Cascio, 1995; Hirsch, 1987; Reichheld, 1996) but the effective use of human knowledge has become the central challenge for organizations. Knowledge and the ability to apply it (competence) have emerged as an important competitive resource, as important as capital or property. South African organizations face the urgent challenge of attaining competitive advantage through the effective utilization and retention of “skilled employees who contribute the basis of their success” (Pfeffer, 1994, p.22).

In South Africa, the emigration of knowledge workers has been "a long drawn out process of skills exfoliation" (Balogun & Muthaba, 1990, p. 65). This has created an employment crisis rendered even more complex by recent affirmative action legislation and new market opportunities. In some cases, entire groups of knowledge workers have left large, established organizations to start their own companies, stripping their former employers of their most important personnel and most important clients. The emigration of knowledge workers is underreported and the estimation of its extent is complicated by the absence of valid data because the South African authorities only records those who "officially emigrate", not the vast majority that simply leave the country without formally emigrating (Terreblanche, 2004). Emigration is particularly high in the Accounting and Information Technology sectors and there are too few students in these areas to address the skills shortage in the medium term (Terreblanche). There is some debate regarding the extent of emigration from South Africa and the extent to which it is offset by increasing levels of immigration into South Africa (Terreblanche). Though many immigrants into South Africa are unskilled illegal immigrants from other parts of Africa, a significant number of skilled immigrants from Africa and elsewhere choose to work and live in South Africa (Terreblanche).

A major motivation for this study derives from the urgent challenge of attaining competitive advantage through the effective utilization and retention of skilled knowledge workers in South Africa. This is of particular concern for those wishing to ensure the success of a developing South Africa emerging from its history of stunted potential and isolation borne of racism. As South

Africa rejoins the global economy, it faces the dual challenges of global competitiveness and social reconstruction; to develop a market economy flexible enough to remain competitive amidst the vicissitudes of the global economy and to provide basic services and greater economic equality amongst all its citizens. The commitment energy of knowledge workers also lies at the centre of South Africa's struggle to foment an *African Renaissance* and actualise the initiative known as the *New Deal for African Development* (NEPAD). South Africa is, arguably, the leading economy in Africa and its president, Thabo Mbeki, has assumed a leadership responsibility for effecting the transformation of the African continent.

The importance of research concerning the organizational commitment of knowledge workers has also been widely acknowledged by decision-makers in South Africa's leading corporations (Bennett, 1999). Despite this, only two empirical research studies on the drivers of organizational commitment amongst South African knowledge workers have been published (Bagraim, 2002; Kinnear & Sutherland, 2000), the most recent of which was the pilot study for this dissertation.

Definition of core terms

Before proceeding with an investigation concerning the organizational commitment of knowledge workers (in any context), it is necessary to define the two core terms that frame the investigation: "organizational commitment" and "knowledge workers". Both terms have been subject to a multiplicity of definitions with the result that there remains much confusion and

disagreement concerning their meaning. Each term is therefore discussed in turn.

Organizational commitment

Organizational commitment, the complex psychological bond between an employee and the organization in which they work (Meyer & Allen, 1997), defies simple explication. Attempts to understand this psychological bond by adopting a single, clear conceptual framework is not a simple matter because over three decades of sustained research has spawned a multiplicity of competing conceptual models (Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch, & Topolnytsky, 2001), resulting in a confounding lack of consistency in the literature regarding the meaning and measurement of commitment (Morrow & McElroy, 1993). Chapter 2 critically discusses the most important conceptual models of organizational commitment and the various scholarly attempts to integrate the multiple themes in the commitment literature (Angle & Perry, 1981; Mayer & Schoorman, 1992; O'Reilly & Chatman, 1986; Penley & Gould, 1988). Of these the three-component model proposed by Allen and Meyer (1990) has become the most widely accepted.

Meyer and Allen (1991) suggested that commitment to the organization is a psychological state characterised by three distinct components (affective, continuance, and normative commitment), each reflecting one of the three basic themes in the literature. Affective commitment refers to the employee's emotional connection (attachment, involvement, and identification) with the organization. Continuance

commitment is the tendency to remain a member of the organization because of the costs associated with leaving or the lack of alternatives. Normative commitment is a sense of loyalty based on a sense of reciprocity or an internalised sense of obligation to maintain membership of the organization (Meyer & Allen, 1991, 1997). Chapter 2 discusses issues related to the dimensionality of these components and evidence regarding the psychometric properties of specific measurement scales.

Recent commitment researchers have started to integrate the three-component model with earlier research examining multiple foci of commitment (e.g. Stinglhamber, Bentein, & Vandenberghe, 2002). This stream of research recognises that organizations are not monolithic entities and that employee commitment may be directed to multiple foci, both within (manager, co-workers) and outside (clients, profession) the organization. Employees may also experience conflicts between commitments (Reichers, 1985) or strong interdependencies may exist between commitments to different entities (Wallace, 1995a). For example, an employee with a strong commitment to their manager may feel constrained to stay with the organization to maintain this relationship (Lawler, 1992), their primary focus of commitment being nested within the organization and thereby affecting their overall level of commitment to the organization. This study continues and develops this new area of commitment research by incorporating a multiple foci perspective in its understanding of organizational commitment.

Knowledge workers

Definitional complexities regarding the term “knowledge workers” complicates any investigation regarding the organizational commitment of knowledge workers (May, Korczynski, & Frenkel, 2002). Use of the term “knowledge workers” has been severely criticised for its lack of theoretical and methodological rigour (Scarbrough, 1999). For most scholars the development and use of the term reflects the consequence of a broader shift from an industrial to post-industrial society (Badaracco, 1991; Drucker, 1988; Drucker, 1992; Handy, 1994; Prahalad & Hamel, 1990; Reich, 1991; Webber, 1991), which has been noted for some time (Galbraith, 1967, Bell, 1973). Others are sceptical and remain sensitive to possible ideological ramifications of the term (Blackler 1995; Knights, Murray, & Willmott, 1993; Lebedoff, 1978; Scarbrough, 1999; Wuthnow & Shrum, 1983). They contend that reference to the term “knowledge workers” serves to legitimise the social division of labour and gloss over their common position as wage labour within an exploitative capitalist mode of production (Knights, Murray, & Willmott, 1993). Others, such as Alvesson (1993, 1999), have noted that the use of the term might be part of a broader system of persuasion. That is, specialists are not only attracted by the mystique of being called knowledge workers but this rhetoric allows them to protect their positions, earn prestige, and claim specific authority. The self-management enjoyed by knowledge workers increases the image intensity of knowledge work (impression management) which in turn increases its rhetoric intensity so that knowledge workers develop an elaborate language code to describe themselves, their work and

their relationships (Alvesson, 1994). This code, aimed at securing social recognition, is important to knowledge workers because their “standing” is a socially constructed phenomenon (Alvesson, 2000).

Blackler (1995) warned that much of the literature regards knowledge as a cognitive phenomenon, residing in the heads of knowledge workers or codified in the systems that they use. Such an approach disregards approaches in which knowledge is an active process of knowing and sensemaking that is mediated, situated, provisional, pragmatic, and contested. It also reflects functionalist concerns with integrating knowledge workers into the organization and promotes the position that knowledge workers are amenable to management control and evaluation. Some have focussed on whether knowledge workers represent a new class (Lebedoff, 1978; Wuthnow & Shrum, 1983). Overall, concerns with categorising knowledge workers as a distinct constituency are most concisely expressed by Collins (1997) who, applying the argument that theorising is both a cognitive and social activity, cautioned that the concept of knowledge workers serves as “a brake on academic analysis” (p.48) and is a limiting term with limited academic value.

It is my contention that the ambiguity and lack of occupational identity associated with the term “knowledge worker” is not a limitation of the term but one of its greatest strengths. Without the demarcations and controls of statutory professional groups, knowledge workers are defined by the work they do – knowledge work – which is relatively unstructured and organizationally contingent. This allows researchers to reflect changing

dynamics within organizations rather than occupationally defined norms and practices. It is an inclusive term that, while conflating occupational groups such as technical workers and professionals, still distinguishes knowledge workers from other broad groupings such as service workers (See Drucker, 1988). The use of a single term such as “knowledge workers” permits researchers to categorise an important constituency of employees (though not all knowledge workers are employed in organizational structures) as distinct from other groups of employees within the organization. There is no widely accepted taxonomy to distinguish between different types of knowledge worker but typical occupational groups include accountants, Information technology specialists, consultants, lawyers, researchers, analysts, medical doctors, psychologists, and engineers.

How is the dissertation structured?

In the pages ahead, I examine the organizational commitment of South African knowledge workers by critically reviewing and refining existing understandings of the construct as the precursor to developing a new explanatory framework and conducting an extensive mixed-method empirical investigation. The content, process, results, and critical reflections concerning this empirical examination of the commitments of South African knowledge workers has been written up in seven chapters. Chapter 2 systematically reviews and critiques different approaches to understanding organization commitment and presents a new framework that is adopted and operationalized in this dissertation, with the suggestion of future refinements to incorporate emerging approaches to understanding organizational

commitment. Chapter 3 draws on the literature, the contributions of participants in a series of focus group, and interviews with executive managers to develop an explanatory model of organizational commitment appropriate for knowledge workers in South Africa. The research design, methods, sample, research strategies and data analysis choices are discussed in Chapter 4 and the results of the statistical analysis of the survey data are presented in Chapter 5. Chapter 6 contains my personal reflections concerning the research process and the evolution of my epistemological stance. It proceeds to discuss the key findings of the study with reference to the literature, and the way that follow-up focus group participants made sense of the results. Throughout the chapter, the key theoretical, practical and methodological contribution of the research is highlighted. The seventh and final chapter reflects on issues that require further research attention; those beyond the scope of this dissertation and those suggested by the results of this dissertation.

First endings...

This chapter sets the stage for the dissertation by affirming the importance of the topic, unpacking each aspect of the investigation, discussing the meaning of key terms, and providing a broad overview of the forthcoming chapters, which will systematically examine the organizational commitments of knowledge workers in South Africa. This systematic examination is necessary and important for at least three reasons: (a) to extend commitment theory to account for contemporary organizational realities, (b) to develop a context rich explanatory model of organizational

commitment appropriate for knowledge workers in an emerging economy, and (c) to apply recent methodological advances to the examination of this topic. The proposed outcome of this dissertation is therefore to both advance theory and offer practical suggestions to those concerned with formulating effective human resource strategies for knowledge workers.

CHAPTER 2: LITERATURE REVIEW

Organizational commitment has been the focus of sustained research attention for over three decades and an enormous literature has developed. Unfortunately, the literature is characterised by fragmentation and an emphasis on empirical studies rather than theoretical development. It is therefore necessary to review the extant literature and synthesise its key insights and findings to develop a framework for the examination of the organizational commitment construct in this dissertation. The focus of this review is therefore on commitment within work organizations.

The literature review presented in this chapter has been divided into six sections. The first section considers the nature of “organizational commitment” by examining the term and its independence from other organizational behaviour constructs. The second section presents the most important approaches to conceptualising organizational commitment, discusses related approaches to its operationalization, examines the possibility of integrating these divergent approaches, and considers three, little known alternative approaches to its conceptualization. The fourth section examines recent research concerning the multiple foci of organizational commitment. The fifth section examines the assumptions underlying organizational commitment research. The sixth section presents an integrated model of organizational commitment that represents a

synthesis of existing research, which is adopted as the conceptual point of reference for understanding organizational commitment in this dissertation. The seventh and final section presents some final notes on the content of the chapter and its importance within the dissertation.

The literature review process extended over five years and relied on a variety of approaches. Subsequent to consulting available books, increasing use was made of electronic databases (primary database sources were: Psycinfo, Sciencedirect, Emerald, Ebsco, Wilson full-text, Eric, Philosophers Index, ACM, Masterfile, and the Index of South African Periodicals, ISAP). The database search was repeated at least every three months and was supplemented by broad Internet searches (using Google.com and Altavista.com) every four months. These electronic searches were further supplemented by a request to five internationally established researchers for access to unpublished papers of interest, manual searches within journals, the scanning of conference websites for lists of presentation titles, and by checking the reference lists in prominent articles.

Nature of organizational commitment

Managerial and scholarly interest in employee commitment began with the genesis of concern for the “human” element in organizations (e.g. Mayo, 1933), a concern that inspired the Western Electric studies (Roethlisberger & Dickson, 1939) and the Human Relations Movement borne of those studies. A leading proponent of this approach to understanding behaviour in organizations, Chester Barnard (1938), argued for the importance of developing a sense of obligation and cohesion amongst employees so that

their efforts could be directed towards the achievement of organizational objectives. The argument proved persuasive and commitment soon became recognised as central to the human capacity to influence others in a group context (Salancik, 1978). The emergence of the industrial state in the 1950s and the concomitant need to energise the work efforts of skilled technology workers (Galbraith, 1971) sparked further attention to organizational commitment and marked the beginning of a flurry of research (Morrow, 1983).

Unfortunately the increased attention to organizational commitment resulted in a proliferation of definitions and a wide variety of measurement scales. Morrow (1983) considered the different definitions and measurements of commitment related constructs proposed since 1956 and noted over 25 commitment related constructs. She noted that the multiple meanings associated with the term “commitment” and its association with a multiplicity of different constructs within the organizational behaviour literature would confound any research concerning organizational commitment because the same term would be used for very different concepts. Therefore, prior to any organizational commitment research it is important to differentiate between these constructs and meanings and determine whether organizational commitment is an independent construct.

Organizational commitment as an independent construct

Morrow and Goetz (1988) were justifiably surprised that few studies had proceeded to empirically examine the independence between commitment constructs even though the independence of the organizational

commitment construct (and its measures) is necessary to justify its position as the object of research in an already densely populated nomological net (Schwab, 1980). Organizational commitment loses its analytic utility if it is defined in manner that does not differentiate it from related constructs. For example, if commitment is synonymous with the motivation to engage in a particular line of activity then it lacks distinctive value as an explanatory concept because it contributes nothing more than existing theories of motivation (Meyer & Herscovitch, 2001). Unlike existing theories of motivation, however, organizational commitment helps explain consistent lines of behaviour even when equity and expectancy (lowered expectancy through changes in subjective probabilities or reward valences) conditions do not exist and this is sufficient reason to differentiate it from motivation theory (Scholl, 1981). Unfortunately, Scholl did not extend his analysis to consider different commitment constructs.

Morrow (1983) used facet analysis as a taxonomic device “to clarify understanding of the overarching commitment construct” (p.486). She suggested that the 25 work commitment construct she considered had five clear forms or foci, with a number of constructs representative of each: value focus (including the Protestant Work Ethic and other work ethic endorsements), job focus (including Job involvement and Central Life Interest), career focus (including Career Salience and Professionalism), union focus (Union Commitment), and an organizational focus (Organizational Commitment).

Morrow and McElroy (1986) noted that organizational commitment (based on an attitude of attachment to an organizational entity), should overlap the least with other forms of commitment because these other forms of commitment are concerned with work attitudes, not organizations, and therefore relate to one another more than they do to organizational commitment. Subsequent empirical studies have confirmed the independence of the organizational commitment construct from other forms of commitment (Morrow & Goetz, 1988; Morrow, Eastman, & McElroy, 1991; Morrow & Wirth, 1989; Brooke, Russell, & Price, 1988).

Nevertheless, the evidence concerning the independence of the organizational commitment construct is not equivocal (Blau, 1985; Mowday, Porter, & Steers, 1982). For example, Mathieu and Farr (1991) replicated the Brooke et al (1988) study with data drawn from two different employee populations "to broaden the scope of the collective findings" (p.127). Their findings were consistent with those obtained by Brooke et al (1988) although they sampled different employee populations and investigated different sets of correlates. They did note the high correlations between the latent variables but this could be an artefact of mono-method variance (but c.f. Randall & Cote, 1991). Mathieu and Zajac's (1990) meta-analysis showed a correlation of .44 between organizational commitment and job satisfaction over twenty studies and an average corrected correlation of .53 between organizational commitment and overall job satisfaction across 43 studies. These correlations are high, although only correlations of .6 and higher pose multicollinearity problems in regression analysis and causal modelling

(Nunnally, 1978). Lower corrected correlations were found between organizational commitment and specific aspects of job satisfaction (e.g., pay, supervisors, etc.), suggesting that future organizational commitment research measure specific aspects of job satisfaction (not global job satisfaction) to reduce multicollinearity problems (Mathieu & Farr, 1991). Recent studies have focussed on the relationship between occupational commitment (synonymous with career commitment and professional commitment) and organizational commitment. Despite some contrarian studies (e.g. Boshoff & Mels, 2000), the prevailing consensus is that organizational commitment and occupational commitment are distinct constructs (Meyer & Allen, 1997; Wallace, 1993; Wallace, 1995a; Wallace, 1995b).

Despite some concerns delineated above, organizational commitment has consistently been shown to be the most independent of the commitment constructs (Morrow & McElroy, 1986; Morrow & McElroy, 1993). Morrow and McElroy (1993) even acknowledged that her earlier suggestions of extensive concept redundancy were somewhat exaggerated.

The nature of commitment

There is no uniformity on the literature concerning the definition of commitment and it has been defined in different ways, creating a great deal of confusion (Morrow & McElroy, 1993). Meyer and Herscovitch (2001) argued that there must be some “*core essence* that characterizes the construct and distinguishes it from other constructs” (p.300). To establish this core essence requires a careful examination of current conceptualizations. A set of commitment definitions are presented in Appendix A to illustrate the

variety of extant definitions and the distinct perspectives of different researchers within this research domain. Reflecting on the disparate definitions in Appendix A uncovers one underlying commonality: the implicit agreement that commitment is an obliging force or energy that directs behaviour to a specific target or focus of that commitment energy. Given this commonality, the different conceptualizations differ only in the emphasis they give to different aspects of the commitment process, its dimensionality, its origins, and its consequences. The major deficiency across all but the most recent definitions is that while they provide insight concerning “organizational commitment”, they seem fixated on the notion of “commitment”, ignoring the notion of “organization”, an important component of any understanding of “organizational commitment” (Coopey & Hartley, 1991). It is therefore necessary to preface any examination of extant theory with an examination of the “organizational” component of “organizational commitment”.

The nature of organization

The referent of organizational commitment is the organization but the meaning of organization is controversial. For example, the organizational commitment literature remains predicated on the meaning of organization as an entity, which places it in outside general research trends in organizational behaviour, where researchers have increasingly tended to adopt process approaches to defining organizations (i.e. activities such as communication, decision-making, and sense-making) and therefore focus on team-level phenomena such as social networks, managerial cognition, entrepreneurship, and information processing (See Rousseau, 1997).

Similarly, interest in the social construction of organizations, particularly in Europe, represents a shift in epistemological assumptions that has had little impact on current organizational commitment research. This has been to the detriment of commitment research because one of the precipitating reasons for this epistemological shift may have been contemporary disruptions in the traditional patterns of roles, careers, and structures in a context of turbulence sustained by institutional forces (hyper-competition, inter-organizational cooperation, communication technologies, and differentiated employment relationships). These disruptions are relevant in understanding changing patterns of organizational commitment. Nevertheless, it is not a new approach; Drucker (1950) noted that considering the organization as an entity was concurrent with the emergence of the industrial state (whose modes of production focus on goods manufactured using machine technology) and that process definitions of organization long predates it.

Another concern, particularly with the early literature, was the tendency to consider organizations as unproblematic and unitarist (consisting of members with shared interests). This no longer represents a plausible metaphor for organizational reality (Coopey & Hartley, 1991) and does not align with contemporary organizational theory (Reichers, 1985) in which organizations are presented as coalitional entities with multiple, competing constituencies competing for employees' commitment energy because the goals and values of a particular constituency may be in conflict with the goals and values of other constituencies (Reichers, 1985).

If the organization is not a “monolithic, undifferentiated entity” (Reichers, 1985, p.465) and the identification of a target (organization) for commitment need not depend on its isolation from social alternatives (Lawler, 1992) then different groupings within an organization such as co-workers and managers may each contribute differentially to an employee’s sense of organizational reality. Accordingly, co-workers and managers will elicit a sense of commitment from the employee that remains independent of their commitment to the abstract entity that is the “organization”. That is, each employee holds multiple workplace commitments, which may help explain variance in key outcome variables.

Lawler (1992) in “one of the few discussions that grapple explicitly with the development of multiple commitments” (Meyer & Allen, 1997, p.97) suggested that organizations, as social structures, place employees “in multiple, nested collectivities in which they are simultaneously members of at least two groups, one encompassed within the other” (p.327). The nested nature of these collectives’ means that belonging to one implies belonging to another. For example, membership of a particular work team may require membership of a specific work unit, division and organization - employees can develop strong commitments to one or more of these (Meyer & Allen, 1997). This suggests that it is important to consider an employees commitment profile (Becker, 1992; Becker & Billings, 1993). Recent multiple commitment research has concentrated on determining how a multiple foci approach helps predict organizationally salient outcomes (Becker, 1992; Gregerson, 1993; Becker & Billings, 1993; Becker, Randall, & Riegel, 1995;

Becker, Billings, Eveleth, & Gilbert, 1996; Bentein, Stinglhamber & Vandenberghe, 2002; Boshof & Mels, 2000; Boyle, 1997; Siders, George, & Dharwadkar, 2001; Stinglhamber, Bentein & Vandenberghe, 2002; Vandenberghe, Stinglhamber & Bentein, 2001) and if different foci have different antecedents (Clugston, Howell, and Dorfman, 2000).

The augmentation of the organizational commitment construct to incorporate multiple commitment foci has three advantages:

1. Focusing on organizations as political, constituent entities not only represents a more plausible metaphor of organizational reality (Coopey & Hartley, 1991) but also fills a gap in the commitment literature, permitting the integration of the organizational commitment research with contemporary organizational theory.
2. The relative complexity of a multiple commitment approach, compared to global conceptualizations of commitment, focuses attention on the nature of employee-organization attachments as employees actually experience them. The individual employee's experience of being committed is absent from most definitions of organizational commitment (Reichers, 1986).
3. Focusing on multiple commitment foci raises new questions concerning the potential for conflict among commitment foci and its possible (perhaps even paradoxical) effects (Reichers, 1986). For example, too many intense, competing commitments within the organization may foment employee stress, which they may choose to reduce by withdrawing from the organization.

Any augmentation of the organizational commitment construct to incorporate multiple commitments requires a clear specification of terms, which is lacking in the literature. Blau and Scott (1962) used the term 'publics' to describe various groups that benefit from organizational functioning, thus failing to distinguish between internal and external groups. Similarly, Gouldner's (1957) distinction between 'cosmopolitans' and 'locals' limits the possibility of a multiple, competing commitments. Even Reichers (1985) failed to distinguish between external and internal commitment foci when referring to customers, top management, supervisors, co-workers, workgroups, and other groups as (undifferentiated) foci of commitment.

Meyer and Allen (1997) distinguished between internal and external foci of commitment. Internal foci or 'constituencies' refer to units within a larger organization such as top management, the work group, co-workers and supervisors. External foci or 'domains' refer to those larger bodies such as the organization, union and the occupation or profession. This study focuses on commitment to the employing organization as an entity and internal foci of commitment salient to knowledge workers (within their employing organization) because commitment to multiple, sometimes idiosyncratic, domains of commitment do not impact on the strength of commitment to the organization (Wallace, 1993), commitments within the employing organization, or organizationally salient outcomes of commitment. Any broader consideration of employee commitments (i.e. to domains outside the employing organization) would therefore extend beyond the theoretical scope (and practical limitations) of this study.

Approaches to organizational commitment

Much of the conceptual confusion regarding organizational commitment stems from the use of a single term ("organizational commitment") to describe two very different phenomena: attitudes and behaviours (Mowday, Steers, & Porter, 1979; Mowday, Porter, & Steers, 1982; Salancik, 1977). The distinction between attitudinal and behavioural perspectives is a useful, though somewhat crude, rubric under which to organise any consideration of the multiplicity of extant approaches to understanding organizational commitment (Mowday et al., 1979). Not all definitions fit neatly within one perspective, nor are the perspectives unrelated but the distinction remains useful and is widely used in reviews of the commitment literature.

The behavioural perspective

The behavioural perspective (sometimes termed the irrational or social psychological school) focuses on the process through which employees become "locked into a certain organization and how they deal with this problem" (Mowday et al., 1982, p.26). This process is best articulated in the oft-quoted phrase: "To act is to commit oneself" (Salancik, 1977, p.4). Scholl (1981) added that the behavioural perspective explains organizational membership with reference to personal investments made by individual employees and thereby implicitly defines commitment as "a type of force directing individual behaviour" (p.590). Nevertheless, the focus is on "overt manifestations of commitment" (Mowday et al., 1979, p.255) that exceed "normative organizational expectations of the individual" (DeCotiis &

Summers, 1987, p.446) and empirical research within this perspective tends to focus on the process by which individuals become bound to an organization so that this will translated into committed behaviours such as high levels of performance (Mowday et al., 1982). Of course, a major limitation of this perspective is that it is difficult to disentangle the antecedents of “committed behaviour” (e.g. high levels of performance may also be the outcome of an effective reward system or performance management programme). Six researchers within this perspective developed the work of others and made an important contribution to the commitment literature: Salancik, Becker, and the two research partnerships that furthered Becker’s work (Ritzer & Trice and Hrebiniak & Alutto).

Salancik (1977)

Based on Kiesler (1971) and Kiesler and Sakumura (1966), Salancik defined organizational commitment as “a state of being in which an individual becomes bound to his actions and through these actions to beliefs that sustain the activities and his own involvement” (1977, p.62). He identified four characteristics of behavioural acts that bind an employee to their acts (in general) and applied them to organizational commitment. According to Salancik, employees will become behaviourally committed when binding behaviours are (a) explicit and unambiguous (i.e. can be said to have taken place), (b) difficult to revoke (i.e. not easy to reverse), (c) public (i.e. subject to publicity about the action and its protagonists), and (d) volitional (i.e. perceived to have taken place without external constraint or compulsion). Under these conditions, commitment is likely to be positive and will enable

employees to justify their behaviour, setting up a self-reinforcing cycle of commitment behaviours and attitudes as employees seek consistency between them.

Becker (1960)

Becker's (1960) side-bet theory of organizational commitment is no longer considered to be a stand-alone theory but it has been incorporated into widely accepted theoretical models and therefore deserves further examination (Powell & Meyer, 2003). Becker (1960) conceptualized organizational commitment as the result of an exchange between two parties: "commitments come into being when a person, by making side-bets, links extraneous interests with a consistent line of activity...the more favourable the exchange from the participants point of view, the greater the commitment to the system" (Becker, 1960, p.32). Becker (1960) suggested that the more of a stake an employee has accrued in an organization and hence the more they could lose by leaving the organization, the greater the personal commitment of that employee to the organization because they are "deterred (from leaving the organization) by a complex of side-bets" (Becker, 1960, p.38). Accordingly, commitment is a structural phenomenon which occurs as a result of an employee becoming committed to an organization because of transactions and alterations in "side-bets" (i.e. valued benefits such as accrued vacation time, reputation, non-transferable pension fund investments, tenure, firm-specific skills, seniority, connections, locked-in share options, familiarity with firm-specific work) that are contingent on the employee remaining a member of the organization. The possibility of losing

these accrued investments and a perceived lack of alternatives to replace the loss binds the employee to maintain membership of the organization (commitment behaviour). This represents a refinement to the simple exchange paradigm (Barnard, 1938; Gouldner, 1960; Homans, 1958) by introducing the element of time (with the time lag between current contributions and future inducements) and the idea that the investment quality of organizational participation (side bets) remain even when the employee is dissatisfied with their exchange relationship with their organization (e.g. the employee may feel that they are “paying dues”).

Becker’s (1960) side-bet theory initially received mixed empirical support but many of these studies were beset with methodological problems (Cohen & Lowenberg, 1990; Meyer & Allen, 1984; Shore, Tetrick, Shore, & Barksdale, 2000). More recent research has proved encouraging (Powell & Meyer, 2003). Two early studies on Becker’s theory stand out for the strength of their theoretical contributions. Both are frequently cited and both deserve further examination: Ritzer and Trice (1969) and Hrebiniak and Alutto (1972).

Ritzer and Trice (1969)

Ritzer and Trice (1969) examined the relationship between a set of side-bets and behavioural commitment. They asked respondents to indicate whether they would be likely to leave the organization if offered no, slight or large increases in pay, freedom, status, responsibility, and promotional opportunity. They found no relationship between side-bet indices (such as tenure, age, and marital status) and behavioural commitment, leading them to reject the side-bet hypothesis and offer an alternative model that

emphasised psychological factors and rejected the structural nature of organizational commitment implicit in Becker's side-bet theory. Subsequent studies generally supported Ritzer and Trice's conclusions (Angle & Perry, 1983; Aranya & Jacobson, 1975; Meyer & Allen, 1984; Shoemaker, Snizek, & Bryant, 1977). However, a number of studies using similar methods to the above supported the side-bet idea by finding a positive relationship between surrogate measures of side-bet investment (tenure, age, marital status) and propensity to remain in the organization (Alutto, Hrebiniak, & Alonso, 1973; Sheldon, 1971; Shoemaker et al., 1977). Shoemaker et al (1977) therefore argued that side-bet indices deserved further investigation because they influenced behavioural commitment (though psychological factors had a greater effect). This further investigation had in fact already been convincingly completed by Hrebiniak and Alutto in 1972.

Hrebiniak and Alutto (1972)

Hrebiniak and Alutto (1972) developed a scale to measure organizational commitment based on the original Ritzer and Trice (1969) measure. Their definition of commitment is consistent with that of Becker (1960): organizational commitment is a "structural phenomenon which occurs as a result of individual-organizational transactions and alterations in side bets or investment over time" (p.556). The Hrebiniak-Alutto scale soon became the most widely cited measure of behavioural commitment (Mathieu & Zajac, 1990).

In their initial study, Hrebiniak and Alutto (1972) asked their respondents (328 teachers and 395 nurses) to indicate whether they would

(a) definitely not; (b) be uncertain or (c) would definitely change organizations in the situations where they are offered the same job by another organization, but under different conditions (slight increases in: pay, professional freedom to be creative, status, friendliness of co-workers). Results of the calculation of the item-total correlations showed that the four items indicating a slight improvement in the respondent's condition correlated highest with the total score. These items reflect Becker's (1960) side-bet view. The implication is that a person who declines to change jobs despite the offer of more attractive conditions has based their decision on cost-based commitment, an assessment of what they would lose by leaving their present employment. Spearman-Brown reliability was high ($r = .79$) but the study contains no other reliability or validity information. This failure to report reliability and validity information was common in early studies (Mowday et al., 1979).

Several subsequent studies supported Hrebiniak and Allutto's (1972) conclusions. Ferris and Aranya (1983) used exploratory factor analysis to demonstrate that the Hrebiniak-Alluto measure was unidimensional and distinct from an attitudinal measure of commitment. Mathieu and Zajac's (1990) meta-analysis included 15 studies that applied the Hrebiniak-Alluto scale and found that the average internal consistency coefficient across these studies was .88 and that the Hrebiniak-Alluto measure correlated positively with age and tenure, often regarded as good indicators of accumulated side-bets (but c.f. Meyer & Allen, 1984).

Meyer and Allen (1984) analysed the content of the items in the Hrebiniak-Alluto scale and argued that the scale was attitudinal rather than

behavioural. As evidence, they showed that the Hrebiniak-Alutto measure correlated significantly with their affective commitment scale. Meyer and Allen (1984) argued that asking respondents whether they would change organizations if given various inducements (status, pay) served to eliminate the perceived threat of losing the investments in their present organization and that employees, under these circumstances, remain with the organization because they are affectively committed. Unwillingness to leave the organization despite the availability of attractive alternatives may result from affective attachment and not the costs associated with leaving the organization. What is not mentioned in this debate is that individual attitudes towards investments may be idiosyncratic such that different individuals have different levels of tolerance to losing their investment (e.g. viewing it as a “sunk cost”, or “dead loss”) or that an investment may be generalizable to entities outside the organization (e.g. profession or sports club). Interestingly, Hrebiniak and Alutto (1972, p.559-560) had noted that their conceptualization was “essentially attitudinal” and that it concerned the “perceived utility” of continued membership of an organization. The source of the sustained misunderstanding of Hrebiniak and Alutto’s commitment research in the literature has not been determined and may indicate that few researchers have read their original studies.

The attitudinal approach

This attitudinal approach to organizational commitment (sometimes termed the rational or organizational behaviour school) focuses on the psychological bond that an employee expresses for their employing

organization. It relates to the individual's psychological attachment to a social system. Empirical research based on this approach focuses on determining the antecedents and consequences of the commitment relationship (psychological bond) between the employee and their employing organization. There are several models based on the attitudinal approach to organizational commitment.

Mowday, Steers and Porter (1979)

Mowday, Steers and Porter (1979) produced seminal work which characterised organizational commitment in terms of three factors

1. A strong belief in and acceptance of an organizations goals and values (an affective or emotional attachment)
2. A willingness to exert effort on behalf of the organization (cognitive attachment)
3. A strong desire to maintain membership of the organization (behavioural intent)

The above parallels the behavioural, cognitive and affective components of attitudes. Despite its apparent multidimensionality, Mowday and colleagues have been adamant that organizational commitment is essentially a unitary construct and that items in their measurement scale are "...relatively homogenous with respect to the underlying attitude construct they measure" (Mowday et al, 1982).

Mowday et al (1979) regarded their definition as attitudinal but their definition is problematic in that it conflates the process (affective component) and outcome (behavioural component) of commitment in a single definition

(without intending to). It is therefore difficult to relate various levels of commitment to dependent variables of interest (effort, performance, and turnover) since these are contained in the definition (Guest, 1992).

The Organizational Commitment Questionnaire. Until recently, the Organizational Commitment Questionnaire (OCQ) was the most frequently used measure of organizational commitment. It was first devised by Porter, Steers, Mowday, and Boulian (1974) to assess “the relative strength of the individual’s identification with and involvement in a particular organization” (Mowday, Porter, & Steers, 1982, p.27). It is a 15-item, 7-point, Likert-scaled questionnaire with six reverse-scored items. Mowday et al (1982) contended that the mean score of the OCQ represented a summary indicator of organizational commitment and was therefore applicable to almost all working populations. The OCQ is a post-hoc measure, applied after the event to determine levels of organizational commitment (See Salancik, 1977).

To examine the psychometric properties of the OCQ, Mowday et al. (1979) used a widely diverse sample of 2563 employees from nine different organizations (government agencies, a university, hospital, bank, telephone company, research laboratory, automotive manufacturing firm, mental hospital and a retail sales organization). The Cronbach alpha coefficients of the scale ranged between .82 and .93 for different organizational samples, indicating that the scale had reasonably high reliability. Each item had a positive average correlation over the different samples with the total score of the OCQ the correlation coefficients varying between .36 and .72, suggesting a relatively homogeneous measure. To assess validity, factor analysis was

conducted. A single factor structure emerged, indicating a unidimensional attitudinal construct. Test-retest reliabilities of the scores of the sample of psychiatric technicians for which multiple data points were available were .53, .63 and .75 over 2, 3 and 4 months respectively. Corresponding figures for a sample of retail management trainees were .72 and .62 over respectively two and three month periods. The authors also presented evidence of convergent validity and predictive validity. Many subsequent studies seemed to confirm the psychometric properties of this 15-item measure. (Ferris & Aranya, 1983; Morrow & McElroy, 1986; Morrow & Wirth, 1989; Steffy & Jones, 1988) and it soon became the most popular measure of organizational commitment. With its widespread adoption came the widespread acceptance of the Morrow et al. definition of commitment. However, the literature is not equivocal on the psychometric robustness of the OCQ.

Several factor analyses have uncovered a multiple factor structure in the OCQ (exploratory factor analysis by Angle & Perry, 1981; Mowday et al., 1982; Schriesheim & Cook, 1988; and confirmatory factor analysis by Tetrick & Farkas, 1988). In the Angle and Perry (1981) study there is a clear artefact in the wording of items, with all the positively worded items in the scale loading on the first factor and all the negatively worded items loading on the second factor (a single item loaded on a third factor).

Several scholars have suggested that the negatively worded items in the OCQ, which overlap with intent to stay in the organization, should be removed (Tetrick & Farkas, 1988; Mottaz, 1989; Mathieu & Zajac, 1990). After reviewing many studies that showed high correlations between the

OCQ and measures of withdrawal, Cooke (1997) analysed the OCQ results of 176 American air traffic controllers to determine whether the OCQ was confounded by content reflecting withdrawal cognitions, which would reduce its use as a predictor of these cognitions (and therefore labour turnover). Although the OCQ's discriminant validity problems were not serious, she did recommend further investigation of its factor structure and the elimination of some of its items. Strangely, she did not examine which items cross-loaded on both the OCQ and the withdrawal cognitions scale.

Shaub (1991) compared the OCQ to a shorter alternative measure, suggested in the marketing literature by Hunt, Chonk, and Wilcox (1984, in Shaub, 1991) with the intention of adapting it to measure professional commitment and thereby avoid common method variance problems when comparing organizational commitment and professional commitment. His analysis (sample of 207 auditors in a large public accounting firm) showed that the Hunt et al measure only assessed desire to remain a member of the firm, not the other dimensions of the OCQ, implying that the full and shortened scales were not equivalent.

Cook and Wall (1980) questioned the cross-cultural validity of the OCQ and noted that the OCQ "had been designed specifically for American employees" (p. 40). It is therefore necessary to examine validation studies across the world to assess the portability of the OCQ across cultures. These validation studies have yielded mixed results

1. Luthans, McCaul, & Dodd (1985) in an exploratory analysis of data from American, Japanese and Korean samples found that the OCQ was

unidimensional in the American and Japanese samples but displayed two dimensions in the Korean sample. One factor related to positively phrased items the other to the negatively phrased items, indicating that the negative wording may have accounted for the emergence of the second factor.

2. White, Parks, Gallagher, Tetrault, & Wakabayashi (1995) found a three factor solution using both exploratory and confirmatory analysis on two Japanese samples. Two factors were along the split of positively and negatively worded items, the third related to the notion of willingness to exert effort on behalf of the organization. They concluded that their results supported the cross-cultural applicability of the OCQ but noted problems with the measure (weakness of effort factor) and suggested that only 12 of the 15 items should be retained in future applications.
3. Putti, Aryee, & Liang (1989) found two factors in their analysis of data from a Singaporean sample, the second of which was weak and showed no clear pattern. They therefore contended that the OCQ was unidimensional.
4. Koslowsky, Caspy, & Lazar (1990) factor analysed data from an Israeli sample and obtained three factors similar to the three factors of commitment that Porter et al (1974) regarded as important.
5. Cook and Wall (1980) developed a parallel measure in the United Kingdom applicable to blue-collar workers. They found their measure to be “psychometrically adequate and stable” (p.39). It enjoyed some popularity in the United Kingdom but was rarely used in other contexts.

Cooke (1997) called for further editing of the OCQ rather than adopting other scales. Until the early 1990s, the OCQ was the most widely applied measure of organizational commitment (52% of the studies in Mathieu and Zajac's, 1990, meta-analysis used it). But Cooke's (1997) call went unheeded and the OCQ has increasingly been replaced by measures developed by Meyer and Allen (1990, 1996, 1997), which will be discussed later.

Angle and Perry (1981)

Angle and Perry (1981) used their research findings on the OCQ to define their own model of organizational commitment, labelling the first factor "value commitment" and the second factor, "commitment to stay". Angle and Perry's value commitment reflects a positive, affective orientation toward the organization. This type of commitment has been variously referred to as psychological, attitudinal, and affective commitment (Stevens et al., 1978; Mathieu & Zajac, 1990; Meyer & Allen, 1984 respectively). "Commitment to Stay" reflects the importance of the inducements, contributions, and transactions inherent in an economic exchange. This type of commitment has been referred to as exchange-based, calculative, or continuance commitment (Stevens et al., 1978; Mathieu and Zajac. 1990; Meyer and Allen. 1984, respectively). Most subsequent researchers renamed the "commitment to stay" factor and called it "continuance commitment" (Mayer & Schoorman, 1992, 1998).

Mayer and Schoorman (1992) noted that Angle and Perry's (1981) distinction between the two factors of commitment parallels March and

Simon's (1958) motivational distinction between ongoing decisions to participate and to produce, respectively. They labelled the two factors "continuance commitment" (which they defines as desire to remain in the organization even though the items refer to perceived costs associated with leaving) "value commitment" (willingness to exert effort). It is important to note that the distinction between these dimensions is in terms of behavioural outcomes (not psychological stances). They further found that a two factor modification of the OCQ by Schechter (1985, cited in Mayer & Schoorman, 1992) was in keeping with Angle and Perry's (1981) model. These scales were psychometrically sound and predictive of important behavioural outcomes such as performance and actual turnover (they collected data over a two year period) but was not widely adopted. Mayer and Schoorman's (1998) empirical study emphasised that "refinements to the OCQ based on March and Simon's (1958) model significantly improve its predictive validity" (Mayer and Schoorman, 1998, p.16). Of greater interest is the overall tone of their paper which implies some measure of dissatisfaction with the OCQ and a sense that even Angle and Perry's (1981) attempts to refine it were less than satisfactory.

Buchanan (1974)

Buchanan (1974) defined organizational commitment "as a partisan, affective attachment to the goals and values of the organization, to his role in relation to these goals and values, and to the organization for its own sake, apart from its purely instrumental worth" (p.553). Methodologically, he divided commitment into three components

1. Identification: adopting goals and values of the organization.
2. Involvement: psychological immersion in one's work role
3. Loyalty: feeling of affection for and attachment to the organization

The above model is important even though it is similar to Mowday et al's (1979) model. It is important because it treats each of the three components of the model as related but distinct components of organizational commitment (Mowday et al, 1979, did not consider the three components in their model to be distinct). Buchanan (1974) also considered the involvement component as a form of satisfaction obtained from an individual's work and job role. For Mowday et al (1979), "involvement" is synonymous with an employee's "willingness to exert considerable effort on behalf of the organization" (p.226) but Mowday et al.'s definition seems stronger in that it implies a force to act. Buchanan's (1974) understanding of "involvement" is also a source of some confusion because he maintained that it need not extend beyond the job itself, so that any such "involvement" could also be an antecedent or outcome of commitment.

O'Reilly and Chatman (1986)

O'Reilly and Chatman (1986) noted a central theme in existing definitions and approaches to organizational commitment, namely the individual's psychological attachment to their organization. Their attempt to make sense of the existing literature was to determine the basis of this psychological attachment to an organization. They argued that the process of identification with the attitudes, values and goals of the organization is an important commitment mechanism and that the degree of identification may

vary, as can the reasons for these attachments. They cited and applied Kelman's (1958) taxonomy of attitude change, noting that individuals can accept influence in three conceptual ways (compliance/exchange; identification/affiliation; internalization/value congruence). Applying this taxonomy, they argued that an employee would develop attachment to an organization through compliance for specific external rewards, identification or involvement based on a desire for affiliation, and internalization determined by the congruence between individual and organizational values. These three psychological states are held to represent three distinct dimensions of commitment. Recent commitment researchers have expressed the concern with O'Reilly and Chatman's model of commitment. For example, they have (a) questioned the distinction between identification and internalization (Vandenberg, Self, and Seo, 1994), (b) suggested that the inclusion of compliance commitment in defining commitment is confusing because it seems to be the antithesis of commitment (Meyer & Allen, 1997), and (c) noted that internalization and identification are best considered to be mechanisms in the development of commitment (Meyer & Allen, 1997).

O'Reilly and Chatman (1986) developed a 12-item instrument to measure these three dimensions of organizational commitment (compliance, identification, and internalization). Their initial validation sample was limited in that it consisted of 82 administrative employees from five academic units within one institution. O'Reilly and Chatman (1986) selected 21 items to represent the three proposed dimensions but Principal Components Analysis (PCA) revealed a four-factor structure (12 of the 21 items). PCA tends to

overestimate the number of factors in a model and further analysis on the reduced number of items yielded a three-factor structure that was held to evidence the veracity of the model. It is surprising that this study is so widely cited because it violates a basic statistical assumption regarding factor analysis. Factor analysis requires a minimum sample size of at least five times the number of items entered into the analysis (Dunbar, 1998). That is a minimum sample size of 105 (21X5) not 82 as per this study.

Caldwell, Chatman, and O'Reilly (1990) in a larger study with 291 respondents from 45 different firms found two factors that they labelled "instrumental commitment" and "normative commitment" (into which both the identification and internalization items were collapsed). The "instrumental commitment" factor was very similar to what they previously labelled "compliance" but was relabelled to emphasis that it seemed to describe commitment based on involvement exchanged for specific rewards. The "normative commitment" factor seems to reflect a general affective commitment to the organization. This added a new level of confusion to the literature because the factor they labelled "normative commitment" seemed equivalent to what other researchers were calling "affective commitment" and was very different from what these other researchers were calling "normative commitment" (e.g. Meyer & Allen, 1984; See later).

Later empirical research on the O'Reilly and Chatman (1986) model was not encouraging. For example, Sutton and Harrison (1993) found that a two-factor solution (similar to that of Meyer & Allen, 1984) yielded the best fit to the data but that items loaded poorly on their factors. The reliability of the

scales were also low (at .54 the internal consistency of the compliance scale was particularly low). It should also be considered that these poor psychometric results were in data collected from a relatively homogenous sample of employees working in one meat processing and packaging company in the southern United States. Closer examination of the original studies, prompted by reading these findings, showed that the original factor loadings were not high enough to substantiate the authors' confidence in their model. Based on the above, it appears that the psychometric properties and conceptual integrity of this model are not sufficient to warrant further attention and that the model, once revised in light of empirical findings, adds little but confusion to our understanding of organizational commitment.

Akhtar and Tan (1994)

Akhtar and Tan's (1994) empirical research using the OCQ led them to propose a three dimensional wholly attitudinal model of organizational commitment. Their model is theoretically based on the attitude theories of Rosenberg and Hovland (1960) and Osgood, Suci and Tannenbaum (1957), both of whom are extensively cited in their paper. Rosenberg and Hovland saw attitudes as being predisposed to respond to sets of stimuli and responses with cognitive, affective and conative meanings. Cognitive responses reflect beliefs about or perceptions of the attitude object, affective responses reflect feelings or psychological reactions to the object, and conative responses indicate the expressions of behavioural inclination and intention towards the object. Osgood et al's research suggested three basic meaning factors on which attitudes towards a particular concept can be rated

(evaluation, potency, and activity), which Akhtar and Tan (1994) analysed and found to be very similar to the affective, conative and cognitive meanings of attitude in Rosenberg and Hovland's work. This inspired Akhtar and Tan (1994) to propose their own three-dimensional model of organizational commitment consisting of "normative commitment" (extent of cognitive consonance with organizational norms), "affective commitment" (emotional attachment to the organization) and "volitive commitment" (extent of conative orientation towards organizational goals). They argued that each of these dimensions were distinct and reflected different psychological states, psychological needs, and psychosocial processes. Unfortunately, these are not clearly delineated in their paper.

To test the above model, Akhtar and Tan (1997) measured the organizational commitment of 126 engineers. Factor analysis indicated a clear three factor structure consistent with the model and high reliability coefficients for each of the three scales (Cronbach alpha coefficients exceeded .76 for each scale). Only moderate correlations between the scales were found. The model appeared promising but other researchers did not adopt it. This may be because it was not published in a mainstream American management journal (as previous models had been) or because it was not seen to offer anything different from contemporaneous model proposed by others (e.g. Meyer & Allen, 1990).

De Cotiis and Summers (1987)

De Cotiis and Summers (1987) viewed organizational commitment as a two dimensional construct "centered on organizational goal and value

internalisation, and role involvement in terms of these goals and values” (p.448). That is , they defined organizational commitment as “the extent to which an individual accepts and internalises the goals and values of an organization and views his or her organizational role in terms of its contribution to those goals and values, apart from any personal instrumentalities that may attend their contribution” (p.448). This lesser known definition is particularly similar to Buchanan's (1974) definition (discussed above) but (perhaps) focuses more on the cognitive state of attachment to the organization. It does not seem to add to our overall understanding of organizational commitment but did serve to add further confusion to an already complex research domain.

Kanter (1968)

Kanter (1968) defined commitment as “the willingness of social actors to give their energy and loyalty to social systems, the attachment of personality systems to social relations that are seen as self-expressive” (p.499). Her approach is distinctive in that she did not rely on age or tenure as surrogates for investments but examined the actual investments made in Utopian communities and found that increased investments made by members did in fact increase the stability of their communities. She distinguished between three analytically distinct types of commitment based on the nature of the attachment of personality systems to social systems: “continuance”, “cohesion”, and “control”. Each of these was hypothesised to result from different behavioural requirements imposed on members of the organization. According to her, “continuance commitment” refers to

maintaining organizational membership when the cost of leaving the system would be greater than the cost of remaining. "Cohesion commitment" refers to the commitment of employees to group solidarity (affective ties that bind members to the group), "the attachment of the individual's fund of affectivity and emotion to the group" (p. 507). "Control commitment" refers to the commitment of employees to uphold norms and obey the authority of the group (occurring when obedience to the demands and sanctioning made by the system are regarded as right and just).

Kanter (1968) indicated that the commitment process may start with cognition (obedience on the basis of potential rewards and punishments), then proceed to cohesion commitment (obedience based on social attachments to others), and only later become based on an internalised code. The implication of this seems to be that internalised acceptance is the best form of commitment to organizations.

Kanter (1968) considered her three approaches to commitment as highly interrelated, that organizations will use all three approaches to develop employee commitment. Each form of commitment reinforces the other, jointly influencing the employee to increase their ties to the organization. This model is therefore notable because it is an early multidimensional model of organizational commitment. Unfortunately, Kanter (1968) failed to report either reliability or validity data for her 36-item scale and although her approach is frequently cited her scales were rarely, if ever, applied in later research.

Vardi, Wiener and Popper (1989)

Wiener and Vardi (1980) distinguished between two approaches to organizational commitment: (a) a motivational approach and (b) a normative commitment approach. Both approaches help explain mechanisms to control employee behaviour. Motivation controls behaviour through the manipulation of calculative-instrumental processes (e.g. incentives) based on utilitarian, cost-benefit considerations whereas normative commitment controls behaviour through reference to moral imperatives, values and obligation (Vardi et al, 1989). Vardi et al. (1989) maintained that the motivational approach should be considered as a form of instrumental motivation and not a form of commitment.

Their core contribution to commitment theory is in their explication of normative bases of commitment, which has been incorporated into widely used models of commitment (e.g. Allen & Meyer, 1990). The theoretical basis of the normative approach to commitment is noteworthy in that it draws on the subjective norm component of Fishbein and Ajzen's (1975) theoretical model. Subjective norms are formed not only by social normative beliefs and personal normative beliefs (e.g. moral standards, internalised expectations). Accordingly, commitment represents the "totality of internalised normative pressures to act in a way that meets organizational interests" (Vardi et al, 1989, p.27).

A number of scholars had noted the importance of personal norms (internalised moral obligation) in explaining human behaviour (Schwartz, 1973; Schwartz & Tessler, 1972) and particularly in explaining leaving the

organization (Prestholdt, Lane, & Mathews, 1987) but Weiner and Vardi's various studies presented the first and most notable application of this within the domain of organizational commitment.

Jaros, Jermier, Koehler, and Sincich (1993)

Jaros et al. (1993) proposed a multidimensional model of organizational commitment with three dimensions

1. Affective: psychological attachment "through feelings of loyalty, affection, warmth, belongingness, fondness, pleasure and so on" (p.954)
2. Continuance: "the degree to which an individual experiences a sense of being locked in place because of the high costs of leaving" (p.953)
3. Moral: psychological attachment through "internalisation of...goals, values, and missions" (p.955).

Jaros et al. (1993) placed more emphasis on affect as experienced by employees than any other theorist and their measure is in effect an affect adjective checklist. Their other dimensions are similar to those in Meyer and Allen's (1990) model that had been published earlier, though their use of the moral commitment dimension is closer to the way that affective commitment is generally understood (Meyer & Herscovitch, 2001).

Meyer and Allen (1990, 1993, 1997)

Of the several multidimensional models that have been proposed to integrate the multiple themes in the organizational commitment literature, the three-component model proposed by Allen and Meyer (1990) has become the most widely accepted. Allen and Meyer (1990) suggested that there are three components of organizational commitment, each of which reflects one

of the three basic themes in the literature (affective attachment, perceived costs, and obligation). These components are affective commitment, continuance commitment and normative commitment.

Affective commitment is conceptualized as the employee's "positive feelings of identification with, attachment, and involvement in, the work organization" (Meyer & Allen, 1984, p.375). Affective commitment develops if the employee is able to meet their expectations and fulfil their needs within the organization (the employee wants to stay in the organization).

Continuance commitment is the extent to which employees feel committed to their organization because of the costs they perceive to be associated with leaving (Meyer & Allen, 1984). That is, the extent of the employee's tendency to engage in consistent lines of activity based on their awareness of the costs associated with discontinuing the activity. Continuance commitment develops when an employee realises that they have accumulated investments or side-bets that would be lost if they left the organization (the employee needs to stay in the organization). This component derives from research initiated by Becker (1960). Meyer and Allen (1990) argued that this seemingly behavioural component was consistent with their attitudinal approach because the nature of the commitment discussed by Becker (1960) is psychological, with awareness of costs being central to its definition.

Normative commitment, is based on the belief that commitment to the organization is an appropriate if not a moral obligation (Wiener & Vardi, 1980; Weiner, 1982). It develops as a result of experiences (culture management),

benefits (training, study allowances) or family factors that fill an employee with a sense that they ought to reciprocate with loyalty to the organization. This component has attracted the least empirical research and is sometime excluded from empirical studies (Meyer & Allen, 1997).

Meyer and Allen (1990) presented the three components of commitment as distinguishable components (not different types) of organizational commitment derived from three independent streams of commitment research. An employee may experience each component to varying degrees. For example, some employees may feel a strong need and obligation to remain but have no desire to do so, others may feel a strong desire to remain but have no sense of the need or obligation to remain a member of the organization (Allen & Meyer, 1990). The employee's organizational commitment reflects each of the three components and is represented as a sum of scores for each of the components. Meyer and Allen (1990) suggested that each component of commitment should have different antecedents and different effects on work related behaviours because an employee's willingness to contribute to the effectiveness of an organization would depend on the nature of their organizational commitment to that organization.

Allen and Meyer (1990) developed scales to measure the above three components of commitment:

1. Affective Commitment Scale (ACS): derived largely from Porter et al.'s (1979) OCQ

2. Continuance Commitment Scale (CCS): derived largely from the Hrebiniak-Alluto (1972) measure
3. Normative Commitment Scale (NCS): derived largely from the Weiner-Vardi (1980) scale

Each scale originally had eight item statements and respondents were asked to indicate their agreement or disagreement with the statement along a seven-point Likert scale. The scales were revised in 1993 so that (a) two ACS items with the weakest factor loading in the Meyer, Allen, and Gellatly (1990) study were eliminated; (b) three CCS items were eliminated and one added to improve the unidimensionality of the CCS; and (c) the NCS was completely rewritten to reduce its high correlation with the ACS. The new, shorter set of scales showed adequate reliability (Cronbach alpha reliability coefficients of .82, .74 and .83 for the ACS, CCS and NCS respectively) and the three factor structure exhibited good fit to the data (as determined by confirmatory factor analysis). The posited antecedents of each scale were consistent with the predictions made about them. However, the ACS and the NCS still correlated highly (.74), indicating a lack of discriminant validity between the scales.

Nunnally (1978) warned that the psychometric soundness of a set of scales cannot be determined by the findings of a single study and should be supported by consistent findings over many studies. Fortunately, the psychometric properties of Meyer and Allen's commitment scales have been carefully examined (Akhtar & Tan, 1994; Blau, Paul, & St John, 1993; Bycio, Hackett, & Allen, 1995; Morrison, 1994; Hackett, Bycio, & Hausdorf, 1992;

Konovsky & Cropanzano, 1991; McGee & Ford, 1987; Meyer & Allen, 1984; Meyer, Allen & Gellatly, 1990; Meyer, Bobocel, & Allen, 1991; Randall, Feldor, & Longenecker, 1990; Reilly & Orsak, 1991; Somers, 1993; Shore & Tetrick, 1994; Shore & Wayne, 1993). With few exceptions, research findings consistently provide considerable support for the reliability and construct validity of the measurement scales. Problems with the scales (See later) were acknowledged and the scales have been revised twice by the original authors (Meyer, Allen, & Smith, 1993; Allen & Meyer, 1996) and countless times by individual researchers across the world. Studies in non-American contexts have also confirmed the integrity of the three-component model (Vandenberghe, 1996, in Belgium; Bagraim & Hayes, 1999, in South Africa; Wasti, 2002, in Turkey). Despite the promising psychometric soundness of the three-component model, six issues require further discussion

1. Lack of precise definition. The organizational commitment construct is never precisely defined and is typically referred to as a “psychological state that binds an individual to the organization” (Meyer & Allen, 1990, p.1), which is then partitioned into three components each of which have more precise definitions. The construct is therefore implicitly defined through what is common between the three components, rather than representing a higher order concept partitioned into three components. All three components focus on the organization as a whole as the referent, are psychological dimensions of attitudinal commitment, and refer to a link between the employee and the organization. The three-component model may therefore be adding to the confusion in the organizational commitment

literature. A more precise definition of organizational commitment that defines the overall construct and allows for the specification of form, focus, strength, and duration is presented later.

2. Conflation of component definitions with outcomes and antecedents. Each component in the three-component model seems to be defined in relation to an employee's intent to stay in the organization, which is an outcome of commitment (or a behavioural conceptualization of commitment rather than an attitudinal one) and are defined in that manner. There is also some evidence of definition conflation with the antecedents of organizational commitment. For example, some of the CCS items seem to be operationalized in term of opportunity, a determinant of CCS. Cohen (1989) advocated the definition of constructs in terms of their referents to facilitate precise communication, clarity, and a shared understanding amongst scholars (Cohen, 1989). Defining organizational commitment with reference to its antecedents or outcomes is an endemic problem in the literature (Guest, 1992) that the three-component model fails to address.

3. The multidimensionality of the CCS. McGee and Ford (1987), using exploratory factor analysis on data derived from the original 8-item scales, found that the CCS had two dimensions:

1. Lack of alternatives (LoAlt): This is based on the perception that few employment opportunities are available. Meyer et al (1989) argued that Becker (1960) suggested that as the number of job opportunities decreases, then the costs associated with leaving the organization would increase. Nevertheless, "lacks of alternatives"

is a determinant of continuance commitment and therefore not appropriate as an integral part of its definition.

2. High personal sacrifice (HiSac): This is based on the perception of high personal sacrifice on leaving the organization. The HiSac scale is most akin to Becker's (1960) side-bet theory.

The above dimensionality in the CCS has been replicated in other studies (Meyer et al, 1990; Somers, 1993; Dunham et al., 1994; Hackett et al, 1994). Iverson and Buttigieg (1999) found similar results but their study is compromised because they did not use the full commitment scales. The dimensionality of the CCS is especially problematic given the finding by McGee and Ford (1987) that both dimensions were related to the ACS in a significant but differential manner, HiSac positively and LoAlt negatively. If confirmed, this raises the problem of combining these two subscales in a single measure of continuance commitment because one subscale may alter the effect of the other, leading to spurious results. Lee, Allen, Meyer, and Rhee (2001) reviewed research concerning the CCS and concluded that future research should consider LoAlt to be an antecedents of HiSac because the LoAlt scale has consistently failed to predict turnover intentions.

4. The inclusion of Continuance Commitment as a component of attitudinal commitment. As previously mentioned this component derives from the work of Becker (1960). Meyer and Allen (1991) argued that Becker emphasised awareness or recognition of the costs associated with leaving an organization, which are attitudinal factors. However, Becker's focus on "consistent lines of activity" (consistency of behaviour) seems to render his

approach more behavioural than attitudinal even though awareness of side bets made and interests associated with them are important to produce a consistent line of activity. Mayer and Schoorman (1992) argued that the consistently high correlations between the ACS and the CCS across many studies may suggest that the “dimensions represent overlapping conceptual space” (Mayer & Schoorman, 1992). Mathieu and Zajac (1990) demurred and stated that “the two forms of OC are sufficiently distinct to permit comparisons between their relative relationships with other variables” (p.172). Meyer and Allen (1997) continue to assert that the two components of commitment are distinct and require separate consideration.

5. Lack of attention to interactive effects. The interactions between the different components of commitment were not discussed in Meyer and Allen’s work but examining such interactions may help explain outcomes (Jaros, 1977; Meyer Paunonen, Gellatly, Goffin, & Jackson, 1989; Randall et al., 1990; Somers, 1995). For example, normative commitment may exert a greater effect on intent to quit amongst employees with low levels of affective commitment (e.g. as found by Chen & Francesco, 2000).

6. The operationalization of normative commitment . Angle and Lawson (1993) contended that normative commitment is “qualitatively different from the other two (components of commitment” (p.5) because it seems to address the employee’s internalization of commitment to an organization as a personal value, which is a characteristic of the individual employee not the relationship between them and the organization. In this sense, normative commitment reflects commitment propensity (an inclination

to become committed, See Pierce & Dunham, 1987), an antecedent of affective and continuance commitments to an organization. Most studies still show considerable overlap between the NCS and the ACS (Jaros, 1997, Ko, Price, & Mueller, 1997). Mayer and Schoorman (1998) noted that the organizational referent in the Normative Commitment Scale is particularly weak and that it deviates from Porter et al's (1974) definition of organizational commitment that focused on commitment to a particular organization. Normative Commitment by its very nature seems to be an individual-based constant for the employee across different employers. This is theoretically problematic given the stress scholars have placed on retaining the organizational referent in organizational commitment research (Mathieu & Zajac, 1990; Morrow, 1983; Reichers, 1985).

The above critique of the three-component model is seemingly innocuous but potentially devastating in its consequences. If the NCS melds with ACS and if the CCS is dropped because it reflects behavioural rather than attitudinal commitment then only the (now modified) ACS remains. The consistently strong correlation found between the ACS and the OCQ implies that the retention of the ACS may be of little additional value in organizational research.

The empirical evidence concerning the three-component model is not conclusive but it is strong enough to suggest the need for further refinement rather than the abandonment of the model. For example, the empirical evidence for the multidimensionality of the CCS is not clear and evidence in support of its unidimensionality is no less substantial than evidence of its

multidimensionality (Meyer & Allen 1997) even though recent research suggests that refinements to the scale should ensure unidimensionality (Lee et al., 2001). A major strength of Meyer and Allen's approach is that it integrates different approaches and has attracted significant research attention. Other multidimensional approaches have attracted relatively little empirical examination and it would therefore be false to assume that they are stronger from a conceptual or empirical standpoint; they may merely have attracted less critical scrutiny. Furthermore, the current limitations of the model mainly suggest amendments to the scales rather than the underlying theory.

Glaser and Strauss (1968) noted that a critique does not destroy a theory but helps identify weaknesses and inadequacies that can form the basis for inter-theoretical bridge building, resulting in an improvement of the original conceptualization. The three-component model will form the basis for the attitudinal research conducted in this dissertation and it is hoped that such research will contribute to the literature on organizational commitment by addressing some of the above concerns, adding others, and proposing a path forward.

Integrating the two perspectives

Coopey & Hartley (1991) suggested that attempts be made to integrate the attitudinal and behavioural approaches to organizational commitment in order to generate more valuable research (how this would be achieved was not specified). There are two possible ways to realise Coopey and Hartley's suggestion: (a) by developing an integrated definition of

commitment or (b) by developing an integrated model of commitment that links commitment behaviours and commitment attitudes.

Integrated definitions of commitment

Brown (1996) defined organizational commitment as representing a “dedication to and support of the organization” (p.249) that he argued “is best conceptualised as a single, fundamental construct” (p.230). He hoped that his definition would unify the attitudinal and behavioural approaches because it incorporated the idea of continuity of action (behaviour) even in the “face of fluctuating circumstances and feelings” (p.248). Others did not adopt Brown’s (1996) commitment model. This lack of acceptance may be explained with reference to three issues. First, his model is not clearly specified because he argued that the nature of the commitment (support) required by an organization varies from organization to organization (though he did speculate that these “terms” of commitment would typically include commitment to continued organizational membership, goal congruence, and support of co-workers). Second, his proposed scales are problematic in that they seem to conflate organizational citizenship behaviours with commitment (e.g. “I take an interest in helping others perform to the best of their abilities”). This is a persistent problem in organizational commitment research (See later discussion on how these constructs were differentiated in this study). Third, Brown did not sustain a stream of research after his initial publication and his promising but nascent approach was not developed by others. On reflection, Brown’s paper seems to echo the writings of Scholl (1981) in its rejection of the social exchange nature of commitment and its emphasis on

persistent lines of activity regardless of circumstances (e.g. his assertion that employees will continue to expend high levels of effort even in “tough times” when rewards are not forthcoming). However, Brown’s (1996) paper is important because it highlights the complex, dynamic and contextually situated nature of commitment (See later for a discussion on context in commitment research). Swailes (2002), without reference to Brown (1996), echoed some of his concerns and calls for a similar integrative definition of organizational commitment. The enormous body of empirical research using multidimensional conceptualizations of organizational commitment has also retarded further theoretical exploration of singular definitions that integrate rather than merely link the attitudinal and behavioural perspectives. Nevertheless, it seems that multidimensional approaches explain more variance in outcomes than any other approach (Meyer & Allen, 1997) and provide a clear indication of the relationship between workplace experiences and organizational outcomes.

Linking behaviours and attitudes

Behavioural and attitudinal commitment has been linked in three different ways. Salancik (1977) linked commitment behaviours and attitudes through the operation of the post action justification hypothesis, which holds that employees who are behaviourally committed to the organization will develop favourable attitudes towards it by adjusting “their attitudes to fit the situations to which they are committed” (Salancik, 1977, p.70). That is, employees who are committed behaviourally to a particular organization tend to develop favourable attitudes toward that organization; finding mechanisms

to adjust to their commitments psychologically by seeking consistency between their behaviours and attitudes (See Festinger, 1957), perhaps inferring their attitude of commitment from their committed behaviours (e.g. working diligently) so that the attitude is a consequence of those behaviours (Kiesler, Nisbett, & Zanna 1969; Salancik & Pfeffer, 1978).

Mottaz (1989) linked the seemingly divergent perspectives by noting that they each seemed to focus on a different aspect of commitment. That is, those adopting an attitudinal perspective tend to focus on the influence of commitment attitudes on behaviours and those adopting a behavioural perspective tend to focus on the effect of commitment behaviours on attitudes. Indeed, the attitudinal approach seems rooted in organizational psychology and attempts by organizational psychologists to specify the antecedents of commitment and its behavioural consequences whereas the behavioural approach seems rooted in social psychology and attempts by social psychologists to understand the effects of behaviour change on attitudes and determine the conditions that facilitate the repetition of desirable commitment behaviour patterns (Meyer & Allen, 1991).

Mowday et al. (1982), building on Salancik (1977), explicitly linked the attitudinal and behavioural perspectives in their commitment model. They explained that "(a) commitment attitudes lead to committing behaviors that subsequently reinforce and strengthen attitudes; and (b) committing behaviors lead to commitment attitudes and subsequent committing behaviors" (p. 47). Essentially, they proposed a three-phase understanding of the development of commitment. These three stages are as follows: (a)

Anticipation: a pre-employment stage in which expectations, job issues, and personal characteristics are most important; (b) Initiation: with an emphasis on initial work experiences (job, supervisors, colleagues, pay etc) that may increase or decrease commitment; and (c) Entrenchment: when the emphasis is on the accumulation of side-bets over time which make it more difficult for the employee to leave the organization.

The third and final approach to linking the two perspectives is to assume a direct causal link between attitudes and behaviours based on attitude theory. That is, commitment attitudes are set as antecedent to commitment behaviour, which is operationalized as intent to remain a member of the organization (Bluedorn, 1982; Iverson & Roy, 1994; Mobley, Griffith, Hand, & Meglino, 1979; Mottaz, 1989; Price and Mueller, 1986 in their handbook of measures; Reichers, 1985). Unfortunately, commitment researchers rarely state whether they view behavioural commitment as synonymous with intent to stay and it is therefore necessary to check the item content of scales to determine whether this is the case or not (Mowday, 1998).

Recognising the link or interaction between the two perspectives is particularly relevant when attempting to understand the development of organizational commitment. Unfortunately, there is little debate concerning reciprocal effects in the organizational commitment literature, despite a longstanding recognition of the value of such research (e.g. Kohn & Schooler, 1973) and its discussion in the union commitment literature (Hartley, 1992). Given the above, it is fruitless to attempt to determine a

direction of causality between attitudes and behaviours as the determination of whether the process begins with attitudes or behaviours is of little practical relevance. Most current research is concerned with the influence of attitudinal commitment on behavioural commitment, operationalized as intent to stay. This study will adopt this approach while recognising the possibility of a reciprocal relationship between commitment attitudes and commitment behaviours.

Alternative approaches

Two alternative approaches to conceptualising organizational commitment have been mentioned in the literature. Neither approach has been well developed and will not be applied in this study. They are, however, worthy of a mention as they contain important insights (that will be delineated) that may inform the study and future development of the organizational commitment construct.

Organizational commitment as a symbolic process

Larkey and Morrill (1995) proposed a “processual approach” to organizational commitment because they believed that traditional conceptualizations of organizational commitment were inappropriate under conditions of change and instability because they assumed stable conditions. They contended that organizational commitment will not be a useful predictor variable, unless conditions are specified, because commitment is sensitive to organizational process and climate factors (i.e. communication, openness, opportunities for participation, and economic stability), which are unstable

during times of change. Interestingly, they cited an empirical study, which found that organizational commitment may change as little as 1 to 3 months prior to a decision to leave the organization (Porter, Crampton, & Smith, 1976), as evidence for their assertions regarding the instability of organizational commitment. This implies that organizational commitment scales are vulnerable to error under conditions of change during which levels of organizational commitment could fluctuate dramatically. Such fluctuations would render any correlations between organizational commitment and proposed outcome variables of little use.

Larkey and Morrill (1995) did not elaborate on their critique in later publication nor did they explicitly show the theoretical basis for their processual approach, which seems to draw on social constructionism and theories of organizational culture, communication, and identification. They suggested that organizational commitment be examined by considering the ways that employees “actively and symbolically, relate to organizations under changing conditions” (p.193). That is, they conceptualized organizational commitment as the outcome of a process that involves the social construction of shared symbols of identification (these symbols are not specified because such symbols are not stable or internally consistent, reflecting the instability of identities in times of change). In this approach, the employee is an active participant in a process of sensemaking (Weick, 1979), not a passive agent that “gets committed”. Larkey and Morrill (1995) recommended the use of “processual methods” such as ethnography and longitudinal studies to replace traditional measures of commitment that they

believed were sensitive to climate factors and vulnerable to error under conditions of change, as discussed above.

Larkey and Morrill (1995) presented three case studies to illustrate the symbolic processes used in different experiences of organizational change and evidence that these processes

1. Are integrally tied to the creation of organizational cultures
2. Involve identification via symbolic processes with multiple organizational structures and strategies by individual actors and groups
3. Encompass various degrees of linkages between organizational role members and organizational goals
4. Can yield unintended consequences for individuals and organizations (e.g. organizational change, individual self-definitions, organizational and individual uncertainty, and organizational inertia).

The above focus on the social construction of shared symbols of attachment between employees and their organizations may be synonymous with some approaches to conceptualising organizational culture (e.g. Pettegrew, 1979, defined culture in terms of symbols, rituals and myths within the organization). The symbols may also contain referents to affective, continuance and normative commitment even though they do not assume a stable, internally consistent symbol system.

Larkey and Morrill's (1995) approach is important for three reasons:

First, it focuses on the "dynamic interplay and paradoxes that can arise" (p.199) in the employee-organization relationship by emphasizing the varied and shifting pattern of meanings that bind employees together and to

their employing organizational (as well as the forces that drive them apart). This dynamic instability in the employee-organization relationship stems from employees' increasing weak sense of self as individuals within a gestalt of social positions and norms and the way that organizations manipulate their identities in the service of marketing, human resource, or public opinion initiatives. Nevertheless, despite the large power differential between organizations and employees in their social construction of a relationship, neither organizations nor individual employees are "free agents". Both influence one another in the construction of their identities, as they are both subject to a variety of institutionalised cognitive frameworks that limit or enable particular strategies that contain explicit norms about employee-organization relationships.

Second, this approach highlights the role of organizational culture, which can empower the expression of individuality or subsume it within an organizational identity (Kunda, 1992).

Third, this approach suggests a different approach to researching organizational commitment in a "theoretic and sensitising rather than confirmatory" manner (Larkey & Morrill, 1995, p. 194). For example, the analysis of changing organizational cultural artefacts that reflect changes in symbols, shared meanings, and attachment patterns.

The unrealised promise of this approach over prevailing traditional variable-analytic approaches is that it will enable researchers to examine the complex interplay of multiple identities of self and shifting organizational images so that uncovered narratives of identity will provide clues regarding

the ways that employees develop complex, shifting, and multifaceted relationships with their employing organizations. Unfortunately, Larkey and Morrill's (1995) paper did not inspire further conceptual development or empirical research. Perhaps future research will attempt to specify the more enduring values and characteristics of organizations that foster allegiance and provide stability to an employee's identity in a context of change. This will benefit both organizations and individual employees (by helping them develop a stronger sense of self through the awareness of what is important to their sense of self).

Organizational commitment as a rational-choice

The rational-choice perspective, which resonates with side-bet theory but is more deeply rooted in economic theory, relies on the game-theoretic method for theory development and substantiates its arguments with reference to simplified game-theoretic models. It does not rely only on the rationality assumptions of neo-classical microeconomics (narrow self-interest, complete information, well defined preference ordering) but also deals with bounded rationality, costly information, limited information, uncertainty, and complex human motivations such as fairness (Eggertsson, 1990). The focus of this perspective is on how an individual makes behavioural choices through estimating the expected costs and benefits of alternative courses of action. This perspective illustrates that the psychological, sociological, and economic literatures share the assumption that commitment relates to important organizational outcomes and that high levels of commitment result

in a greater willingness to engage in behaviours oriented towards the good of the organization (or other form of collective effort).

Interestingly, the economic assumption of self-interest inherent in this model highlights the difficulty of securing consensus and cooperation around organizational objectives because an employee motivated by self-interest may renege on any previous promises of cooperation if they expect extra gains from doing so. Therefore, within this perspective it is necessary to discuss commitment in conjunction with the concept of credibility to describe a general theoretical puzzle. Credible commitment is established when an individual chooses to submit to rules that make it very difficult to deviate from their promises.

Commitment based on rational choice is not synonymous with behavioural commitment (to a course of action) or commitment based on social exchange because it focuses on the conditions that prevent an individual from reneging on their promises. Commitment is credible if the individual expects to receive sufficient rewards for them to honour the commitment at the time of performance (self-enforcing motivational incentives) and if the individual is unable to act otherwise (an imperative derived from lack of means or external coercion).

It is distinct from social exchange theory (or more accurately the group of theories that fall under this rubric; Blau, 1964; Homans, 1961; Thibaut & Kelley, 1959), which deserves special mention as it is sometimes considered to be the primary mechanism that fosters commitment in organizations (Meyer & Allen, 1997). Social exchange concerns the relationship between

mutually beneficial actors who engage in the mutually contingent exchange of benefits or resources with one another (Emerson, 1976, 1992; Molm & Cook, 1995). In this study, social exchange is not presented as the primary mechanism for organizational commitment but it is fundamental to understanding the relationship between commitment and antecedents such as organizational support, met expectations, and organization based self-esteem. Social exchange as it is clearly different from economic exchange because it relies on unspecified obligations rather than those that are stipulated in formal contracts that are typical of economic exchange relationships. The social exchange process works as follows: employees whose expectations are met by the organization will want to reciprocate to the organization and they therefore become involved in a relationship with the organization characterised by mutual exchange, and the continued success of these exchanges results in the formation of an established relationship. Of course, there is some crossover between the approaches because the employee-organization relationship that develops from social exchange experiences is rationally examined (e.g. cost-benefit analysis) by the individual employee who may continue the relationship even if the relationship does not equally benefit each partner in the exchange. The social relationship is based on the expectation of reciprocity and trust that unless violated will continue and may even strengthen.

Economic theory from a rational-choice perspective has not been widely adopted by scholars of organizational commitment. Some empirical work has been done but greater theoretical "effort is needed to develop

rigorous hypotheses and strategies for empirical testing” (Robertson & Tang, 1995, p.78). The limited work in the area still holds the promise that economic theory could further enrich our understanding of organizational commitment.

Alienation: the opposite of organizational commitment?

Kanungo (1979, 1982) and Lefkowitz and Brigando (1980) argued that alienation and commitment are opposite extremes of the same continuum. Etzioni (1975) also considered alienation to be the negative form of commitment (involvement) and indicated that it is valid to treat commitment (involvement) as a unidimensional construct. Nevertheless, a separate consideration of alienation may add to any attempt to understand the psychological bond between the employees and the organizations in which they work.

The Latin etymology of the term alienation suggests two different meanings. The term derives from the noun *alienato* (transfer of ownership), which was derived from the verb *alienare* (to take away or remove as in causing a separation). Kanungo (1982) argued that defining alienation as a state of separation implies feelings of hostility, indifference and aversion towards an object of alienation. This is consistent with Etzioni’s definition of alienation as an intensely negative attitude towards the organization. The different facets of alienation, outlined by Seeman (1959), include the following:

1. Powerlessness: belief that own power cannot determine events
2. Meaninglessness: uncertainty about what one ought to believe

3. Normlessness: breakdown of social norms regulating conduct
4. Isolation: estrangement from society and culture
5. Self-estrangement: experience of being alienated

Etzioni (1961) argued that the power organizations have over employees is rooted in the nature of those employee's involvement in the organization. He identified three types of involvement (organizational commitment) in terms of the power used by the organization to gain compliance from employees. These include the following:

1. Moral involvement: when employees adjust to the organization's value system and internalise normative organizational values. This is a positive and often intense commitment orientation typical when the employee believes in the mission of the organization. This form is based on normative power often associated with the manipulation of symbolic rewards.
2. Calculative involvement: when power is exercised through the allocation of economic rewards. This is not an intense form of commitment and is based on an exchange relationship with a member becoming committed to the organization because of a perceived beneficial exchange relationship between their contributions and the rewards they receive for their services. This form is based on remunerative power.
3. Alienative involvement: when coercive power is exercised over employees. This is a negative orientation, typically found when organizational member's behaviours are severely constrained (such as in

a prison). This form is based on coercive power and hence a negative form of commitment.

There are few applications of Etzioni's theory in the literature (Drummond, 1993; Gould, 1979; Penley & Gould, 1988). Penley and Gould (1988) are notable for their operationalization of alienative commitment, which scale (akin to Meyer and Allen's, 1990, continuance commitment scales) had such poor psychometric qualities that it received scant further attention in the literature. They distinguished between three forms of commitment: alienative, moral, and calculative. The moral commitment dimension is similar that defined by Jaros et al. (1993) and the calculative commitment dimension is similar to the compliance dimension defined by O'Reilly and Chatman (1986). Meyer and Herscovitch (2001) commented that the calculative dimension should be considered a part of instrumental motivation (Weiner, 1982) rather than commitment.

Assumptions in commitment research

Given its long history of research and the abundance of empirical studies, there has arguably been too little critical reflection on the commitment construct and too few attempts to surface assumptions in the empirical commitment literature. On reflection, ten questions concerning commitment deserve attention:

1. Is commitment knowable? Commitment researchers assume that organizational commitment and its drivers are knowable even though the nature of commitment may be contextually and culturally specific.

Moreover, the drivers of commitment may be inscrutable such that they are not even known to the individual who is committed. On the other hand, they may be known to the individual but so idiosyncratic as to negate the value the survey research characteristic of most commitment research.

2. Can commitment be aggregated across levels of analysis? Commitment research is dominated by organizational behaviour approaches that assume the importance of micro levels of analysis (individual level). The commitments of different entities will differ (e.g. organizations cannot be committed to their spouse). The levels may be connected but commitment patterns by different entities will be different. More importantly, commitment at one level cannot be aggregated to a higher level (e.g., a group of highly committed individual employees does not imply a highly committed project team or a high-commitment organization).
3. Is commitment a variable or a state of being? Discussions concerning commitment and certainly its translation into management rhetoric tend to assume that an employee is either committed or not committed. This assumes that commitment is a dichotomous variable. This is an impoverishment of the concept for two reasons. First, a dichotomous understanding of commitment ignores the multiple gradations of commitment (the strength) of an individual's commitment and its fluidity over time. Second, commitment may not be a variable but a state of being (that constitutes what the person "is" not something that the person "has"). The emphasis on the relational nature of commitment may have

obscured recognition of the possibility that commitment may be an attribute of individual employees arising from their socialization experiences and personality characteristics.

4. Is complaining a “commitment behaviour”? Voicing complaints in an organization may be the outcome of commitment (affective or normative) or the precursor to a decision to leave the organization (Hirschman, 1970). Employees may even complain the most vociferously because they care a great deal about the organization. This is unlikely to be uncovered using current approaches to conceptualising and measuring commitment. By extension, highly committed employees may use commitment surveys to voice grievances because they care about the organization and want it to become a vehicle to initiate change.
5. Are organizations immutable institutional arrangements and therefore enduring targets of commitment? Despite the breakdown in institutional arrangements and the shifting nature of organizational identities because of economic turbulence, organizational researchers still use the term “organization” as if organizations were stable, enduring entities. This ignores the process aspects of commitment and the manner in which commitment relationships are constructed and reconstructed.
6. Are the drivers of commitment discernible? The bulk of the extant literature consists of empirical studies that assume that general cause-effect sequences are discernible, requiring only the specification of the “correct” set of antecedent variables. Of course, commitment may develop through a series of self-reinforcing cycles of behaviours and

attitudes that evolve over time with no way of determining a causal route (Mowday et al., 1982).

7. Is high commitment always positive? The Pollyanna assumption that organizational commitment is enduringly positive seems naïve in a business context characterised by rapid change and shifting corporate identities as the result of mergers, acquisitions and corporate re-branding (Mowday, 1998). Consider the following findings, scattered throughout the literature but rarely cited:

- a. Excessive commitment may even have deleterious effects on individual growth, family relationships (Mowday et al., 1982), and both physical and psychological health (Randall, 1987).
- b. Particularly after a merger, high levels of commitment to particular pre-merger corporate entity may foster resistance to change (March & Simon, 1958) and the irrational persistence of consistent lines of activity that are of no value to the reconstituted organizational entity (Pfeffer, 1997). Interestingly, Lord and Hartley (1998) found that public sector employees with especially high or low levels of commitment perceived the highest need for change whereas those with moderate levels of commitment perceived little reason to change the status quo, “dispelling a simple view of the relationship between commitment and change in organizations” (p.351), in a particular context, but evidencing the relationship between commitment and unwillingness to change.
- c. Highly committed employees may become overzealous and antagonise those inside and outside the organization (Mowday et al., 1982), inhibit innovativeness (Meyer & Allen, 1997), waste employee talent on disliked activities (Rowan, 1981), reduce flexibility through the entrenchment of organizational practices. (Salancik, 1977), and have a greater willingness to engage in criminal behaviour on behalf of the organization (Randall, 1987).

8. Is commitment static? Most published studies are cross-sectional and fail to specify contextual factors that may affect levels of commitment over time, even though it is widely recognised that commitment is dynamic and changes over time (Meyer & Allen, 1997). Commitment research seems to be stuck in a methodological “rut” of cross-sectional survey research

Qualitative studies concerning commitment are rare, as are mixed-methods studies (such as this study). There are some emerging models of commitment to change that may eventually inform the development of “dynamic” organizational commitment models and the application of appropriate methods and analytical techniques (See later).

9. Is commitment manageable? Concern with the manageability of commitment reflects the managerialist, functionalist tone of much commitment research in its emphasis on developing causal models to explain how commitment can be best managed in organizations even though it is recognised that commitment is not amenable to direct control (Meyer & Allen, 1997). Direct forms of control are not only not effective but may result in compliance that lasts only as long as the surveillance or control measures (if applicable at all) remain in force (Senge, 1990).
10. Is commitment context specific? There is a growing awareness of the importance of context in organizational behaviour research (Johns, 2001). Context is particularly important in organizational commitment research because commitment emerges from a dynamic between an individual employee and an organization within a seemingly ever-changing world of work, an increasingly globalized labour market for knowledge workers, and the need to manage commitment in diverse sectors, industries and countries.

There are two characteristics of the commitment literature that may explain the narrowness of its research ambitions. The first relates to the

ideological, intrinsic-moral, or “quasireligious character” (Dubin, 1982, p.374) of commitment and the concomitant assumption that the organizational entity should be able to elicit commitment from its members to the extent that such commitment is regarded as “normal” and expected. The second possible reason is methodological. Much of the literature is survey-based confirmatory research with some attempts to validate the theory and assess its cross-cultural portability. This reflects a seemingly overwhelming paradigm consensus amongst commitment researchers that inhibits the incorporation of qualitative approaches in triangulated or mixed-method approaches. The limitations of quantitative survey research are exacerbated by the bias of journals to publish only statistically significant findings, introducing a systemic bias in the extant literature and probably inhibiting the initiation of studies that may find disconfirming data. For example, examining commitment amongst temporary workers and knowledge workers has enjoyed scant research attention even though these two types of employee are central features of an increasing number of organizations.

Conceptualizing commitment

The above literature reviews evidence that despite decades of research there is still no universal acceptance of a specific commitment model (Coopey & Hartley, 1991). Even the term “commitment” has been used to refer to antecedents and consequences of commitment, the process of becoming committed, and the state of commitment. The purpose of this section is to present a typology of commitment that will be used in this study as the basis of the commitment concept. This typology serves to synthesise

existing research, not merely add another model to the literature. The typology draws heavily on Meyer and Allen's work but incorporates the insights of the critique of the theory to present a more conceptually elegant typology.

In this study, commitment is conceptualized as the psychological bond between an employee and the focus of their commitment energy. A psychological bond that has the following characteristics

1. **Form:** the aspect of commitment clarifying the nature and basis of the commitment or the motives that engender the attachment (Becker, 1992, O'Reilly & Chatman, 1986). Three forms of commitment are considered in this study (i.e. affective commitment, continuance commitment, and normative commitment) based on the seminal commitment work by Meyer and Allen (1990, 1991, 1993, 1997). These forms develop over time and form a composite that may change over time.
2. **Focus:** the characteristic that identifies the specific object or target of commitment energy. This focus may be the organization, a project goal, or an idea and it can be located within or outside the workplace (Baruch, 1998). It may also include other individuals or groups. This study is only concerned with commitment within organizations. That is, the psychological bond to the organization as an entity and to salient constituencies within the organization (employee's immediate manager and the employee's co-workers).
3. **Strength:** this characteristic of a commitment depends on the intensity of meaning associated with a specific focus and specifies the extent to

which an employee is attached to a specific focus. That is, commitment strength is a continuous variable not a dichotomous variable and does not serve to classify employees as committed or not (Kiesler, 1971; Beck & Wilson, 2000; Brown, 1996).

4. Duration: this aspect of commitment highlights the temporal nature of commitment relationships. That is, commitment need not be considered a lifelong undertaking. The duration of a commitment relationship may depend on the focus of commitment in that an employee's commitment to their occupation may last a lifetime but their commitment to a specific project will not.
5. Actor: the term that identifies the unit of analysis when considering commitment. An individual, group, or organization can be thought to show commitment to an entity.

Using the above, the operational definition of commitment in this study is as follows

Commitment is the complex psychological bond between an actor (individual, group, or organization) and a specific focus of commitment which assumes different forms (affective, continuance, and normative) and may differ in strength and durability.

The above definition represents a synthesis of the current commitment literature but by design, remains a static, literary definition (Kiesler, 1971) that does not incorporate potentially more dynamic understandings of commitment that may emerge as important and that will help supplement the

definition. The current definition is an acceptable operational definition for the purposes of this study because it incorporates the most recent advances in commitment theory and is directly applicable to the scope of this investigation, which concerns the specific workplace commitments of South African knowledge workers.

Final notes

The process that preceded the writing up of the above review, critique and attempted synthesis of the literature was exhausting and frustrating. My sense echoes that of Morrow (1983) who on reviewing 29 commitment studies declared, "Commitment has consumed an inordinate amount of researcher's attention without a commensurate increase in understanding of its fundamental nature..." (p. 498). Most studies are fixated on empirically determining the antecedents and outcomes of commitment. This chapter examined different approaches to the conceptualization and operationalization of the organizational commitment construct as a precursor to examining possible antecedents and outcomes of organizational commitment. A brief discussion concerning the nature of commitment and the nature of organization was presented as prerequisite to the review of different theoretical contributions to understanding organizational commitment. The value of the distinction between attitudinal and behavioural approaches was assessed. The three-component model proposed by Meyer and Allen (1990) received particularly critical attention. The view was taken that behavioural commitment is best described as equivalent with behavioural intentions (such as intent to leave the organization). Different approaches to understanding

commitment were discussed and conceptual and measurement issues were examined to glean insights from each approach. Differences between the approaches seemed to stem from the disciplinary background of the researchers and their own motives and strategies to develop an approach. Of course these motives and strategies are difficult to uncover but some attempted to account for empirical findings (e.g. Angle & Perry, 1981), some rooted commitment in a particular theoretical framework (e.g. O'Reilly & Chatman, 1986; Penley & Gould, 1988), some attempted to integrate earlier unidimensional approaches into a multidimensional approach (e.g. Allen & Meyer, 1991; Jaros et al., 1993), and some attempted to take a different angle on the issue (Larkey & Morrill, 1995). Each approach was based on a set of assumptions but an overall set of assumptions pervading the organizational commitment literature was also discerned and discussed. Further, it became clear that theoretically grounded research is required to understand the organizational commitment of knowledge workers and the mechanism that encourage it in organizations.

CHAPTER 3: EXPLANATORY MODEL

This chapter outlines the explanatory model that was developed specifically for this study and then assessed. The first section details issues regarding the model development process and subsequent sections outline the hypothesised antecedents and consequences of each of the three components of organizational commitment (discussed in Chapter 2).

The development of the explanatory model presented in this chapter was one of the core research objectives of this study because such a model demands the integration of the fragmented literature (discussed in Chapter 2), helps validate the three-component model of organizational commitment (each component should have different antecedents and outcomes), and should have practical utility for those concerned with the management of knowledge workers. Achieving this objective proved to be a challenging task, particularly with respect to determining a set of antecedents. The plethora of empirical studies concerning the antecedents of commitment was almost overwhelming and on close examination, very disappointing. Most empirical papers report on a limited set of variables, often chosen on empirical rather than theoretical grounds. The task of specifying a comprehensive yet parsimonious model was therefore particularly difficult. Not only were existing theoretical frameworks rather limited (only specifying a few variables) but after three decades of research there is still no single convention regarding the labelling and definition of commitment concepts across models. Existing

explanatory models were neither comprehensive nor free of theoretical concerns (discussed in Chapter 2). The two most prominent explanatory models (those of Allen & Meyer and Porter & Steers) were developed with reference to past empirical studies not theory and each study was limited to a few specified variables. They were further limited across sample (with North American samples predominating), time (the most influential conceptual work occurred from the early 1980s to the early 1990s), and discipline (deeply rooted in psychology with little attention to economic and sociological issues). No existing model was directly applicable to this investigation of the knowledge workers and it was therefore necessary to develop a new model and to test it.

Developing the commitment model

It was the explicit intent of this study that a “laundry list” of variables would not be presented for the sake of “getting on with the research”. It was therefore necessary to develop a theoretically grounded, comprehensive, and contextually relevant model to avoid misspecification errors in the estimation of the proposed model. Given this intent, the explanatory model presented here relies on three sources of information: (a) a critical review of the theoretical literature that pertains to commitment issues (economic, sociological, and psychological), (b) a critical review of past empirical research concerning organizational commitment, and (c) a series of focus group discussions (Chapter 4 discusses this method and the content of these focus groups) with role incumbents and their Human Resource managers. In each of these processes the subjective impact of my own personal

proclivities, sensemaking attempts, and educational conditioning needs to be acknowledged even though it is impossible to partial these effects out of this study.

The first step in the intended model development process (to critically review and integrate commitment insights from the economic, sociological and psychological literatures) proved to be particularly challenging and I therefore decided to discuss my concerns with three subject matter experts at the University of Cape Town. After discussions with these subject-matter experts, one from each of the three theoretical domains, it became clear that a multidisciplinary literature review should be conducted but that any attempt at integrating the three literatures should be abandoned for the following two reasons:

1. Specification of dependent variables: it became clear that each discipline focused on different dependent variables and that theoretical explanations were too dissimilar to allow integration across disciplines. The economics literature does not include organizational commitment (or any other affective responses to work) in its theoretical models and focuses on search and 'quit' behaviours. The sociological literature focuses on power and control issues rather than affective responses, and the psychological literature focuses on individual psychological processes and responses.
2. Interpretation of findings: Identically labelled variables are included in more than one theory from a discipline and in different theories across disciplines. A significant finding regarding a particular variable could mistakenly lend credence to all the theories that contain it. This problem is

complicated by the fact that different theories specify different intervening and outcome variables. One approach to address this problem would be to test a different model for each theory to determine the theoretical model that fitted the data best. The problem with this is that one significant variable would lend support to more than one theory and some theories specify more variables than others do. Is a theory whose two variables are tested as significant better than another that has 7 out of its 8 variables found to be significant?

Operationalizing a model derived directly from existing models would also be complicated because of the varied operational status of variables across the different theoretical models. This would have been a serious impediment to an integrative model for at least six reasons. First, some theoretical arguments remain poorly operationalized (e.g., "side-bets"). Second, identically named constructs are sometimes operationalized differently across different theoretical models (e.g., calculative commitment). Third, the parsimony, refinement, internal logic, and clarity of different commitment theories differ significantly, making it difficult to combine models. Fourth, some theories describe simple relationships; while others describe complex, interactive relationships. Fifth, some complex theoretical variables have never been operationalized (e.g., "tone of work"). Finally, this study adopted a cross-sectional design that is not suitable for the operationalization of some theories (e.g., testing expectancy theory variables requires the measurement of variables prior to organizational entry, requiring a longitudinal research design).

Given the above, I decided to refine my ambitions of developing a theoretically integrated model and rather attempted to represent salient features from different perspectives as they apply to the organizational commitment of knowledge workers. As mentioned, this meant that a literature review would not be sufficient and that it became necessary to synthesise findings derived from past empirical studies, theoretical arguments, interviews, and focus groups discussions.

The assumption that each identified discipline contributes to an understanding of organizational commitment was not compromised and variables from the economic, sociological, and psychological literatures were specified. In some cases, the propositions in this chapter contradict those established in the theoretical or empirical literature because the proposed effects reflect the unique occupational context of knowledge work. The rest of this chapter presents the explanatory model.

Antecedents of affective commitment

There is a considerable amount of theoretical and empirical research regarding the affective component of organizational commitment (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Meyer et al., 2002; Morrow & McElroy, 1993) and it is certainly the most researched component of commitment. Fortunately, comprehensive meta-analyses and narrative reviews are now available. Mathieu and Zajac's (1990) meta-analysis contains most of the empirical research published between 1967 and 1986 and Meyer et al's (2002) meta-analysis contains most of the empirical studies conducted up to and including 2001 using their three-component model of commitment. It is

important to note that this chapter has not adopted any published system (e.g. Mathieu & Zajac, 1990 or Meyer & Allen, 1997) to systematise accounts of the antecedents of affective commitment to the organization (hence ACORG). These classification schemes, none of which enjoy widespread acceptance, typically amount to little more than attempts at arranging lists of empirical research findings. An overview of the literature and focus group data resulted in the discernment of seven key themes or explanatory mechanisms for understanding the development of affective commitment to the organization. Each theme contained many related variables that were subject to conceptual review and focus group discussion to determine their importance to South African knowledge workers.

The final proposed model consisted of 18 variables, divisible into the seven distinct categories that were initially established. Each category reflects an underlying mechanism that elicits commitment from knowledge workers.

1. **Challenge:** this category includes one role stress variable: role overload, which is particularly salient for knowledge workers.
2. **Fairness:** this category includes one variable to assess perceptions regarding distributive justice within the organization and three variables to assess different forms of procedural justice within the organization (structural procedural justice, interpersonal procedural justice, and multicultural procedural justice).
3. **Self-esteem:** This category includes the self-esteem gained through participation in organizational activities (organization-based self-esteem)

and self-esteem gained through being a member of a prestigious organization.

4. **Job characteristics:** this category includes four job characteristics of importance to knowledge workers – job variety, job feedback, job autonomy, and job formalization.
5. **Leadership:** this category describes the inspirational effects of charismatic leadership and the motivational effects of management vision on knowledge workers' ACORG.
6. **Security:** this category is broadly defined to include the employees perceived sense of job security within the organization and their sense of security of ongoing reciprocity borne of their organization meeting their initial expectations when they joined it.
7. **Support:** this category includes three different aspects of support salient to knowledge workers. These include the knowledge workers' perceived sense of general support from the organization as an entity, support from management, and support for learning within the organization.

Challenge

Challenge refers to the job related stress (role stress) experienced by employees in the execution of their work activities. The psychological literature discusses different forms of role stress: role overload, role ambiguity, role conflict, and resource inadequacy (House 1980, 1981; Pearce & Porter, 1986; Price & Mueller, 1986). Two types of role stress emerged as themes in the focus group discussions: role overload (excessive workload) and resource inadequacy (inadequate resources). When probed, focus group

participants noted that role conflict (stress deriving from incompatible job demands by different people) and role ambiguity (stress deriving from unclear job expectations) were not issues that related to their ACORG and were “in the nature of the work”.

Role overload or “work overload” refers to the degree to which work role demands are high and implies that the quantity of work output required by the job is excessive (Kahn, Wolfe, Quinn, Snoek, & Rosenthal, 1964) and that it will be experienced as stressful to the individual employee (Kaufman & Beehr, 1986, 1989). Several studies have demonstrated the negative relationship between role overload and ACORG (e.g., Colarelli and Bishop, 1990; Dornstein & Matalon, 1989; Flynn & Tannenbaum 1993; Glisson & Durick, 1988; Jamal, 1990). Interestingly, focus group participants did not regard role overload as a source of stress. They noted that employees with the best skills often receive more work assignments than their peers and willingly work long hours because they enjoy what they do and appreciate the high demand for their services. Furthermore the more “hours” or “billables” they have the greater the profit for the firm and the greater their own bonus, profit-share or salary. The role of workload as a source of symbolic status within the organization and amongst peers emerged as a consistent theme across the focus groups. It is therefore proposed, contrary to the literature, that role overload is a “committing behaviour” that will be positively related to ACORG. While excessive role overload carries health risks, it became clear that role overload was experienced as a positive form of stress, or eustress (Strumpfer, 1990). Moreover, the degree of job autonomy and co-worker

support typically enjoyed by the knowledge workers may moderate the relationship between work overload and ACORG (Beehr, 1976; Brownell & Schumaker, 1984; Cohen & Wills, 1985; Karasek & Theorell, 1990; Sandler, 1980; but c.f.: Han et al., 1995; Kim, 1995; Price & Mueller, 1986).

Resource inadequacy refers to the lack of sufficient resources necessary to fulfil the responsibilities of an assigned job. The kinds of resources required by knowledge workers typically include advanced computer technologies, software, and administrative support. Colarelli and Bishop (1990) showed that resource inadequacy is negatively related to ACORG but little subsequent research has been conducted and this variable is not included in meta-analyses. Adequate resources were discussed in the focus groups but it became clear that they are considered as a hygiene factor (Herzberg, Mausner, & Synderman, 1959) a necessary condition for job satisfaction and commitment to the organization but not a direct antecedent of either.

This study therefore proposes that contrary to previous research, work overload will be positively related to ACORG amongst South African knowledge workers.

Proposition 1: work overload will be positively related to ACORG

Fairness

Fairness refers to perceptions regarding fair treatment by the organization and its members. There is no single definitive definition of fairness in the literature. This study focuses on fairness within organizations, including the social organization (Katz & Kahn, 1978; Roethlisberger &

Dickson, 1943). Fairness is conceptualized as having two basic dimensions: distributive justice and procedural justice.

Distributive justice

Distributive justice, based on equity theory (Adams, 1963, 1965; Homans, 1961), concerns the content of rewards and the fairness to which rewards and punishments relate to performance (Folger and Konovsky, 1989; Greenberg, 1987). It is not concerned with the absolute quantum of rewards but with their distribution and allocation within the organization. The relationship between distributive justice and ACORG is well established in the literature (See Meyer & Allen, 1997). ACORG is assumed to increase when employees perceive that their inputs-outputs (rewards) ratio is proportional to that of other employees (usually within the same organization) so that outputs (rewards) received are judged to be fair (Brooke et al., 1988; Dornstein & Matalon, 1989; Mueller, Boyer, Price, & Iverson, 1994; Price & Mueller, 1986). Participants in the focus groups mentioned bonuses awarded in an arbitrary or capricious manner or bonuses based on “unaccepted criteria” (e.g. seniority) as examples of low distributive justice in an organization

Procedural justice

Procedural justice focuses on how employees perceive the process of allocating rewards and the fairness of methods used to determine rewards and punishments (Folger & Konovsky, 1989; Greenberg, 1987). The relationship between procedural justice and ACORG has a short research history but the existing research shows that it has a strong relationship to

ACORG because it promotes favourable employee responses to the organization (Folger & Konovsky, 1989; Greenberg, 1986; Konovsky & Cropanzano, 1991). This effect seems to operate even when controlling for job satisfaction and tenure (Koys 1991).

There is some debate regarding the dimensionality of procedural justice and it is often divided into two components: structural procedural justice (SPJ) and interpersonal procedural justice (IPJ). The former is concerned with the nature of procedures within the organization (whether they are unbiased, consistent etc). The latter focuses on the execution of the procedures, specifically by the supervisor or manager (whether the supervisor considers employee views with respect etc). Focus group participants alluded to both aspects of procedural justice but it was unclear whether they represented two distinct constructs for them.

Procedural justice has been found to account for more explained variance in ACORG than distributive justice (Folger & Konovsky 1989; these findings were supported by Tyler, 1991 and McFarlin & Sweeney, 1992) but only one such study could be found that surveyed a professional sample (Sweeney & McFarlin, 1993, who surveyed 188 engineers).

McFarlin & Sweeney (1992) noted an interaction effect between distributive justice and procedural justice in its effect on ACORG (but c.f. Lowe & Vodanovich, 1995). Consistent with Cropanzano and Folger's (1989) application of referent cognitions theory, these interactions revealed that the combination of unfair procedures and low distributive justice produced the lowest ratings. Procedural justice tended to predict organization level

outcomes (such as ACORG) and distributive justice tended to predict personal level outcomes (such as pay satisfaction).

This study introduces a third proposed dimension of procedural justice salient to knowledge workers: multicultural procedural justice (MPJ). The limited and scattered past research on the relationship between the acceptance of multicultural diversity within organizations and ACORG implies that a lack of appreciation for diversity within an organization will result in lower levels of ACORG amongst all employees. Extant studies have examined the relationship between diversity and ACORG amongst the following groups: women (Shaffer, Joplin, et al., 2000; Kay & Hagan, 1999; Tziner & Murphy, 1999), Hispanic workers in the US (Sanchez & Brock, 1996), "minority" workers in Canada (Burke, 1991), older workers in Australia (Orpen, 1995), and 'closeted' gay employees in the US (Day & Schoenrade, 2000). These studies indicate the importance of studying acceptance of diversity as an aspect of procedural justice and the fact that it is under-researched.

In contrast to the scant mention of effective diversity management in the literature, focus group participants mentioned it as an important aspect of procedural justice. Participants said that they "wanted to feel that we belong to a progressive organization" that embraced diversity. The strength of this relationship may be peculiar to highly educated employees: Morris, Shinn, and DuMont (1999) did not find any direct setting-level effects for sensitivity to diversity on ACORG amongst US police officers but Shafer, Park, et al. (2002) did find significant effects amongst accountants. In a related study,

Enscher, Grant-Vallone, and Donaldson (2001) found that perceived discrimination at the organizational level related to ACORG even after controlling for social desirability effects. Of course, the relationship between diversity management and ACORG may be particularly salient in the South African context with its legacy of apartheid. Interestingly, ACORG has been presented as one of the most important business reasons for effective diversity management (Kirby & Richard, 2000).

Proposition 2: Fairness as expressed in perceptions of Distributive Justice and three forms of procedural justice (Interpersonal Procedural Justice, Structural Procedural Justice, and Multicultural Procedural Justice) will be positively related to ACORG

Esteem

Self-esteem at work refers to the individual employee's perception of their influence, autonomy, and competence at work (Hackman & Oldham, 1975; Marsh & Mannari, 1977; Seeman, 1975). In this study, esteem is defined as having two distinct dimensions: organization based self-esteem (self-esteem gained through feeling valuable to the organization and its members) and perceived organizational prestige (self-esteem gained through being a member of a prestigious organization).

Organization based self-esteem (OBSE)

Organization based self-esteem (OBSE) reflects an employee's perception of "personal adequacy and worthiness as an organizational member" (Gardner & Pierce, 1998, p. 50). Knowledge workers with a high level of OBSE believe that they are trusted, valued, contributing organization members (Pierce, Gardner, Dunham, & Cummings, 1993; Gardner & Pierce, 1998). OBSE is particularly relevant for knowledge workers as they typically

work with great job autonomy in a context of few bureaucratic controls, and the need for rapid adaptation to changing circumstances (Gardner & Pierce, 1998; Pierce et al., 1993). OBSE is increasingly considered as essential for people-driven competitive strategies (Lawler, 1992, Pfeffer, 1998), particularly in times of turbulence and change (Hui & Lee, 2000; Spreitzer & Quinn, 1996).

With OBSE, the knowledge worker's gains self-esteem through work activity. This is consistent with Ajzen and Fishbein's (1977; Ajzen, 1989) principle of compatibility which requires the appropriate contextualization of an attitude to ensure effective prediction (See also Pierce et al, 1989). The organization becomes the proximal source of self-esteem through the mechanism by which work activities resulting in feedback that strengthens perceptions of personal competency increase self-esteem (Gardner and Pierce, 1998). Employees respond to OBSE internalising the need satisfying organization into their personal life and accepting its vision and goals (Pierce et al., 1989), increasing their ACORG. Though empirical evidence is limited, both Tang & Gilbert (1994) and Pierce and his colleagues (Pierce et al., 1989, 1993; Gardner & Pierce, 1998) have consistently found that OBSE is significantly related to ACORG.

Organizational prestige

Perceived organizational prestige refers to the employee's view of outsider's beliefs and in this study the term is used to denote the way that knowledge workers perceive that outsiders assess their organization's reputation. It should not be confused with organizational reputation, which

denotes outsiders' beliefs about the organization. The effect of the perceived organizational prestige on commitment has been examined in only two studies (Bergami & Bagozzi, 2000; Carmeli & Freund, 2002) but several studies in the organizational identification literature suggest the link (See Dutton, Dukerich, & Harquail, 1994) . Focus group participants stressed organizational prestige as an important antecedent (rather than outcome) of commitment. Accountants tended to emphasise the importance of getting a job with a "happening" or "Big 4 firm" and noted how this "sets you up...with the best clients...the best resources". Perceived organizational prestige therefore seems to be a summary variable of the organization's status, market position, and perceived future success. Prestige is an intangible asset and strategic resource. Knowledge workers want to be associated with leading firms to improve their future career paths, maximise their learning of new skills, and gain access to top clients. A more important consideration for those in prestigious organizations was that leaving the employ of their organization would entail a loss of personal standing derived from their membership of the organization.

Proposition 3: Esteem experienced through organization based self-esteem and perceived organizational prestige will be positively related to ACORG for knowledge workers in knowledge-based organizations

Job characteristics

Job structure, frequently mentioned in sociological research (See Kallenberg & Sorensen, 1979), refers to the elements of a particular job in which the job is designed. Four aspects of job structure are included in the

proposed model: job variety, job feedback, job formalization, and job autonomy.

Job feedback informs job incumbents about the effectiveness of their performance and helps them set goals and assess when goals are achieved (Colarelli, Dean, & Konstans, 1987). Very little research has been conducted on the relationship between job feedback and ACORG. Colarelli et al. (1987) found that job feedback significantly added to understanding the variance of ACORG in their sample of 280 entry-level accountants. Feedback was a minor but consistent theme across the focus group discussions. High levels of intrinsic motivation could moderate the relationship between job feedback and ACORG (See the meta-analysis by Eby, Freeman, et al. 1999).

Job formalization is a structural characteristic of a job and refers to the degree that rules, procedures, instructions, and the like about the job are in a written form (Hackman & Oldham, 1981). Job formalization is thought to allow organizations to control employee activity without the appearance of coercion (Lincoln & Kalleberg, 1985, 1990) but this was not the way that it was understood by the knowledge workers in this study who saw it as a form of “protection”. Formalization was particularly salient for focus group participants working in the accounting profession and the formalization of procedures was clearly manifest in their organizations through elaborate documentation that attempted to standardise certain written outputs. Contrary to expectations, the participants welcomed formalization as “part of the nature of the job”, and a “defence against legal liability...”.

Job autonomy refers to power over job activities (freedom, independence, and discretion in scheduling work and determining methods to effect work; See Halaby & Weakliem, 1989). There is extensive support in the literature for a positive relationship between job autonomy and ACORG (Brooke, Russell & Price, 1988; Dornstein & Metalon, 1989, Flynn & Tannenbaum 1993, Kalleberg & Mastekaasa, 1994; Kalleberg & Reeve, 1992; Mathieu & Zajac, 1990; Mottaz, 1988, 1989; Wallace, 1995a). Focus group participants noted job autonomy as “obviously very important” to them. Perceptions of personal competence to work without supervision may interact with perceptions of job autonomy, strengthening its effect on ACORG. At first blush the importance accorded to job autonomy may seem to contradict the importance accorded to job formalization but this did not seem trouble the focus group participants who described the difference between “a clear idea about end results...basic rules about process” and “freedom in getting there”.

Job variety (often referred to by its inverse: job routinization) is the degree to which jobs have variety and refers to the nature of the transformation process within the organization (Cotton & Tuttle, 1986; Hackman & Oldham 1975; Perrow, 1967; Porter & Steers, 1973). A positive relationship between job variety and affective commitment to the organization is strongly supported by the literature (Blegen, Mueller, & Price, 1988, Brooke et al., 1988; Mathieu & Zajac, 1990). Knowledge work is not often associated with routine, repetitive tasks but focus group participants noted that their work often included aspects of routine. This may merely involve the need to operate, write within narrow strictures of language and protocol, reviewing

documents, making presentations repeatedly, proof-reading, and “bug-fixing”. Job variety was regarded as important by all focus group participants and was proffered as an antecedent of affective commitment.

The job characteristic of participation in decision-making is not included in the proposed model. Participation in decision-making refers to the extent of power (or influence) exercised over other employees, policy, and staff matters (Robbins, 2003). Both focus group participants and their HR managers noted that knowledge workers were not concerned about participation and that participation is not highly regarded unless the individual knowledge worker is affected. In any such case, there is an assumption that the individual knowledge worker will be consulted before the change is made. The exclusion of executive managers and senior partners (for whom participation would probably be important) from the research sample may also explain this finding.

Proposition 4: Job characteristics (Job Autonomy, Job Formalization, Job Variety, and Job Feedback) will relate positively to ACORG

Leadership

Effective leadership has increasingly been associated with approaches labelled “charismatic” (Conger and Kanungo 1987, 1998; Waldman & Yammarino 1999), “transformational” (Bass 1985; Tichy & Devanna 1986), and “visionary” (Bennis & Nanus 1985; Sashkin 1988). House and Shamir (1993) contested that there are few differences between these theories. This is highly debatable (which debate is beyond the scope of this study) but all three leadership approaches share the view that effective leaders can make a substantial emotional impact on employees, elevating

the employees' self-image and self-confidence, and arousing their emotional connection the leader's espoused values and thereby to the collective (organization). In other words, "strong" leaders' create strong ACORG amongst employees by connecting organizational goals, intellectually and emotionally, to employees' personal goals (Bass 1985; Conger and Kanungo 1998; House & Shamir, 1993). Charismatic leadership theory is rooted in the work of Weber (1946/1958), but currently emphasises behavioural components thereby generalising its application to more people (Conger, 1999) than those described by Weber (1946/1958) as having supernatural "gifts of the body and spirit" (p.245). Three behaviours are associated with charismatic leaders: (a) articulating a future vision; (b) building commitment to the vision; and (c) challenging and encouraging followers (Bycio, Hackett, & Allen, 1995; Masi & Cooke, 2000, Yukl, 2002), and these may be regarded as a subset of transformational leadership (e.g. Bass, 1985). Of course, charismatic leaders must be perceived to act in a manner consistent with the articulated vision and model appropriate behaviours for attaining the articulated vision even if that includes unconventional behaviour (Bass 1985; Conger & Kanungo 1998; House & Shamir, 1993; Martin and Siehl 1983; Yukl 2002) or self-sacrifice (Conger & Kanungo 1998; Shamir et al., 1998; Yukl 2002).

The positive effects of charismatic leadership on ACORG can be found in the literature (Koh, Steers, & Terborg, 1995; Niehoff et al., 1990; Podsakoff et al., 1996; Rai & Sinha, 2000). Bycio et al. (1995) found that articulating vision was the leadership behaviour that correlated the most with

ACORG, a finding confirmed in several organizational settings (Kane & Tremble, 2000) but which has still to be confirmed amongst knowledge workers.

Van Muijen, den Hartog, and Koopman (1997) found that a generally supportive organizational environment enhances the strength of association of leadership with commitment. Waldman, Ramirez and House (2001) and Waldman and Yammarino (1999) found that the effects of charismatic leadership became particularly strong during times of uncertainty, such as that facing many of the knowledge workers in the IT industry during this study. Viator (2001) found a positive relationship between charismatic leadership and ACORG (but not CCORG) in a sample of accounting professionals.

Focus group participants emphasised the behaviour of articulating a vision but noted that this could be done by the Chief Executive or by their immediate manager. This study therefore considers both these levels. Analysis of the focus group discussions revealed two leadership sub-themes. The first concerned the “charismatic nature” of the Chief Executive and the second concerned the “vision” articulated by the Chief Executive or immediate manager. Levin (2000) definition of organizational vision (often confused with similar constructs such as mission, philosophy and values, strategy, and goals) as a descriptive story woven by the leader, of a desired future seems to accurately reflect the meaning of vision held by focus group participants.

Proposition 5: Leadership (with the presence of a charismatic leader and a clearly articulated vision) will be positively related to ACORG

Security

This category consists of two different factors that influence the knowledge worker's sense of security within an organization. The first is the sense that initial expectations were met by the organization. The first is the sense that such that the organization is "trustworthy" (focus group participants noted that organizations sometimes made "vain promises" to attract talent but did not "walk the talk" when they "signed on") and the second is the sense of job security.

Met expectations

"Met expectations", the commonly used term to describe the degree to which employees' preconceived ideas about organizational life are met on entering the organization, has long been held to lead to increased levels of affective commitment (Mowday et al., 1982; Porter & Steers, 1973; Steers & Mowday, 1981). Wanous, Poland, Premack and Davis (1992) in a large meta-analysis (31 studies on 17242 people) found a significant corrected mean correlation of .39 between met expectations and commitment. Met expectations were mentioned in the focus group discussions as an antecedent of both ACORG and NCORG. Met expectations seemed to relate to the primary social exchange mechanism that explains the development of ACORG and NCORG. It is the only variable included in both the ACORG and NCORG models because it is an example of reciprocal social exchange that relates to both components of commitment, albeit in different ways.

Job security

Job security is the subjective appraisal of the risk and consequences of job loss to the extent that the employing organization is expected to provide continuing employment for its employees. It is an important aspect of the internal labour market within an organization (Althausen & Kalleberg, 1981; Doeringer & Piore, 1971) and has been found to be positively related to organizational commitment (Gaertner & Nollen, 1989), probably by representing a form of reward (Doeringer & Piore, 1971; Hodson & Kaufman, 1982) or a general sense of support. Similarly, job insecurity has been found to related negatively to organizational commitment amongst groups of teachers (Rosenblatt & Ruvio, 1996). Hartley, Jacobson, Klandermans and van Vuuren (1991) found that fears about job security were significantly negatively associated with organizational commitment but that reactions to job insecurity differed between employees. These reactions were based on individual employee's attributions about the causes of their job insecurity and their assessment regarding the possible future outcome of any consequent action (Hartley et al, 1991). Several focus group respondents cited job security as a commitment to them as employees (particularly in a difficult labour market) but many others did not regard it as important. That is, job security was important for some participants across different sectors and occupations but largely irrelevant for others (secure in the perceived scarcity and transferability of their skills). In the initial focus groups, job security was of greatest concern to white participants, many of whom believed that employment equity legislation would "destroy" their careers. Organizational

history was also an important factor regarding job insecurity. The employees in one participating organization that had recently completed a major downsizing exercise (after a share price collapse consequent to the global “dot.com bust” with its rapid fall in the valuations of technology stocks) were very sensitive to this issue and spoke at length about their fears. In sum, it appeared that job security for the knowledge workers in this study was not a universal concern and its salience was strongly related to the employee's perceived occupational and organizational context. It was therefore not expected to be an important antecedent across the whole sample. It was included in the explanatory model because of its great importance to some focus group participants and the suspicion that many other respondents were reluctant to articulate their job insecurity in the group context of the focus group. Abegglen (1958) maintained that the high commitment level of Japanese workers was due to a strong sense of job security, which originates from Japanese employment arrangements, such as lifetime employment and the seniority system. Iverson (1996) reported that increases in job security lead to greater organizational commitment. Rosenblatt and Ruvio (1996) also studied the effect of job insecurity on work attitudes. Results indicated that job insecurity had an adverse effect on organizational commitment and perceived performance. One could argue that the more individuals are satisfied with job security the more they will be committed to their organizations. This hypothesis finds support in the literature (e.g., Ashford *et al.*, 1989; Bhuian and Islam, 1996; Iverson, 1996; Rosenblatt and Ruvio, 1996).

Proposition 6: Perceived job security and met expectations will leads to higher levels of ACORG and help explain levels of ACORG amongst knowledge workers

Support

Support in organizations can be divided into three types: support from the organization, personal support, and support for learning. The first two are well-established constructs whereas the latter arose in the focus group discussions and is introduced in this study. Perceived Organizational Support (POS) has been extensively researched in the commitment literature and seemed to be particularly important to focus group participants in this study.

Perceived Organizational Support

Perceived organizational support (POS) refers to employees' "global beliefs concerning the extent to which the organization values general contributions and cares about their well-being" (Eisenberger, Huntington, Hutchison, & Sowa, 1986, p. 51). It is an individual-level phenomenon, representing the perceived individualised receipt of support from an organization (support for the "me" in the organization). It could also be described as "the commitment that the organization has to me" (as it was described by one focus group participant from the IT industry).

Perceived Organizational Support (POS) has been shown to have a strong effect on the reciprocal commitment of the employee to the organization (Bishop, Scott, & Burroughs, 2000; Eisenberger, Fasolo, & Davis, 1990; Eisenberger et al., 1986; Rhoades, Eisenberger & Armeli, 2001). Settoon et al. (1996) found that ACORG mediated the relationships between support and several outcome variables. Hutchison & Garstka (1996)

found that POS mediated the relationship between goal setting and organizational commitment. Cheung (2000) noting the dearth of commitment research outside North America and Europe, found a strong positive reciprocal relationship between POS and ACORG amongst “high-tech” IT employees in Taiwan. He concluded that the same exchange mechanism explained this relationship as that found in Euro-American studies.

Social support

Personal support, the internal social support received from other organizational members (e.g. co-workers and managers) was not proposed as a general antecedent of ACORG in this study. However, several studies have evidenced that management support and co-worker support relate significantly to ACORG (Darden, Hampton, & Howell, 1989; Dornstein & Matalon, 1989; Huslid & Day, 1991; Mathieu & Zajac, 1990; Meyer & Allen, 1988, Mottaz, 1988, 1989; Qiangtu, Bhanuragunathan, & Rangunathan, 2001; Wallace, 1995a; Zacaro & Dobins, 1989) and this was therefore carefully examined. Focus group participants noted that though co-worker support was an important aspect of their working life it did not foster greater ACORG. All the organizations that participated in this study encouraged fraternization amongst their knowledge workers through mechanisms such as dinners, barbecues or “braais”, soccer matches, after-hours drinks, or group activities (go-kart racing etc). Focus group participants were very positive about these activities and surprisingly few expressions of cynicism were presented. Similarly, team cohesion, the sense of cohesion amongst members of a particular work group (including the sense that team members will work

together, can depend on one another, and will stand up for one another) was not proposed as an antecedent of ACORG in this study. Team cohesion was an important theme in the focus groups but on further examination it became clear that although important for knowledge workers it should not be considered an antecedent of ACORG. Previous studies have investigated the effects of cohesion on ACORG in various groups (Griffith & Greenlees, 1993 and Martin & O'Laughlin, 1984, amongst military personnel; Latham & Lichtman 1984, amongst small church groups; Iverson & Roy, 1994, amongst blue-collar workers) but the results of these studies are mixed and, in any event, the groups investigated cannot be compared to knowledge workers. It may also be argued that this factor is particularly salient to knowledge workers in that the complexity of their work may require cooperation from others and include the appreciation that colleagues can be depended on in times of need but not that this fosters ACORG.

The costs of leaving an organization are not only financial and physical ones, but also psychological. If an employee moves to another organization then their set of social relationships will be disrupted and they will need to expend energy on making new friends and associates (Becker, 1964). Leaving the organization may also mean losing social support from supervisors and co-workers (Brownell & Shumaker, 1984; Heller & Mansbach, 1984; Mitchell, Billings, & Moos, 1982; Sarason, Levine, Basham, & Sarason, 1983) that may have served as important sources of social support, further increasing the costs of making new social relationships. For these reasons, it is proposed that the potential loss of support from co-

workers and immediate managers will not explain any more of the variance in continuance commitment than other variables in the CCORG model.

It should be noted that the proposed model in this study does not include aggregate measures of social support from multiple sources but only considered proximal sources of support within the organization. Support from parents, friends and spouse are measures of social relationships and cannot be assumed to be measures of organization-based social relationships (Cohen & McKay, 1984; Ganster, Fusilier, & Mayes, 1986; Heller & Swindle, 1983). Indeed, support from parents, friends and a spouse may even lead to decreased ACORG because the employee may rely on such support to support their decision to leave the organization. Moreover, parents, friends, and spouses may actively encourage the knowledge worker to leave an organization that seems to foment stress or unhappiness.

Several focus group participants mentioned the importance of management support and how the presence of a supportive manager increases their sense of affective commitment to the organization. It was therefore decided to separate out management support as a form of social support within an organization and include it as part of the ACORG model (given its support in the literature and its support by focus group participants), without the element of co-worker support.

Positive learning environment

A third element of perceived organizational support that is not emphasised in current measures of the construct but that was of particular importance to many focus group participants was the support the

organization provided them by creating a positive learning environment. The learning environment within the organization emerged as an important theme within the focus group discussions. Participants referred to general opportunities for self-development and learning that they “received from” the organization and that they “gained” from continued participation in organizational life. *Learning Environment* is introduced in this study as an antecedent of ACORG. Examining the organizational learning environment as an antecedent of ACORG is a distinctive feature of this study but it does resonate with the tone of the emerging literature on organizational learning and previous empirical studies on related issues. For example, Tannenbaum, Mathieu, Salas, and Cannon (1991) found that “training fulfilment” was positively related to post-training organizational commitment. Shouksmith (1994) found that “opportunity for growth” was significantly related to all three components of commitment, including ACORG.

Proposition 7: Support experienced as perceived support from the organization as an entity, from managers, and from the creation of an organizational environment that supports learning will be positively related to the level of ACORG amongst knowledge workers employed in that organization

Variables excluded from the ACORG model

Two variables that were mentioned in the focus groups (one of which features prominently in the literature) were not included in the proposed ACORG model. These are promotional opportunities within the organization and assignment to work with important clients. Both relate specifically to accountants within auditing firms and were not appropriate for inclusion in the general model of ACORG developed in this study. Nevertheless, given potential importance in future studies, the prominence of the “promotional

opportunity” variable in the literature, and the fact that some participants mentioned them, both will be considered in turn.

Promotional Opportunity

Promotional Opportunity represents internal labour market opportunities and refers to the perceived possibility of “an upward movement within the organization’s hierarchy of authority that is formally defined and recognized as such” (Medsker & Berger, 1990, p.5). Internal opportunity is the term used by economic structuralists to describe the perceived possibility of promotion within the organization (Althausser & Kalleberg, 1981; Lincoln and Kalleberg, 1990) but their focus is limited to examining the operation of internal labour markets in securing retention, not commitment. The positive relationship between promotional opportunity (the preferred term in the psychological literature) and organizational commitment is well established in the literature (Gaertner & Nollen, 1989; Huslid & Day, 1991; Kalleberg & Mastekaasa, 1994; Kalleberg & Reeve, 1992; Loscocco, 1990; Mottaz, 1988; O’Reilly & Caldwell, 1980; Price & Mueller, 1986; Wallace, 1995a; Wallace, 1995b; Zaccaro & Dobbins, 1989). This can be explained by its function as a future reward that requires reciprocation (Mobley, 1982; Mobley, Griffith, Hand & Meglino, 1979). However, the importance of internal opportunity for knowledge workers is likely to differ depending on the organizational context of their employment. For example, focus group participants from auditing firms commented that promotion from manager, to senior manager, to associate, to partner within an auditing firm connotes not only positional progression but also significant career movement that is different from merely

moving from one position to another (as it has with Canadian lawyers in Wallace, 1995a). If promotional opportunity is a significant predictor of ACORG then two potential moderating factors are worthy of investigation: perceived legitimacy of promotional criteria (LPC) personality factors such as personal needs for power with promotional opportunity in its effect on ACORG also requires investigation. Legitimacy of promotional criteria is an aspect of overall legitimacy, the degree to which employees accept the authority structure of the organization, and is emphasised by sociologists (Halaby, 1986; Halaby & Weakliem, 1989; Lincoln & Kalleberg, 1990, Wallace, 1995a). Legitimacy of promotional criteria was the only aspect of legitimacy that resonated with focus group participants (it was only discussed by accountants) who noted that promotional criteria should be based on "legitimate" criteria such as performance and knowledge rather than favouritism or seniority. Legitimate promotional criteria seemed particularly important for focus group participants employed as accountants in auditing firms given the importance of career progress in that professional context. There was animosity about external hiring decisions in the auditing firms as it violates the ethic of internal promotion, especially if their pay is rumoured to "exceed the scale". Wallace (1995b) noted how corporatist law firms in Canada sought to maximise employees' commitment by boosting the perceived legitimacy of the authority system. The importance of perceived legitimacy has also been found in diverse contexts from professional dental practices (Mueller, Boyer, Price, & Iverson, 1994) to social movements (Barkan, Cohn, & Whitaker, 1993). Promotional opportunities was not of any

importance to many of the knowledge workers who participated in the focus groups. In fact, it was completely redundant issues to many whom were employed by organizations with “flat” organizational structures (few hierarchical levels) and it is therefore not included in the ACORG model in this study. Researchers investigating the organizational commitment of accountants within auditing firms would be advised to investigate the explanatory power of promotional opportunities.

Assignment to important clients

Assignment to work with important clients (clients that are large and prestigious) can be an important antecedent of ACORG because leaving an organization also means leaving the clients that that firm services and the interesting and/or significant projects that they are involved in. There is no direct evidence in the literature that the clients of an organization will affect the commitment relationship of the employed knowledge worker. Nevertheless, this factor emerged as a strong theme in focus group discussions amongst accountants in auditing firms. Perhaps the small size of the South African economy relative to the economy in which most commitment research is located (North America), makes this an antecedent unique to knowledge workers living in developing economies. On probing this issue within the focus groups, it became clear that working with large clients was perceived as important for career enhancement and personal self-development for South African accountants but that this was not a general variable that would help explain the affective commitment of South African knowledge workers.

Antecedents of continuance commitment

In Chapter 2, the accumulation of side-bets was discussed as the primary mechanism for the development of continuance commitment. Because of the complex and all-embracing nature of side-bets, researchers have tended to use proxy variables (especially age and tenure) as indicators of side bets (rather than trying to develop a measure assessing side-bets directly) on the assumption that side-bets will accumulate over time (Alutto, Hrebiniak & Alonso, 1973; Drummond & Chell 2001; Sheldon, 1971; Ritzer & Trice, 1969). Studies have been interpreted either as supporting or as not supporting Becker's side-bet theory (discussed in Chapter 2) based on the relationship of age and/or tenure with continuance commitment (Abdulla & Shaw, 1999; Lynn, Cao, & Horn, 1996; Shore, Barksdale, & Shore, 1995). Cohen & Lowenberg (1990) conducted a meta-analysis that examined correlation data from 50 published studies. The meta-analysis evidenced that 11 side-bet variables had weak relationships (low population correlations) with the commitment variables. For most of the side-bet variables, no meaningful or generalizable relationships were found. It was concluded that there was little empirical support for the side-bet theory but that this lack of empirical support may be explained by severe limitations in past research, both in terms of measuring commitment and the strategies used to test the side-bet model. Alternatively, they submitted that if these methodological problems were not at fault then the side-bet theory should be abandoned. Cohen and Lowenberg's (1990) meta-analysis should be treated with

caution, however, as it did not investigate the relationship of the side-bet variables to continuance commitment as defined in this study.

Meyer et al's (2002) meta-analysis evidenced that demographic variables play a minor role in the development of continuance commitment (or any other form of commitment). This finding extends that in Mathieu and Zajac's (1990) meta-analysis and therefore presents a compelling argument, based on three meta-analyses, that has not been heeded by researchers.

In sum, "it is time to resurrect Becker's side-bet theory of commitment" (Wallace, 1997, p.727) but his theory should be subjected to tests that employ more valid and direct measures of the side-bet variables, using measures of continuance commitment rather than affective commitment (Walker, 1997).

In any event, it is not a good strategy to use demographic variables such as age and tenure as determinants of continuance commitment. They do not indicate what it is that produces variation in continuance commitment because they are related not only to side bets but also to a great many other theoretical variables (Mottaz, 1988; Price, 1995). In addition to this, demographic variables have low validity as measures of theoretical variables (Price, 1995). For example, Meyer and Allen (1984) noted that employees who acquire transferable skills during their long tenure ought to be in a better position to move to other organizations than young and thus less experienced employees are. From this, they concluded that age and tenure should not be included as determinants of continuance commitment.

Given the all-embracing nature of side bets, it seems more appropriate to identify their constituent factors and examine them as antecedents of CCORG rather than to treat side bets as a unidimensional concept. Following this strategy, this study (based on the literature, interviews, and focus group discussions) proposes that the following side-bets will be of importance to knowledge workers: (a) perceived loss of self-investments; (b) lack of transferable skills (skill transferability); (c) loss of social relationships; (d) kinship responsibility; and (e) the loss of work relationships with important and exciting clients of the organization. Each of these are costs associated with leaving the organization and are therefore associated with CCORG, as defined in this study. Each of these variables will be discussed in turn. The antecedents of CCORG were not readily forthcoming from focus group participants. This may have been due to their reluctance to admit that they were “stuck” in the organization because they had few alternatives, unmarketable skills, or side-bets, as discussed in Chapter 2.

Self-investment

Self-investment is the amount of personal resources used by an employee for organizational success (effort, energy, and time), from which the employee would derive no benefit if they left the organization. It is one of many possible side bets. Past research has relied on self-reports regarding self-investment as it is not possible to assess the self-investment that each individual has made in an organization because perceived self-investment is probably very specific to each individual employee. The general measure of self-investment used in surveys should therefore be treated with caution and

probably underestimates the relationship between side-bets and continuance commitment, which typically show insignificant correlation with continuance commitment (Allen & Meyer, 1990). Self-investment is included in this study with great caution and the suggestion that advances in the side-bet theory and its operationalization be pursued.

Proposition 8: Self-investment will be positively related to CCORG

Skill transferability

Skill transferability indicates the amount of human capital (productive resources) possessed by an employee (acquired through on-the-job training, schooling, and the like) that can be transferred and applied in another organization. Enhanced human capital implies the enhanced market value of the employee and human capital economists have championed this variable as an important determinant of wages (Becker, 1964) and turnover (Parsons, 1972, 1977).

Human capital theory suggests that employees with firm-specific training (that has little value to other firms) will be valued more by their employers and are more likely to stay with them. Similarly, those with high levels of human capital would be less committed to the organization (more likely to search for another job).

Becker (1960) suggested that the lack of transferable skills increased the costs of leaving an organization because it makes it difficult for employees to find alternative jobs. Focus group participants discussed investments in their training and development as antecedent to commitment (as opposed to the notion that firm-specific training that is not easily

transferable between firms will increase continuance commitment, whereas general training will decrease it). Focus group participants interpreted training, especially in transferable skills as evidence of organizational support that they may not receive in another organization.

General skills training is typical of the training that knowledge workers receive either because of industry wide standards (common in the IT industry), common professional examinations (for example, the Bar examination for accounting professionals), or the nature of their work. Even those knowledge workers that had worked in one organization for a long time using proprietary procedures or programmes reported that few proprietary programmes have no transferable skills value. For example, the accountants explained that though programmes and approaches differed between firms, the basic system of practice was essentially the same and that it was relatively easy to fit into another system (c.f. Abbott, 1988). Several firms may need specialised skills developed through specialized training that can be accumulated over time (c.f. Halaby, 1988). For example, an expert in pension fund audits trained to use proprietary auditing technology can perform pension fund audits for any auditing firm even if required to use a different system. Nevertheless, Halaby (1988) noted that perceptions of skill transferability are affected by tenure, particularly for employees with over seven years of organizational tenure. This effect was not investigated in this study, especially since very few focus group participants had more than 7 years of tenure.

The importance of educational qualifications as a token of accumulated human capital differs between the groups of knowledge workers that participated in the focus groups. Amongst accountants there was a clear distinction between those who are chartered (passed the Board exams and an internship) and those who are not. Amongst IT knowledge workers, it is more difficult to differentiate between employees, and the importance of qualifications depends on the nature of their work, with few high-end signifiers of human capital accumulation.

Proposition 9: Perceptions that skills are transferable to other organizations will lead to decreased levels of CCORG, and this relationship will be particularly strong for knowledge workers with over seven years tenure.

Job alternatives

Becker (1960) suggested that the perceived lack of external job opportunities increases the perceived cost of leaving the organization, increasing continuance commitment. Recent empirical research supports this contention (Allen & Meyer, 1990; Farrell & Rusbult, 1981; Rusbult & Farrell, 1983). Simply put, any employee would feel that the costs of them leaving their employing organization would be higher if there were few job alternatives available for them. Focus group participants, who noted the diminishing number of job alternatives for them, said that the lack of job alternatives (particularly in Cape Town) significantly influenced their decision to leave the organization.

Proposition 10: Perceived lack of job alternative will be positively related to CCORG

Kinship responsibility

Kinship responsibility refers to the existence of obligations to relatives residing in the community. This variable comes from researchers (Blegen et al., 1988) concerned about its role in explaining turnover. Becker (1960) discussed how leaving an organization could cause discomfort as it may involve moving house or even just packing and moving furniture and personal effects. This implies that kinship responsibility may be an antecedent of continuance commitment because leaving the organization will increase the risk of disrupting kinship relationships (Steers & Mowday, 1981). This may be particularly important for women, who often still bear the brunt of home responsibilities. Female participants in the focus groups mentioned that great family responsibilities could lead to lower commitment if work started “encroaching too much” on family time. Several female focus group participants across different focus groups stated that they would be tempted to change jobs if another organization offered them much better child-care facilities and support (See also Goldberg, Greenberger, Koch, & O’Neil, 1989) but this cannot be interpreted as denoting a relationship between kinship responsibilities and CCORG. The South African context of this study was also relevant in deciding to omit kinship responsibility as an antecedent of CCORG in this study because many families, across all but the poorest income bands, employ domestic workers and nannies in South Africa.

Antecedents of normative commitment

Normative Commitment is the least researched and most contested component of the three-component model of organizational commitment. The

theoretical literature offers few suggestions regarding possible antecedents of NCORG but suggests two mechanisms that drive NCORG. Chapter 2 discussed these two basic mechanisms: the norm of loyalty (commitment norm) and the norm of reciprocity. Each of these provides the researcher with hints regarding possible antecedents of NCORG amongst knowledge workers. Focus group participants did mention issues relating to both norms but neither emerged as strong themes in the focus group discussions, with participants generally minimising discussions regarding NCORG. This necessitated examining each norm in detail and extrapolating possible antecedents that seemed to accord with the lived reality of knowledge workers.

The norm of reciprocity suggests antecedents that engender an obligation to reciprocate the receipt of rewards from the organization, whatever form these rewards may take, whether material or psychological (Scholl, 1981). It implies that knowledge workers in receipt of rewards from the organization will respond with commitment to the organization. Scholl (1981) noted that only rewards that extended beyond what was expected from any organization would engender a moral obligation to reciprocate with NCORG and therefore lead to higher levels of NCORG. Of course, these unexpected rewards may be very individual or even idiosyncratic for particular knowledge workers. Dunham et al. (1994) argued that that expected rewards, though weaker in effect than unexpected rewards, may still instil a sense of obligation to reciprocate with commitment to the organization. It was therefore necessary to re-examine the focus group

transcripts, speak to HR managers and re-evaluate the literature on normative commitment to propose variables likely to impact on NCORG.

If NCORG is based on the internalization of normative beliefs that emphasise the importance of loyalty to an organization (Weiner, 1982) then the roots of this internalization may be remote from the organization (family, culture) or directly affected by it (socialization processes for new employees or continuation socialization such as regular, arranged social activities). See Taormina (1999) who showed that socialization has a greater effect on ACORG than demographic variables. This study is not concerned with distal influences on knowledge workers (e.g., family socialization) but with immediate antecedents of NCORG in the organization), including their total set of socialized loyalty beliefs. The operationalization of this distinctive term, introduced in this dissertation (See scale in Appendix B), was based on the scale development work by Meyer and Allen (1991) on their early socialization-based conceptualizations of normative commitment (Meyer & Allen, 1991) and their later work regarding normative beliefs and commitment norms as antecedents of NCORG (Meyer & Allen, 1997).

Proposition 11: Socialized loyalty will lead to greater NCORG

Met expectations

“Met expectations”, the commonly used term to describe the degree to which employees' preconceived ideas about organizational life are met on entering the organization, has long been held to lead to increased levels of commitment (Mowday et al.; 1982, Porter & Steers, 1973; Steers & Mowday, 1981). Wanous, Poland, Premack and Davis (1992) in a large meta-analysis

(31 studies on 17242 people) found a significant corrected mean correlation of .39 between met expectations and commitment. Zaccaro & Dobbins (1989) showed that there were significant differences in the perceived met expectations between genders. On closer examination, however, the mean correlations had significant between-studies variance and if a strict definition of met expectations was adopted then a subset of studies that had nonsignificant between-studies variance for the correlation emerged. The mean correlations in these subgroups were very similar to those for the entire group. Wanous, Poland, Premack, & Davis (1992) suggested that future research consider the direction of the met expectations discrepancy (i.e., over- vs. under-fulfilment). Focus group participants considered met expectations as an antecedent of both NCORG and ACORG. This seems appropriate and it is easy to account for the above finding because measures of ACORG and NCORG tend to overlap significantly (Meyer & Allen, 1997). The effects of met expectations are expected to wane over time (due to memory limitations, memory biases and the like) and in any event not last more than two years after organizational entry.

Proposition 12: there will be a positive relationship between met expectations and NCORG and this relationship will be stronger amongst knowledge workers with less than 2 years tenure

Correlates of organizational commitment

This section discusses variables proposed to be correlates of organization commitment in the determination of turnover intentions. There is no consensus regarding the causal relationship of these variables with any of the three components of commitment and they are typically treated as

correlates of ACORG (Mathieu & Zajac, 1990; Meyer et al., 2002). Three correlates of organizational commitment will be examined in this study: job satisfaction, work motivation (job involvement), and occupational commitment. Each of these variables is affective in tone and are probably most strongly related to ACORG (Meyer et al., 2002). They require examination because of their possible impact on important organizational outcomes. It is proposed that work motivation, intrinsic job satisfaction, and occupational commitment (affective commitment to the profession) are correlates of organizational commitment that help explain additional variance in the turnover intentions of knowledge workers in South Africa.

Work motivation – job involvement

Work motivation refers to the belief in the centrality of the work role in one's life and is discussed by McClelland and his colleagues (McClelland, Atkinson, Clark, and Lowell, 1953). Kanungo and his colleagues (Kanungo, 1982) used the term work involvement but did not measure the construct as an individual self-perception. Other material pertinent to work motivation can be found in the discussions of "work ethic," "work ethic endorsement," "Protestant work ethic," and "employment commitment" (Blood, 1969; Buchholz, 1976; Jackson, Stafford, Banks, & Warr, 1983; Morrow, 1983, 1993). A positive relationship between work involvement and ACORG has been found in developed countries (Koslowsky, Caspy, & Lazar, 1990; Mathieu, 1988, 1991; Mathieu & Zajac, 1990; Morrow & Goetz, 1988) and by Sharma & Pandey (1995), in India. Highly motivated employees seem likely to work harder and therefore receive more rewards for their efforts (Price &

Mueller, 1986; Mueller, Wallace, & Price, 1992). Contextual factors also seem to be important: Gould & Werbel (1983) found that work involvement was significantly higher for those in tight financial circumstances or with high kinship responsibilities.

Job satisfaction

Job satisfaction is the degree to which employees like their work (Kalleberg, 1977; Locke, 1976, 1984; Robbins, 2003). The causal ordering of job satisfaction and ACORG has not been established and is fiercely contested. The most prevalent view in the literature is that job satisfaction is causally antecedent to affective commitment (Lincoln & Kalleberg, 1990; Mowday et al., 1982; Wallace, 1995b; Thatcher, Stepina, & Boyle, 2003; Yoon & Thye, 2002). The stability of job satisfaction is also a matter of contention (Brief, 1987) but job satisfaction is often regarded as an unstable and immediate affective orientation whereas affective commitment is often regarded as a relatively stable and long-term orientation (Mowday et al., 1982). This view has been supported by many empirical studies (Bluedorn, 1982; 1989; Iverson, 1992; Lincoln & Kalleberg, 1990, Mowday et al., 1982; Mueller et al., 1994; Wallace, 1995b; Williams & Hazer, 1986; Williams & Anderson, 1991; Vandenberg & Scarpello, 1990). Dissenting findings (Bateman & Strasser, 1984; Vandenberg & Lance, 1992) are difficult to dismiss because they are more consistent with psychological theory (that employees adjust their satisfaction levels to be more consistent with their commitment levels). Empirical findings supporting a model of reciprocal relationships between the two variables (Farkas & Tetrick, 1989; Lance,

1991) and no relationship between the variables are also extant (Curry, Wakefield, Price, & Mueller, 1986). Currivan's (1999) two-wave panel analysis (a longitudinal approach more robust than earlier cross-sectional approaches) found no significant relationship between job satisfaction and organizational commitment but he admits to several methodological weaknesses in his study and does not convincingly explain the high correlations found in earlier studies. Based on the above empirical studies and a reading of the psychological theoretical literature (O'Reilly & Caldwell, 1980, 1981), this study proposes that job satisfaction is a correlate of organizational commitment.

Occupational commitment

Occupational commitment (the terms occupation, profession and career have been used interchangeably in commitment literature) refers to "a person's belief in and acceptance of the values of his or her chosen occupation or line of work, and a willingness to maintain membership in that occupation" (Vandenberg & Scarpello, 1994, p. 535; See also Morrow & Wirth, 1989). The occupational value system of knowledge workers is similar to that defined in earlier research as "professional" in that it stresses values such as collegial control, self-control, compliance to occupational objectives and standards, autonomy, and a strong client orientation (Gouldner, 1957; Kornhauser, 1963; Lachman & Aranya, 1986).

Lee, Carswell, and Allen's (2000) meta-analysis evidences that interest in occupational commitment is growing and that most research has treated it as a unidimensional construct, with most definitions of occupational

commitment implying that it is a unidimensional construct (Blau, 1988, 1989; Morrow & Wirth, 1989; Vandenberg & Scarpello, 1994). That is, occupational commitment is regarded as an affective attachment to the occupation. Meyer et al. (1993) suggested that the three-component model of commitment could be applied to occupational commitment and several studies have investigated such a conceptualization (Irving, Coleman, & Cooper, 1997). Nevertheless, only the affective form was examined in this study because it is an established construct and an assessment regarding the dimensionality of occupational commitment is beyond the scope of this study.

Consequences of commitment

In order to develop a valid explanatory model of organizational commitment amongst knowledge workers it is necessary to specify theoretical predictions regarding the consequences of such organizational commitment. This dissertation aimed to advance theory and practice it was therefore necessary to specify organizationally salient outcomes of each component of commitment. Furthermore, to evidence the construct validity of the three-component model each component of commitment should have a different relationship with specific work outcomes (Hackett et al., 1994; Jaros et al 1993; Konovsky & Cropanzano, 1991, Mathieu & Zajac, 1990; Meyer et al., 1989; Meyer et al., 1993; Morrow & McElroy, 1993; Randall et al., 1990; Shore & Tetrick, 1991).

Turnover intentions

A turnover intention (intent to quit the organization) is the conscious and deliberate decision to leave the organization (Tett & Meyer, 1993). It is considered the last point in a sequence of withdrawal behaviours, preceded by searching for another job (Mobley et al, 1978) and been shown to have a significant positive relationship with actual turnover so that it is regarded as a good predictor of actual turnover, which is much more difficult to assess (Carsten & Spector, 1987; Steel & Ovalle, 1984; Cotton & Tuttle, 1986). Actual turnover is much more difficult to assess than turnover intention and may have multiple explanations unrelated to the organizational context (e.g. change in personal circumstances that require a new career).

Griffeth, Hom & Gaertner's (2001) meta-analysis confirmed that ACORG has consistently negative relationships with intent to quit and actual turnover measures. The negative relationship between ACORG and intent to quit has also been found amongst knowledge workers (Igarria & Greenhaus, 1992; Igarria & Guimaraes, 1999). Although ACORG is the most strongly related to turnover intentions, all three components have a significant relationship with them too (Hackett et al., 1994; Meyer et al., 1993; Meyer et al., 2002; Whitener and Walz, 1993).

Dunham et al (1994) anticipated a link between NCORG and intent to leave the organization, as those with norms that imply that it is undesirable to leave an organization would have a lower probability of doing so.

Proposition 13: Each component of commitment will be related to turnover intentions. ACORG and NCORG will be inversely related to turnover intentions whereas CCORG will be positively related to turnover intentions

Next step

If knowledge workers do not intend to stay with their employers, where do they intend to go? This is an important issue in South Africa as knowledge workers are often tempted by international opportunities. In addition, do they intend to go to another similar firm or a different kind of firm? If knowledge workers derive a great deal of meaning from their work then they are likely to choose to remain within their career, either overseas or in South Africa.

Proposition 14: Knowledge workers will intend to stay in their occupational group if they ever left their current employment

Organizational citizenship behaviour

Retaining knowledge workers is not an important concern for every organization nor does it necessitate a three-component conceptualization of commitment as each component is related to employee retention (Meyer, Smith, & Allen, 1993). Managers and researchers are concerned with other outcomes such as performance on the job and “going the extra mile”. In fact, some managers in the IT industry said that they encouraged mobility to “bring fresh blood in all the time” and do not value a stable workforce. Creativity and commitment during a period of employment is more important to them than the length of the employment relationship, even Meyer and Allen (1991) acknowledged this.

The complexity of knowledge work renders it impossible for managers to specify job requirements and develop protocols for all possible contingencies. Similarly, turbulent business conditions may require employees to “stick it out”. These forms of behaviour are rarely captured in job descriptions and represent extra-role or organizational citizenship

behaviours – with the employee behaving like a “good citizen” within the organization (Moorman, 1991).

Organizational Citizenship Behaviour (OCB) is “individual behavior that is discretionary, not directly or explicitly recognized by the formal reward system, and in the aggregate promotes the effective functioning of the organization” (Organ, 1988, p. 4). Employees with high levels of OCB give more than they are required to give by their job description, if it exists, without the expectation of rewards (Deluga, 1994; Moorman, 1991). These extra-role behaviours are particularly important in knowledge work and are directly related to important organizational outcomes such as performance quality and client relationships (Podsakoff et al., 1997; Podsakoff & MacKenzie, 1994; Walz & Niehoff, 1996).

Despite (or perhaps because of) its importance, there is no consensus regarding the dimensionality of OCB and a plethora of competing models have been developed (Podsakoff, 2000). Creating a new set of dimensions relevant for this study was inspired by Podsakoff's (2000) critical review of the OCB literature but the dimensions presented here are not identical with those that he presented as he did not consider negative workplace behaviours. Seven positive behaviours and two negative or counterproductive behaviours will be investigated in this study as forms of OCB:

Helping. This is the most commonly identified dimension of OCB and refers to discretionary behaviours that has the effect of either “helping a specific other person with an *organizationally relevant* task or problem” (Podsakoff et al., 1990, p. 115) or “*preventing* work-related problems with

others" (Podsakoff et al., 1990, p. 115). The former aspect is typically labelled altruism and is based on Organ's work (1988, 1990a, 1990b, Smith, Organ, & Near, 1983) but resonates with many other approaches to OCB (George & Jones, 1997; Graham, 1991; Van Scooter & Montowidlo, 1996, William and Anderson, 1991). The second aspect of this dimension is also based on Organ's work and is typically labelled as courtesy. There is strong evidence that these two aspects of helping behaviour load on a single factor, reflecting a single construct of helping behaviour (MacKenzie, Podsakoff, & Fetter, 1993; Podsakoff & MacKenzie, 1994, Podsakoff, Ahearne, & Mackenzie, 1997).

Encouraging. This dimension of OCB reflects a form of participation in the organization through which the employee makes suggestions for change, challenges others to express themselves, encourages others to speak up at meetings, and is willing be controversial by sharing informed opinions that combat groupthink (Van Dyne, Graham & Dienesch, 1994).

Contributing. This dimension refers to acts of functional participation at work (e.g. volunteering for special assignments). Contributing has been labelled functional participation (Van Dyne, Graham & Dienesch, 1994) but has not received much research attention. It is included in this study because it reflects the ideas expressed by focus group participants, who often spoke of it as a performance measure.

Improving. This dimension OCB can be defined as reflecting behaviours such as "seeking out and taking advantage of advanced training courses, keeping abreast of latest developments...(and) learning a new set of

skills so as to expand the range of one's contribution" (George & Brief, 1992, p. 155). This dimension has not been empirically investigated (Podsakoff, 2000) but it is a dimension of OCB particularly relevant to knowledge workers and conceptually distinct from other dimensions.

Boosting. Sometimes labelled "loyal boosterism" (Graham, 1991) or "spreading goodwill" (George & Jones, 1997), this dimension of OCB is used in this study to refer to act of promoting the organization to outsiders and protecting it against external criticism. Moorman, Blakely, and Niehoff (1998) failed to confirm the discriminant validity of their scale and new measures were therefore developed for use in this study.

Participating. This dimension refers to a behaviour that demonstrates an interest in the organization as a whole (e.g. attending company meetings and reading company notices). It reflects an individual employee's recognition that they are participating in a "greater whole" and the assumption of "responsibility" attached to that realization. This dimension has been labelled civic virtue (Organ, 1988) and organizational participation (Graham, 1991). In the focus groups, participating behaviours were mentioned more often by accounting professionals.

Innovating. This dimension refers to voluntary acts of innovation or creativity that extend beyond job requirements and enhance task or organizational performance. Innovation has not been directly researched as an element of OCB and is typically conflated with other aspects of initiative (Podsakoff, 2000). Managers in IT organizations consistently noted this dimension as a distinguishing characteristic of "high performers".

Slacking. This dimension is a limited analogue to conscientious behaviour (e.g. not taking long lunch breaks). It is a discretionary behaviour and was mentioned by focus group participants. When probed about specific slacking behaviours it became clear that this dimension was not the same way as comparable dimensions such as obedience (Graham, 1991), generalised compliance (Smith, Organ, & Near, 1983), or OCB-O (Williams & Anderson, 1991).

Grumbling. This refers to complaining about changes, lodging petty grievances, and “making federal cases out of small potatoes” (Podsakoff et al., 1990, p. 115). Focus group participants referred to times when they railed against decisions and became “difficult” when their ideas were not accepted. Grumbling is the opposite of sportsmanship which has received some attention in the literature (e.g. Organ, 1990). Empirical research has shown sportsmanship to be distinct from other dimensions of OCB (MacKenzie et al., 1993; MacKenzie et al., 1999).

Two further outcome variables have sometimes been subsumed under the rubric of OCB as defined above. These are absenteeism and ‘tone of work’. Neither of these are variables will be investigated in this study. Research shows a link between ACORG, NCORG and absenteeism (See Meyer & Allen, 1997; Gellatly, 1995; Hackett et al., 1994; Meyer et al., 1993; Somers, 1995). Absenteeism research is also complicated by the distinction between voluntary and involuntary absenteeism, only voluntary absenteeism can be interpreted as a response to work.

Meyer et al. (1993), drawing on the work of Hirshman (1970) and Farrell (1983), investigated three responses to dissatisfaction at work: voice (willingness to suggest improvements), loyalty (willingness to accept things as they are), and neglect (passive withdrawal in the face of dissatisfaction). Their study showed that ACORG and NCORG were positively related to voice and loyalty and that CCORG was positively related to the response of neglect. Begley and Czajka's (1993) showed that ACORG acts as a buffer between stress and dissatisfaction when employees face reorganization, downsizing, or loss of work. Absenteeism was not mentioned as a problem by any of the managers interviewed or as a consequence of commitment by any focus group respondent. Absenteeism was therefore not directly measured, but it should be noted that it is very similar to the OCB dimension of slacking, as defined above.

Regarding 'tone of work', Allen & Meyer (1994) expected normative commitment to have less influence on the quantity or quality of work, and more on the 'tone' with which the work is done. They suggested that the felt obligation characteristic of normative commitment may bear resentment toward the organization that underlies, without necessarily hindering, the carrying out of certain duties least enjoyed by the employee (Allen & Meyer, 1996). Employees with strong normative commitment defined their jobs more broadly and thus had a greater tendency toward these behaviours (Allen & Meyer, 1996). The undefined notion of 'tone of work' is conceptually close to the notion of OCB and has been subsumed within it in this study. Organizational citizenship behaviour (OCB) has long been associated with ACORG (Meyer et

al., 1993; Shore and Wayne, 1993) several researchers have linked CCORG and NCORG with OCB (Allen & Smith, 1987; Meyer & Allen, 1991; Chen, Hui, & Seago et al., 1998). This link is somewhat tenuous and two meta-analyses have concluded that only ACORG is related to OCB (Organ & Ryan, 1995; Podsakoff, Mackenzie, Paine, & Bachrach, 2000). That is, employees will only invest their energies in extra-role activities if they feel an emotional connection to the organization.

Proposition 15: ACORG will be positively related to each component of positive OCB and negatively related to each component of counterproductive workplace behaviours

Wellness

Despite Meyer and Allen's (1997) speculations about the positive health effects of ACORG, there are few extant studies examining the links between commitment and outcomes relevant to employees, rather than employers (Meyer et al., 2002). Within the limited literature, there is disagreement about how ACORG relates to these outcome variables. For example, Begley and Czajka (1993) argued that ACORG buffers the negative effect of work stressors on health, whereas Reilly (1994) suggested that committed employees would experience greater negative effects from work stressors than those who are less committed (who care less).

Personal wellness has been defined in this study as the knowledge worker's general perception of their physical, psychological, and spiritual health.

Knowledge workers with high levels of commitment are likely to devote too much of their time to work, decreasing their levels of perceived wellness.

Knowledge workers with high levels of CCORG are likely to experience a

greater sense of entrapment within the organization, resulting in lower levels of wellness (Meyer et al., 2002).

Proposition 16: ACORG will be positively related to a greater sense of personal wellness amongst knowledge workers and CCORG will be negatively related to personal wellness amongst knowledge workers

Job performance

In this study, job performance refers to the knowledge worker's self-rating (perception) of their own levels of performance. Empirical findings regarding the relationships between the three components of commitment and job performance are mixed. For example, Meyer et al. (1989) reported that ACORG correlated positively and CCORG correlated negatively with managers' ratings of job performance. Konovsky and Cropanzano (1991) showed similar results. Hackett et al. (1994) showed no relationship between the three components of commitment and rated performance. In their meta-analyses, Mathieu and Zajac (1990) and Meyer et al. (2002) both suggested that commitment has little impact on job performance.

As no previous research has examined the relationship between the three-component of commitment and the work performance of knowledge workers in South Africa, this relationship will be examined in this study. Two caveats will be considered when examining this relationship: First, it is necessary to ensure that net effects are being detected and this requires the careful consideration of control variables (See later). Second, global performance measures will not be used as they tend to result in a lack of variation that does not adequately assess the multidimensional nature of performance in the workplace (Angle & Lawson, 1994).

Proposition 17: There will be a weak relationship between commitment and performance amongst knowledge workers

Interaction effects between commitment components

The rarely examined interaction effects between the three components of commitment but have great value in the prediction of outcomes (Meyer et al., 2002). For example, the three-component model predicts a direct relationship between each component of commitment and intention to quit but while ACORG may impact intent to quit in a way that is easy to explain, the interaction effects of the other components of commitment may be less clear. Meyer and Allen (1997) noted but never examined their contention that commitment relevant behaviour would be best understood if commitment profiles were considered. That is, if the interactions amongst the commitment components were assessed. Empirical studies in the commitment literature typically examine additive effects; few studies have examined interaction effects. Meyer and Allen (1984) found a significant two-way interaction between ACORG and CCORG when they examined the effect of commitment on sacrifice for the organization, but failed to confirm an interaction effect in a later study (using a different analytical approach) that examined the effect of commitment on job performance. Randall et al., (1990) found a significant interaction effect between CCORG and NCORG on sacrifice for the organization but found no significant three-way interaction. Somers (1990) found two interaction effects: CCORG and ACORG interacted to predict absences and intent to quit. Both these interaction took the same form with CCORG tempering the effects of ACORG on the outcome

variables, especially at low levels of ACORG. Jaros (1997) examined the effect of commitment on turnover intentions and found significant two-way interaction effects between CCORG and NCORG in his concurrent analysis but not in his longitudinal analysis. He also found no evidence of a three-way effect between the components.

Explaining the above mix of findings is difficult because interaction effects require further investigation. One possible explanation is an extension of the self-justification hypothesis (Somers, 1990). The self-justification hypothesis, applied to commitment, state restricted mobility based on high sunk costs (CCORG) will be rationalised with increased affective and normative attachment to the organization (ACORG and NCORG) such that CCORG spills over to affect levels of affective and normative attachment to the organization. Of course, this attachment is based on rationalization rather than a deep-felt affective or normative connection with the organization.

This study aims to extend past research regarding the interaction effects of commitment components by considering all possible interaction effects against an extended set of salient organizational outcomes. This study will therefore examine the impact of two-way and three-way interactions of the three components of commitment on the proposed outcomes.

Organizational commitment as the key mediating construct

Chapter 2 discussed the notion of multiple foci of commitment. Given the additional complications in theory and measurement posed by a multiple

commitment perspective, it is important to assess whether a multiple commitment approach adds significantly to the conventional perspective.

Reichers (1985) drew on literature from reference group theory, role theory, and macro conceptions of organizations as political entities to develop his case for multiple foci within organizational commitment. He maintained that his approach represented a natural evolution of the commitment construct, from a general concept concerned with organizational goals and values, to a more specific formulation that specifies whose goals and values serve as the foci for multiple commitments. Reichers (1985) seminal conceptual work on multiple commitments in the workplace is valuable in that it successfully directs attention to the organizational aspects of the organizational commitment construct and raises some previously unasked questions concerning the potential for conflict among commitments and its effect on the individual's relationship to the organization.

Becker (1992) demonstrated that commitment to top management, supervisor, and work group were negatively related to turnover intentions and positively related to job satisfaction and certain types of prosocial organizational behaviour, explaining variance in these dependent variables over and above that explained by overall organizational commitment, as measured by a shortened version of the OCQ (Becker, 1992). This suggests the importance of matching the focus of an independent variable with the focus of the dependent variable. For example, researchers interested in altruistic behaviour directed toward a workgroup should focus on commitment

to the work group rather than on commitment to top management, supervisor or organization (but c.f. Hunt and Morgan, 1994).

Gregersen (1993) examined the relationship between extrarole behaviour (a similar construct to prosocial behaviour) and multiple commitment foci amongst 290 non-management hospital employees. He found several significant relationships but after controlling for tenure, concluded that further research was required.

Becker, Randall and Riegel (1995) compared the predictive validity of the multiple commitment approach to the theory of reasoned action (Ajzen & Fishbein, 1975) in a sample of 112 employees across 16 fast-food outlets. They found that the theory of reasoned action was superior in explaining intentions but was not superior in explaining behaviour. The multiple commitment approach accounted for significant variance in both altruism and tardiness and explained variance in both these behaviours over and above variables contained within the theory of reasoned action.

Becker, Billings, Eveleth, and Gilbert (1996) found that employees' (n=281 across various organizations) commitment to supervisors was positively and significantly associated with performance ($r = .16, p < .05$) but that overall commitment to the organization was not significantly correlated with performance ($r = .07, n.s$). The positive relationship between commitment to supervisors and performance remained even after other factors were controlled ($B = .18, p < .05$). Global organizational commitment did not mediate commitment to supervisors, which remained significantly related to performance even when global organizational commitment was

partialled out of the relationship (Becker et al. 1996). These findings are consistent with Becker et al.'s (1996) assertion that local foci are more proximal to employees and, therefore, have a greater impact on behaviour in organizations (but c.f. Hunt & Morgan, 1994). The correlations are low (albeit significant) but still seem to indicate that Human Resource professionals should focus their efforts on enhancing commitment to supervisors (leadership training, socialization, and team building) as these efforts relate more directly to performance than efforts to foster greater organizational identification.

Hunt & Morgan (1994) used LISREL 7 to reanalyse Becker's (1992) data and demonstrated that commitment to top management and commitment to supervisor contribute to overall (global) organizational commitment but that commitment to work group was independent of global organizational commitment (Hunt and Morgan, 1994). This indicates that organizations should not discourage employees developing constituency specific commitments within the organizations as these either do not detract from overall organizational commitment or increase it. That is, organizational commitment is a key-mediating construct that directly influences outcomes and constituency specific commitments influence outcomes through their impact on global organizational commitment.

Hunt and Morgan (1994) acknowledged that their study was limited by their inability to assess the measurement properties of the scales used to generate the data and that employees from a single firm were surveyed. Cudeck (1989) also noted that analyzing a correlation matrix (rather than a

covariance matrix) using LISREL 7 as Hunt and Morgan (1994) did, could yield incorrect standard errors and measure of fit indices.

Meyer & Allen (1997) suggested that although the performance measures obtained in the Hunt and Morgan (1994) study were clearly relevant to the organization, the stronger correlation with supervisor commitment might suggest that supervisors' evaluation of performance were particularly sensitive to aspects of performance that were relevant to their own objectives. This would render all performance constituency-specific, evidencing that specific constituency commitments have important implications for organizationally relevant behaviour (Meyer & Allen, 1997). The above studies all show, however, that employees do make distinctions between the commitments they make to different constituencies and that these commitments may be non-redundant with global measures of organizational commitment. The only possible exception is that of commitment to top management, both Reichers (1986) and Gregersen (1993) found significant, positive correlations between commitment to top management and commitment to the 'organization'. It should be noted that Reichers used dichotomous ipsative measures of the different commitment constructs which limited the potential range of relationships (See Gregersen, 1993, p.33). Further research, that addresses concerns regarding the possibility of common method variance (mono-method bias) and measurement artefacts effects in the above studies, must to be completed before strong assertions regarding the relationship between commitment foci and outcomes can be made. Nevertheless it will be possible to examine the

relative applicability of the one of many or key mediating model of multiple foci of commitment and turnover intentions amongst knowledge workers in this study.

Control variables

The antecedents of commitment proposed in this study are based primarily on my understanding of the theoretical literature, insights from HR managers, and the contribution of focus group participants, who were not very forthcoming about antecedents of CCORG and NCORG. This is of concern because, for example, very little is known about the antecedents of NCORG and important antecedents have probably been omitted from the model proposed in this study (i.e. that a specification error has occurred by omitting relevant antecedents). To avoid bias, one affectivity variable (negative affect), four demographic variables (gender, race, marital status, and education), and three development indices (age, tenure in organization, and tenure in occupation), are proposed as control variables when testing the above propositions regarding the antecedents of commitment. These variables may account for some of the variance in excluded variables and may mitigate some of the method effects in this study. For example, it is logical that perceptions of job security, met expectations, support, and fairness may be tinged by an overall negative affective state (Han et al., 1995). In this section, each set of control variables will be discussed in turn.

Affectivity

Positive Affect (PA) and Negative Affect (NA) are individualised, dispositional tendencies that the employee brings into their organization (See Clark & Watson, 1991 and Watson & Clark, 1984 for a thorough review of these constructs).

Negative Affect (NA) refers to the tendency to experience negative emotionality and a negative self-concept (Watson & Clark, 1984); it is conceptually similar to the neuroticism dimension in the Big-Five personality model (e.g., Digman, 1990). There is conflicting empirical evidence regarding the method effects of NA with some reporting significant effects on work variables (e.g., Burke, Brief, & George, 1993) and others no significant effects (e.g., Chen & Spector, 1991).

Positive affect (PA), the positive analogue of NA, refers to the dispositional tendency for a person to experience pleasant emotional states and to focus on positive aspects about themselves and their environment (Watson, 1988). Compared to NA, there is less published work on PA as a method factor. Williams and Anderson (1994) found significant PA method factor loadings on various attitudinal measures, including organizational commitment. There is discriminant validity evidence that PA and NA are independent traits (e.g., Burke, Brief, George, Robertson, & Webster, 1989; Warr, Barter, & Brownbridge, 1983; Watson & Clark, 1984; Watson, Clark, & Tellegen, 1984, 1988) and should be considered separately (Clark and Watson, 1991; Watson & Clark, 1984; Watson, Pennebaker, & Folger, 1987; Watson & Tellegen, 1985).

Cropanzano, Jarnes, and Konovsky (1993) found that PA was positively related to ACORG and that NA was negatively related to ACORG. Perhaps employees with high levels of PA tend to perceive their job characteristics more favourably and attend to more favourable features of their jobs, whereas people with high NA tend to perceive their job characteristics more negatively and focus on unfavourable features of their jobs (Clark & Watson, 1991; Levin & Stokes, 1989; Stokes & Levin, 1990).

The above research implicitly cautions the researcher to the potentially contaminating effects of the affectivity variables on measures used in explanatory models of work behaviour. For example, knowledge workers who are predisposed to experience pleasant emotional states may overestimate social support and minimise job stress. Those predisposed to experience unpleasant emotional states may falsely overestimate job stress and underestimate social support.

Negative affect has been found to account for some of the variance in self-reports (Brief et al., 1988) but the effect of partialling out negative affect when considering correlations between variables has been controversial (Spector, 1994). Spector et al. (2000) opposed the practice of partialling out affectivity in stress research (and by implication other research) because it obscures a range of possible substantive effects. Payne and Morrison (2002) nevertheless concluded that while the substantive effects of PA and NA should be assessed, there is considerable evidence that the moderating effects of NA should always be considered. In this study Affectivity is not included as a main effect but as a control variable. It was therefore sufficient

to include NA as the sole affectivity control variable. The example provided by Spector (1994) is relevant here. In considering the effect of workload on affective commitment in a self-report study, it is necessary to partial out the effect of negative affectivity because those with high NA are likely to perceive significantly higher levels of workload than others do.

Demographic variables

Significant relationships between demographic variables (i.e. gender and marital status) and different components of commitment have long been reported in commitment research (Mathieu & Zajac, 1990; Morrow & McElroy, 1993), even in recent studies (Abdulla & Shaw, 1999; Beck & Wilson 2000; Lynn, Cao, & Horn, 1996). Race has rarely been considered in relation to commitment but the national context of this study might suggest its consideration. South Africa has a history of enforced, race-based discrimination and separation that differentially affected the life-chances, socialization, expectations and outlook of South African, depending on their race.

Despite the above, demographic variables will not be considered as antecedents of any component of commitment in this study because they cannot account for how variation in commitment is produced (Mathieu & Hamel, 1989; Mottaz, 1988). For example, despite the strong empirical relationship between tenure and commitment (Mathieu & Zajac, 1990; Morrow & McElroy, 1993) there is no indication what it is that produces ACORG. For example, high-tenure employees may differ from low-tenure employees in many ways (tenure may involve increases in autonomy, social

support, and pay but decreases in external opportunities). It is not possible to assess what it is about tenure that determines affective commitment because tenure is associated with many properties, rendering it impossible to identify the constituent of tenure that produces affective commitment. For this reason, three time related indices (age, tenure in current organization, and tenure in occupation) will be used as control variables in this study. Age may be considered to be an index of experiences associated with living that affect attitudes (Turner & Helms, 1988). Organizational tenure may be understood as an index of experiences within the organization that affects commitment because it is necessary to understand an entity over time before becoming committed to it (Vandenberg & Self, 1993). Occupational tenure may be understood as an index of experiences within a particular occupation that affect attitudes towards that occupation and work. Of course, all tenure relationships may be moderated by age (experience in life), so all these time-related indices will be included in the explanatory model as control variables.

Organizational commitment in the public sector and private sector

Several studies have explicitly considered organizational commitment amongst public sector employees (Angle & Perry, 1981; Balfour & Wechsler, 1990, 1991, 1996; Crewson, 1997; Koch & Steers, 1978; Moon 2000; Robertson & Tang, 1995; Romzek, 1989; Steinhaus & Perry, 1996; Wilson, 1995) but there is very limited theoretical discussion about commitment in public organizations (Buchanan, 1974; Balfour & Wechsler, 1996). Nevertheless, in recognising the importance of commitment within public organizations (Liou & Nyhan, 1994) and the large number of knowledge

workers employed in this sector it becomes important to assess the cross-sectoral validity of this study.

The primary distinction between public and private organizations is ownership: public organizations are “owned” by communities not shareholders, funded by taxation rather than fees, and controlled by political rather than market forces (Boyne, 2002). The assumed dichotomy between public and private organizations has been convincingly challenged (Bozeman, 1987) and it is more accurate to refer to degrees of “publicness”. Regarding commitment, some have cautioned that industrial type rather than sector is the most important distinguishing feature between levels of commitment (e.g. Steinhaus & Perry, 1996).

Boyne (2002) reviewed 34 empirical studies regarding differences between public agencies and private firms and concluded that that only three of the thirteen hypotheses regarding such differences were supported by a majority of studies. These were that public organizations were (a) more bureaucratic, (b) public managers were less materialistic, and (c) public employees have less organizational commitment than those in the private sector. The first two findings seem self-evident and are not investigated in this study. The latter finding is however directly relevant to this study, particularly given the consistent strength of this finding across several investigations (e.g. Buchanan, 1974; Zeffane, 1994, 1995) and the widespread belief in the efficacy of importing private sector management techniques into the public sector (c.f. Alison, 1979; Boyne, 2002).

The reasons for lower levels of organizational commitment in the public sector have received some research attention. Inflexible Human Resource procedures (Boyne, Jenkins, & Poole, 1999), the difficulty in linking performance and reward (Rainey, Traut & Blunt, 1986), and inappropriate management styles (Zeffane, 1995) have been cited to explain the lower levels of organizational commitment in the public sector. Interestingly, few studies have compared public sector and private sector employees to determine whether low levels of organizational commitment are common amongst public employees (c.f. Cho & Lee, 2001 who conducted their study in Korea). None of these findings have been confirmed amongst knowledge workers and some contend that the most innovative Human Resource Management approaches (especially in performance management) have been initiated in the public sector (Grote, 2000).

The public sector may attract a different profile of knowledge workers than the private sector but research evidence regarding this is scant and it is necessary to infer from general studies. Bourantas and Papalexandris (1992) found differences in the personality traits of Greek public sector and private sector employees (i.e. public sector employees had lower needs for clarity and growth, greater external locus of control, a lower tolerance for ambiguity, a lower sense of competence and lower activity levels). They also found a number of similarities across the sectors (i.e. employees in both sectors had similar security needs, pay needs, and work ethic). Of course these results are not generalizable to the South African context and certainly not the South

African knowledge workers but they do provide an indication of possible similarities and differences across sectors.

The literature regarding the antecedents of organizational commitment in the public sector is both limited and equivocal. Some researchers have emphasised the importance of pay and other extrinsic rewards (e.g. Goulet & Frank, 2002) and others have noted the failure of financial incentives to boost productivity in the public organization (Moon, 2000; Liou & Nyhan, 1994; Young, Worchel, & Woehr, 1998). Job security, particularly in difficult times (Liou, 1995), has been found to be particularly important for public sector employees (Romzek, 1985). Focus group participants from the public sector noted the higher levels of job security and lower levels of work-life conflict that they experienced. Even though job security was not as certain as it had been in the past they still felt that it was much higher than in the private sector. They did not think that it made any difference to their level of organizational commitment.

Overall, given the weak evidence in the literature and the comments of focus group participants, it is proposed that the drivers of commitment for public sector knowledge workers will be similar to the drivers of commitment for private sector knowledge workers (Romzek, 1990).

Proposition 18: Affective commitment to the organization will be lower amongst public sector employees but the general pattern of antecedents will be the same across sectors

Table 3.1 presents a concise summary of the 18 core propositions presented above with reference to the two primary sources of information, the extant commitment literature and the focus groups..

Table 3.1 (part 1)

Summary of Propositions**Antecedent of affective commitment: Challenge****Literature**

All forms of role stress (role conflict, role ambiguity, role overload) reduces commitment

Focus groups

Role stress, especially role overload (high workload) may enhance ACORG. Role conflict and role ambiguity are “part of the job” and not important as drivers of commitment. High workload has symbolic status

Proposition

Work overload will be positively related to ACORG

Antecedent of affective commitment: Fairness**Literature**

An organization that is perceived to be fair in its procedures and the distribution of rewards will foster commitment amongst its employees

Focus groups

Fairness cited as important, particularly the distribution of rewards (Distributive Justice), cultural sensitivity, and the way that “executive treat employees” (Interpersonal Procedural Justice)

Proposition

Fairness as expressed in perceptions of Distributive Justice and three forms of procedural justice (Interpersonal Procedural Justice, Structural Procedural Justice, and Multicultural Procedural Justice) will be positively related to ACORG

Antecedent of affective commitment: Self-Esteem**Literature**

Organizations that foster self-esteem amongst employees will engender commitment

Focus groups

Implied in discussions rather than volunteered. Issues relating to the prestige of the organization were mentioned in several (but not all) focus groups

Proposition

Esteem experienced through organization based self-esteem and perceived organizational prestige will be positively related to ACORG for knowledge workers in knowledge-based organizations

Antecedent of affective commitment: Job characteristics**Literature**

Job characteristics: Jobs characterised by variety, autonomy, clear guidelines, and feedback opportunities will foster commitment amongst job incumbents

Focus groups

As per the literature but participation in organizational decision-making was surprisingly not regarded as important

Proposition

Job characteristics (Job Autonomy, Job Formalization, Job Variety, and Job Feedback) will relate positively to ACORG

Antecedent of affective commitment: Leadership**Literature**

Leadership: Strong literature on the commitment effects of strong and dynamic leadership

Focus groups

Leadership was noted in most groups with a clear distinction between the immediate manager and the Chief Executive, with the latter able to inspire high levels of commitment if they are charismatic and articulate

Proposition

Leadership (with the presence of a charismatic leader and a clearly articulated vision) will be positively related to ACORG

Table 3.1 (part 2)***Summary of Propositions***

Antecedent of affective commitment: Security**Literature**

Organizations that meet the expectations of new members and provide them with a sense of job security can expect employees to reciprocate with ACORG

Focus groups

Surprising emphasis on job security, even amongst public sector employees. Meeting expectations also regarded as important

Proposition

Perceived job security and met expectations will leads to higher levels of ACORG and help explain levels of ACORG amongst knowledge workers

Antecedent of affective commitment: Support**Literature**

Evidences that perceived support from the organization as an entity and the immediate manager as an individual will foster commitment amongst employees

Focus groups

Support from the organization seen as important but participants were unclear how such support was different from management support. Co-worker support was not regarded as a driver of commitment, though it was appreciated.

Proposition

Support experienced as perceived support from the organization as an entity, from managers, and from the creation of an organizational environment that supports learning will be positively related to the level of ACORG amongst knowledge workers employed in that organization

Antecedents of continuance commitment**Literature**

Self-investment ("sunk costs in the organization), lack of transferable skills, and a lack of job alternatives often cited as drivers of continuance commitment

Focus groups

All three were mentioned by participants, most seemed to feel that the turbulence that their occupations were experiencing had made them worried about the lack of job alternatives for the first time.

Propositions

Self-investment will be positively related to CCORG

Perceptions that skills are transferable to other organizations will lead to decreased levels of CCORG, and this relationship will be particularly strong for knowledge workers with over seven years tenure.

Perceived lack of job alternative will be positively related to CCORG

Antecedents of normative commitment**Literature**

Antecedents of normative commitment: Limited literature refers to cultural and organizational socialization experiences

Focus groups

Participants suggested that "upbringing" and "sense of values" will lead to greater normative commitment but most groups noted that this was diminishing over time

Propositions

Socialised loyalty will lead to greater NCORG

There will be a positive relationship between met expectations and NCORG and this relationship will be stronger amongst knowledge workers with less than 2 years tenure

Table 3.1 (part 3)***Summary of Propositions***

Outcomes of commitment**Literature**

Extensive literature detailing the relationship between organizational commitment and salient organizational outcomes such as turnover intentions and organizational citizenship behaviour. Each component of commitment should relate to these outcomes in the following way: ACORG and NCORG will be inversely related to the outcome and CCORG positively related to the outcome. Equivocal and limited research concerning commitment effects on personal wellness. Very mixed results regarding the relationship between organizational commitment and performance. Many methodological inconsistencies make conclusions about the commitment-performance relationship very difficult.

Focus groups

Outcomes were mentioned but in the specific terms but emphasis was placed on staying with the organization and "going the extra mile for the organization"

Propositions

Each component of commitment will be related to turnover intentions. ACORG and NCORG will be inversely related to turnover intentions whereas CCORG will be positively related to turnover intentions. There will be no significant relationship between commitment and performance. ACORG will be positively related to each component of positive OCB and negatively related to each component of counterproductive workplace behaviours. ACORG will be positively related to a greater sense of personal wellness amongst knowledge workers and CCORG will be negatively related to personal wellness amongst knowledge workers. There will be a weak relationship between commitment and performance amongst knowledge workers.

Next step (after leaving the organization)**Literature**

This issue has not been addressed in the commitment literature

Focus groups

Participants differed in their responses but many noted that they would prefer to work in their current occupation even if they emigrated or lost their current job.

Proposition

Knowledge workers will intend to stay in their occupational group if they ever left their current employment

Sector differences (between public sector and private sector)**Literature**

Literature tends to support the notion that commitment will be lower amongst public sector employees

Focus groups

Surprisingly little interest in this question amongst respondents. Private sector participants typically stated that ACORG would be higher in the private sector, that CCORG would be higher in the public sector, and NCORG in the public sector. Focus groups were homogenous with regard to sector of employment.

Proposition

Affective commitment to the organization will be lower amongst public sector employees but the general pattern of antecedents will be the same across sectors

Notes: Many studies that report results on commitment are referring to ACORG

This table is not intended to summarize all the propositions or research questions presented in Chapter 3 but only to provide a guide to the 18 core propositions presented in relation to the development of the commitment models.

Final notes

This chapter presented the proposed model of organizational commitment that informs the rest of this study. The first section of the chapter discussed the challenging process involved in developing the proposed explanatory model and the distinctive approach that was applied, which involved combining inputs from the extant literature, focus group participants and subject matter experts. Subsequent sections discussed the specific proposed antecedents of each component of commitment, the proposed consequences of commitment, and the proposed control variables that will be used when estimating the strength of the proposed model. The penultimate section discussed the recent debate concerning the nature of organizational commitment as a mediating construct for other commitments within the organization or as one of many commitment foci that help explain turnover intention. The final section discussed research that noted the differences between the public sector and the private sector as employment domains.

In sum, a total of 18 composite research proposals were presented regarding the antecedents and outcomes of different components of organizational commitment. This study extends beyond these model-building propositions by examining key debates within the commitment literature such as the nature of its dimensionality, its relationship with other commitment foci, and how different components and foci of commitment may interact to explain salient organizational outcomes.

CHAPTER 4: RESEARCH DESIGN, METHODS AND PROCEDURES

This chapter critically presents the methods and procedures used in this study to develop and test the explanatory model discussed in the previous chapter. For the purpose of presentation, this chapter has been divided into five sections: Research design, research participants, research methods, data analysis, and an assessment of the ethical and methodological challenges to the research. Each section explains the details, choice points and logic of the research decisions made in this study.

Research design

This section describes the structured framework (design) for conducting the research (process). The applied framework is best described as a mixed-method design (Creswell, 1994). The choice of this design was informed by pragmatic and philosophical considerations (See Chapter 6). The primary research method was a survey questionnaire that was quantitatively analysed but that was developed, contextualized, and interpreted using qualitative methods (interviews and focus groups). This represents a sequential mixed-method design (Babbie, 1973). The advantage of this approach is that it presents a consistent dominant approach, while also obtaining important insights from an alternative approach (See later).

Table 4.1 presents the different data sources used, showing how the mixed-methods approach was applied in this study.

Table 4.1
Summary of Data Sources

Method	Details	N
Focus group	10 groups (5 of accountants, 5 of IT workers)	60
Interviews	6 HR managers and 5 line managers of knowledge workers	11
Pilot survey	Pilot Survey (registered actuaries)	135
Cognitive pilot test	5 accountants and 5 IT workers	10
Survey item review	5 line managers, 5 HR managers, 5 academics, and 15 postgraduate students	30
Survey	Main survey (accountants and IT professionals in public and private sectors)	637
Focus groups	7 groups (5 with accountants and 2 with IT workers)	56
Secondary sources	Various professional journals and websites	

Notes: Total number of participants = 939, including 753 knowledge workers within the sample scope of this study.

Overall, three broad stages in the research process can be discerned:

1. Before the survey: This qualitative stage involved the literature review, interviews and focus group discussions. Focus groups served in a preliminary capacity to help design, develop, and validate the content of the survey questionnaires.
2. Survey: This quantitative stage involved the development, pilot testing, refinement, distribution, and analysis of a survey questionnaire. The final cross-sectional, self-report, self-administered survey questionnaire was the primary method used in this study. The survey questionnaire was distributed to different groups of knowledge workers.
3. After the survey: Following Irwin (1970), I used follow-up focus groups to check the conclusions from my statistical analysis of the survey data. This qualitative approach, often used to clarify poorly understood survey results (Harari & Beatty, 1990; Morgan, 1989; Wolff et al, 1993), allowed me to get feedback from a relatively wide range of

participants in a relatively short time and helped “tease out some of the meanings and social constructions” implicit in the statistical data (Hartley & Barling, 1998, p.170).

The research question and primary objectives of the study were framed according to the language of the dominant design (quantitative) and the secondary purpose of the study was framed in the language of the less-dominant design (qualitative). This is consistent with Creswell's (1994) recommendation that two distinct approaches not be weighted equally in a single study (c.f. Jick, 1979). The qualitative components of this study, though secondary, were fundamental to the development, planning, implementation, and interpretation of the survey questionnaire data. They were necessary to help me gain insight into the contextual complexities and lived work experiences of South African knowledge workers, and to obtain a more holistic understanding of the final pattern of results.

Research participants

Sample scope

The focus groups and final survey sample included only South African knowledge workers employed as full time employees in IT or accounting occupations within either large local government administrations or leading professional service firms located in large metropolitan areas. This excludes knowledge workers outside South Africa, those in other occupations, those

who are self-employed, and those who live and work in small towns or rural areas.

There were three reasons for restricting the sample to knowledge workers to full-time employees in the accounting and IT occupations located within major metropolitan areas. First, the majority of South African knowledge workers are engaged in full time employment within major metropolitan areas. Those in small towns and rural areas may be located there for personal or family reasons and will experience higher costs in moving or changing employment. Second, only IT and accounting knowledge workers are included because these are distinct groups (different nature of work, different work experiences, and work in different organizational structures). Accountants are members of a statutory profession. The accounting profession is highly regulated; it has established educational prerequisites, a regulated internship system, and an entry examination (the "Board exam"). IT workers do not belong to a statutory profession and the IT profession has no barriers to entry or professional regulation. Similarly only knowledge workers in local government, distinct corporate departments, or professional service firms were surveyed because these are distinct organizational types, allowing for a context-rich and specific elucidation of the results. Third, knowledge workers engaged in private practice or as solo practitioners are excluded because the absence of an organizational context makes it impossible to examine structural organizational properties or assess the effects of social support and leadership dynamics.

There are three primary reasons for restricting this study to South African knowledge workers. These relate to practical considerations, control issues, concerns about heterogeneity, semantic issues, and budget constraints. From a practical perspective, by limiting the sample to South Africa it was easier to control the distribution of surveys and the assessment contextual information. There are also control considerations that justify selecting a single country for study. First, sampling knowledge workers from within one country controls for professional requirements and standards. Second, the economic and political environment is the same for all respondents. Though it is always important to obtain sufficient variation amongst researched determinants (i.e. firm structure variables), the sample was diverse enough to contain sufficient heterogeneity amongst participants and their work contexts. South Africa is a unique research context (as discussed in the introductory chapter) with a diverse population of knowledge workers such that sufficient diversity existed within the research population for interesting research to occur. Semantic issues are of concern in survey-based research and restricting the research to South Africa allowed me to fine tune the questionnaire to the linguistic norms of a South African sample group. Finally, budget constraints limited my ability to co-ordinate and mail surveys to knowledge workers living and working outside South Africa.

Description of participants

The total number of participants in this study numbered 939 (See Table 4.1) of which 753 were knowledge workers (as per the sample scope, defined above) currently employed in accounting or IT based careers

in South Africa. Sixty knowledge workers participated in a series of 10 preliminary focus groups, 637 responded to a survey questionnaire (see later for details such as the sampling frame and response rate), and 56 participated in seven follow-up focus groups. In addition, eleven managers in knowledge-based organizations were interviewed to gain further contextual information.

Of the ten preliminary focus groups, five (N=33) were conducted with IT based knowledge workers and five (N=27) were conducted with accounting based knowledge workers. Of the seven follow-up focus groups, two (N=11) were conducted with IT based knowledge workers and five were conducted with accounting based knowledge workers (N=44). Sector affiliation is the only identifier for focus group participants and no further demographic data were collected from them. Only a visual determination of characteristics was possible and these are not reported here for three reasons:

First, managers in the participating organizations contended that participants were more likely to be candid in the focus groups if the emphasis was on the group rather than the individual and if participants realised that the attitudes and experiences they shared could not be identified with them as individuals. This was acceptable because the key questions concerned themes to pursue in the quantitative research and were not part of an attempt to glean individual level information. Second, the identification of marker variables such as approximate age, gender and race may lead consumers of this research to develop implicit theories regarding the generalizability of

given comments to the group to which the particular participant belonged, or implicitly reflect the theories of the researcher in this same regard.

Researchers in social psychology have shown that examples can influence perceptions and counter other forms of data; even those that are scientifically collected. (Kahneman, Slovic & Tversky, 1982; Nisbett & Ross, 1980). Third, participating organizations were very concerned that in the small South African knowledge worker community, participants and participating organizations would be identifiable if demographic information was collected from participants, even if these demographics were presented in aggregate form. Demographic details were collected from the final survey sample to allow for statistical correction for demographic variables and to assess how representative the sample was (Krosnick, 1999).

Over 86% of participants had post-school qualifications and over 40% had honours degrees or higher. Sixty-six percent were married, 65% were male, 58% had one or more children, and 67% were white. The “average participant” was 36 years old and had 12 years of industry experience. He was male and had been living for 21 years in Cape Town. He had spent 8 years in his current job but only 4 in his previous job.

Table 4.2 presents a breakdown of the number of survey participants from each of the four sub-groups of knowledge workers that responded to the survey questionnaire.

Table 4.2
Sector Breakdown of Survey Participants

	Count	Cum.	Percent	Cumulative %
Public sector accountants	129	129	20.3	20.3
Private sector accountants	226	355	35.5	55.7
Public sector IT workers	105	460	16.5	72.2
Private sector IT workers	177	637	27.8	100.0

Notes: Cum. = Cumulative Count

Table 4.3 details the demographic details of the sample per sector. It is clear that knowledge workers in the public sector tend to be older, more experienced, more rooted in their community (as indicated by residence in the same city), and have greater tenure in terms of both their positional tenure and organizational tenure.

Table 4.3
Mean Demographic Details Per Sector and Occupation

Group	Age	Position	Tenure	Occupation	City
Public sector accountants	45.5	7.5	16.2	20.6	32.4
Private sector accountants	31.2	3.0	5.1	7.8	16.1
Public sector IT workers	35.9	6.2	9.1	13.4	23.6
Private sector IT workers	35.6	3.6	6.8	10.3	20.0
ALL GROUPS	36.1	4.6	8.5	11.8	21.7

Notes: Smallest N for any variable =533

Key to labels: (Age: mean age in years; Position: mean number of years in current position; Tenure: mean number of years in current organization; Occupation: mean number of years in current occupation; City: mean number of years living in the same city – a proxy of community connection)

The non-parametric Mann-Whitney U test was used to assess differences between the above groups across occupation and sector. There were no significant differences across occupational groups on primary demographic variables (age, gender and marital status), though there were more black employees as a proportion of the total group amongst the IT workers ($p = .005$). Across sectors, the findings were different with significant

demographic differences between those employed in the public sector and the private sector. The public sector group had significantly more males ($p < .001$), black employees ($p < .0001$), married members ($p < .01$), and members who had an honours degree and higher ($p < .0001$). The public sector group was also significantly older ($p < .0001$), with more years of professional experience ($p < .0001$), and more years of organizational tenure ($p < .0001$). In general they were also a more settled group who had spent significantly longer in their previous jobs than respondents who worked in the private sector ($p < .0001$), and had greater community involvement (as measured by years in the same city; $p < .0001$). Interestingly, despite prevailing stereotypes about public sector productivity, the number of hours worked per week were similar across sector.

Research methods

This section discusses each of the methods used in this study (focus groups, interviews, consulting secondary sources, and a survey questionnaire) and outlines the issues confronted when using them.

Focus groups

Focus groups are group interviews that serve as a valuable method for gathering qualitative data (O'Brien, 1993). Focus groups provided me with the opportunity to add texture and depth to the research process and the issues presented in the literature (Morgan, 1998). In South Africa, focus groups are often used in marketing research but are seldom used in

organizational research and only one study using focus groups has been published in the South African management literature (Kamfer, 1999).

The initial focus groups were held at five accounting firms and five IT firms over a period of three months from July to September 2001.

Participation in the focus groups was voluntary and unpaid. Participants in the focus groups were recruited using the same process in all of the participating organizations, with the Human Resources (HR) manager organising the groups of participants. The HR managers were requested to follow the following guidelines in composing the focus groups: to include employees from different work functions, to include different identity groups (i.e. race and gender) whenever possible, and to ensure that no participant was in a group with his or her immediate subordinates (to avoid impression management dynamics). Different techniques were used to stimulate participation (examples include the nominal group technique in which participants wrote down their responses before discussing them in the group; the round-robin technique in which each participant was asked to respond to a question). Participants were also given time to ask me questions. Morgan (1997) and Krueger (1994) were consulted frequently regarding process issues.

Using focus groups provided me with the opportunity to explore the motivations of complex behaviours and directly access “the language and concepts participants use to structure their experiences” (Hugh & du Mont, 1993, p.776) and express their commitments. The group effect within focus groups makes them more than the sum of separate individual interviews

(Carey 1994, Carey & Smith 1994). Focus group participants query each other and explain themselves to each other, offering valuable data on the extent of concern and consensus amongst the participants (Morgan & Krueger, 1993). Moreover, using focus groups enabled me to ask participants for comparisons among their experiences and views (rather than aggregating individual data and speculating on similarities and differences).

Focus group design issues

The following project-level and group-level issues were considered when designing the focus group research strategy used in this study:

Standardization. Standardization addresses the use of the same questions and procedures in each focus group and is a contested issue in focus group research (Brotherson & Goldstein, 1992). The focus groups in this study were guided by a fixed set of questions (See Appendix B) that were supplemented by a variable set of questions. This avoided what Merton et al (1990) called the fallacy of adhering to fixed questions, allowing the development of knowledge from group to group but also allowing each focus group discussion to vary according to the emergent needs of the research (Knodel, 1993). Morgan (1993) described this focus group design as displaying a “funnel” pattern. The general concepts explored were formulated as a set of discussion guidelines (Knodel, 1993). I used these to generate discussion amongst the focus group participants, where participants responded to each other’s experiences with reports of their own quite different experiences (O’Brien, 1993). The open format of the discussions provided me with an in-depth examination of attitudes (Haslinger & Sheerin,

1994). This allowed me to access a richness and diversity of information that would not have been yielded from a one-on-one interview.

Sampling. Focus group research reveals its historical association with marketing research by using the term “segmentation” to capture sampling strategies that consciously vary the composition of groups (e.g. Folch-Lyon, de la Macorra & Scheerer, 1981). In this study, participants in any one focus group were drawn from a single organization. This offered three advantages. First, it introduced a possible comparative dimension. Second, and more importantly, it facilitated discussions (shared jargon, educational and work backgrounds) and later analysis. Third, it was practically easier to organise organization based focus groups. The approach to sampling was therefore not random, but purposive (O'Brien, 1993) and theoretical (Morgan, 1996).

Number of Groups. Most focus group projects consist of four to six focus groups (Morgan, 1996). The typical justification for this range is that the data become “saturated” and little new information emerges after the first few groups (Zeller, 1993). In this study, it was decided to conduct at least five focus groups amongst accountants and five amongst IT workers. No new information was forthcoming after the fifth focus group amongst the respective groups of knowledge workers and a total of ten focus groups were therefore conducted.

Level of Moderator Involvement. The presence of a moderator is one of the most striking features of focus groups and the behaviour of the moderator has important consequences for the nature of the focus group (Agar & MacDonald, 1995).

In my role as moderator, I set the agenda for the discussion, had a set of fixed questions, managed group dynamics (trying to encourage equal participation), and made time for less-structured discussions. There is no consensus in the literature regarding what constitutes a more or less structured focus group (see Morgan, 1996). Past research on moderator style suggests that moderator approach should depend on the goals of the research (McDonald 1993) and the goals of this study suggested a structured approach with an opportunity for less structured discussion towards the end of each focus group session. As per the recommendations of Greenbaum (1988), the length of group discussions ranged from 90 to 120 minutes (though most were approximately 90 minutes). My style varied according to the dictates of the “focused discussion” in the focus group. At times, I remained silent and listened at other times I engaged in “active listening”, used follow-up questions, probed respondent’s assertions, and even challenged certain comments (following Morgan, 1998). Haslinger and Sheerin (1994) recommended some structured control to prevent domination of the focus group by particular individuals. On three focus groups I was accompanied by a research assistant but Webb’s (2002) division of roles between a moderator and facilitator was not deemed necessary in this study and the terms could be used interchangeably here.

Group Size. The number of participants invited to a focus group was an element of the focus group research design mainly under my control. Morgan (1992a) recommended that smaller groups were most appropriate for potentially sensitive issues that generate intense participant involvement,

granting participants more time to discuss their ideas or vent their feelings, allowing me as the moderator to manage the process. The size of focus groups in this study never exceeded eight participants.

Location. Each focus group was conducted on the premises of the participating organization, a context saturated with entrenched processes of interpersonal communication and social influence (Albrecht, Johnson and Walther, 1993). This proved challenging and an initial discussion with the HR manager became essential to help me apply appropriate facilitation skills and avoid becoming embroiled in corporate politics (Morgan, 1998), guide the conversation, and maintain group enthusiasm and interest.

Process. Participants were served tea, coffee, and muffins, which eased introductions. After brief personal introductions, participants were asked about the changing pattern of commitment in their industry, different foci of commitment, and the balance between competing commitments. Different techniques were used to stimulate discussion. For example, each of the three components of commitment was personified into three hypothetical characters and these characters then formed the basis for discussion regarding their commitment and workplace behaviours. At a surface level, participants seemed to enjoy the focus group process, most sessions were characterised by cheerful banter and the sharing of personal experiences, a hallmark of a successful focus group (O'Brien, 1993). As found in previous research, the focus group experience was also enjoyed by me as moderator of the groups (Robinson, 1999).

Interviews

In-depth interviews have been defined by Minichiello, Aroni, Timewell, and Alexander (1990) as " face-to-face encounters between the researcher and informants directed toward understanding informants' perspectives on their lives, experiences or situations as expressed in their own words" (p. 19).

In this study, semi-structured interviews were conducted with a set of senior HR managers (n=6) and line managers (n=5) tasked with people management issues within their organizations. At least one manager and one Human Resource Manager from each of the four sectors were interviewed. These interviewees were selected because they could talk to the organizations experience of employee commitment, from the perspective of the organization's formal management team and with the insight borne of their involvement and experience in their particular industry. Individual interviews with key management staff also helped sketch contextual information and explore specific ideas and assumptions.

Interviewees were assured of complete confidentiality and anonymity and no demographic data will therefore be reported about them. In discussion, interviewees will be identified in a similar manner to focus group participants. Each interviewee was asked for background information about their sector, for comment on the dynamics of commitment relationships in their industry, organization specific issues and strategies, and their sense of the determinants and consequences of workplace commitment. Several interviewees were asked about the differences they perceived between the public and private sector employment relationships. These questions were

particularly important as there is very little published contextual information regarding these issues.

In the first interview, the interviewee was very cautious and circumspect and I therefore decided (during the interview) to switch the tape recorder off (even though the interviewee had agreed to the recording). This significantly improved the atmosphere in the interview and I therefore decided not to tape record subsequent interviews. In any event, the interviews were not a primary data collection method and transcripts of the interviews were not required. Written notes regarding key themes and contextual information expressed by the interviewees were made during and after the interview. Interviews lasted between 30 and 75 minutes. Participation in the interviews was voluntary and unpaid.

Secondary sources

It would not have been possible to conduct meaningful interviews or focus groups without a clear understanding of the issues relevant to participants. I therefore read industry journals and periodicals, visited industry-related websites, and read available annual reports published by participating organizations. This aspect of the research was minor but important in that it fed into every aspect of the research. It is difficult to gauge the importance of this aspect of the research but the knowledge I gained did help me gain greater insight into contextual issues and enriched the interviews and focus groups because I understood specific points of reference.

Survey

Surveys are a “system for collecting information” (Fink & Kosecoff, 1995, p.1) that incorporates an approach to the collection of sample data and its analysis (Marsh, 1982). They have a long history (Brunt, 2001) and are still often unjustly accused as positivist (see Marsh, 1979). In this study, quantitative data were collected through a self-report survey questionnaire. The survey questionnaire was distributed between August 2002 and January 2003. Survey participation was voluntary and not paid. After considerable consideration and consultation with experienced South African survey experts, it was decided not to offer incentives for participation in the survey. Different participant groups were surveyed in different ways depending on the nature of the group, conditions attached to access, and proximity to the researcher.

Overall, of the 1613 surveys distributed to South African knowledge workers, 808 were returned, of which 637 were usable. This represents a response rate of just over 50% and an effective response rate of just on 40%, which by conventional standards is an acceptable response rate and for a sample of knowledge workers may be considered an excellent response rate. Babbie (1992) suggested that a 60% was an adequate response rate but surveys of knowledge workers typically have significantly lower response rates. Smith (1983) found that respondents in big cities and those that worked long hours were less likely to respond to survey questionnaires. Krosnick (1999) noted that in carefully considered research designs, the importance of a high response rate has been challenged. Of the returned

survey questionnaires, 171 were excluded from the analysis for one of three reasons: (a) the survey questionnaire was returned unanswered, or the respondent had explicitly refused to participate in the study; (b) most of the returned survey (more than 50%) was incomplete; or (c) the participant was not eligible for inclusion in the study at the time of the survey (had already decided to leave the organization, had already left the organization, or had retired). Participants were asked not to answer the questions regarding their work place retrospectively, those who did (n=3) were not included in the sample for analysis.

The findings of this study are based on the responses of a sub-sample of the total sample of knowledge workers originally surveyed. As indicated above, the sub-sample for the study includes only knowledge workers from large metropolitan areas who were currently employed in full-time positions. The findings of this study are therefore based on this distinct subset of South African knowledge workers.

Survey fieldwork strategy

The fieldwork strategy differed for each of the four sub-groups. For the accounting professionals, mailing lists were obtained from their respective professional societies. For the private sector accountants, the South Africa Institute of Chartered Accountants agreed (after considerable deliberation) to share their mailing list by printing address labels at cost. They did however insist on the single use of these addresses and so no advance or thank-you letters could be sent. I was thus only permitted (and had to sign an affidavit to confirm) one 'contact' with SAICA members. Individual accounting firms were

contacted directly but each refused to display posters or permit the distribution of flyers or e-mails to employees to encourage participation. For the accountants in local government, The Institute of Municipal Finance Officers (IMFO) provided their mailing list free of charge but the list contained many inaccuracies. Eighteen percent (18%) of the mailed questionnaires were returned because the recipient had changed address, died or retired. This indicated that the response rate for this sub-group may have been underestimated as many people or organizations may have trashed the questionnaire rather than return a blank one with an explanatory note. For the IMFO sample personalised advance letters were sent, a personalised letter also accompanied the survey questionnaire and a personal reminder cum thank you card was sent two weeks later.

Questionnaire

The survey questionnaire was the primary research instrument used in this study as it served to gather data on all the variables in the proposed causal model. The structured survey questionnaire provided the mechanism to elicit structured responses that could be quantified and analysed so that the propositions presented in Chapter 3 could be examined. The survey consisted of 266 items and took participants about 45-60 minutes to complete. As mentioned, a literature review, initial interviews, and initial focus group discussions informed the development of the survey. Successive versions of the scales used in the survey were pre-tested in a series of pilot studies (Bagraim & Jardine, 2001; Bagraim & Smithyman, 2001; Bagraim & Serman, 2000; Bagraim & Tighe, 2001; Bagraim, 2002). A full draft version of

the survey questionnaire was then tested for clarity with a diverse group of 15 postgraduate students at the University of Cape Town and later scrutinised by 5 senior academics, 5 Human Resource practitioners and 5 senior line managers. As suggested by Krosnick (1999) and Schwarz (1999), a cognitive pilot test was conducted. Five IT workers and five accountants completed the questionnaire and were asked to think aloud while completing it, to be critical and suggest areas for improvement. Suggestions regarding layout, size of font, and the wording of items were the most frequent. The main changes to the survey questionnaire were in the wording of certain items, the removal of negatively worded items and the correction of typographical errors. As all changes were made to items that were part of multi-item scales, I reasoned that the modification of wording would not detract from the integrity of the scales or the comparability of this research study with other research studies that did not use modified items (See Bagraim & Hayes, 1999).

The survey was then pilot tested on a mixed group of accountants and IT professionals (Bagraim, 2002). In the pilot test, 400 questionnaires were distributed of which only 135 usable questionnaires were returned (i.e. a response rate of 27%). This poor response rate provided an early indication that process issues would need considerable attention in this study. At each stage, refinements were made to the survey. The survey was thus developed according to an iterative, multistage process that incorporated suggestions from the literature, focus group data, interview data, input from experts, a critical review by post-graduate students, cognitive evaluation by potential respondents, and pilot testing.

Key features of the survey were consistent with other research in the field and were informed by the work of Dillman (2000), Converse and Presser (1986), Marsh (1982), Fink and Kossecoff (1995), Kraut (1996), and Schwarz (1999). Most scales were multi-item scales evaluated on a five-point Likert scale (with balanced response sets labelled from strongly disagree to strongly agree), scale items were grouped together (see Schwarz, 1999). Keller, Auephanwiriyaikul and Adrian (2000) suggested the use of fuzzy membership functions that obviate the need for insisting on respondents choosing a single response to a question. This approach was not applied in this study as it has never been applied in commitment research and its application would render the results of this study incomparable with other commitment studies.

The letter accompanying each survey questionnaire provided a clear explanation regarding the research objectives and assurances regarding the anonymity and confidentiality of all survey responses. Respondents were asked not to identify themselves in any way as this has empirically been found to affect responses to some organizational commitment items (Koslowsky & Bar Zeev, 1990) though the reasons for this effect are not certain. The cover letter also tried to appeal to respondents' sense of personal obligation to respond, desire for self-expression, altruism, and the possibility for self-catharsis (Krosnick, 1999). Emphasis was placed on the importance of the survey (Rogelberg, Fisher, Maynard, Hakel, & Horvath, 2001). The letter was on a University of Cape Town letterhead, which may have increased the perceived importance of the study. It may also have

introduced a form of bias in which respondents use affiliation cues to guess the “perceived epistemic interest of the researcher “(Schwarz, 1999, p.96) and alter their responses accordingly. Appendix B includes two versions of the cover letter that was distributed with the questionnaire. Each group received slightly different, customised letters.

Measures

The survey questionnaire consisted of 19 modules of questions, each of which contained more than one variable in the model discussed in Chapter 2 and Chapter 3. The survey questions can be divided into three types: new questions written for the current research, questions culled from existing research instruments, questions revised from existing scales. Questions from the literature were included to add to scale assessments, facilitate comparisons, and help integrate study findings with those in the literature and those in other countries. Future aggregation of data would also only be possible by developing a widely acceptable question framework. See Appendix B for details regarding each of the scales used in the survey questionnaire.

Each of the scales items are presented in Appendix B. Three rules for adapting scales used in previous studies were applied: (a) when scales combined positive and negative items, all items were reworded as positive items; (b) when only three items were used from a longer scale, then the items with the highest factor loadings on the appropriate factor (in previous empirical studies) were chosen; (c) the wording of some items was simplified

(in very minor ways) and American spelling was changed to conform to South African spelling conventions.

The above approach to measuring constructs in a context other than the one in which they were originally developed represents a “middle-ground” strategy (as used by Lee et al., 2001). There are at least two other approaches: (a) Ko et al. (1997) adopted an imposed-etic approach in which the American commitment scales were applied without change to a Korean sample. This approach may result in the importation of items that are not relevant in the culture of the target sample and may explain the psychometric difficulties he uncovered in Allen & Meyer’s (1990) commitment scales; and (b) Wasti (2002) who adopted a combined emic-etic approach (based on Hui & Triandis, 1985) that assumed that the commitment construct had etic (universal) status but should be assessed using measures whose items are generated and selected based on their relevance to the culture of the target sample. The problem with this approach is that it can result in multiple scales for the same construct (Lee et al., 2001) and prevents cross-cultural comparisons (Ryan, Chan, Ployhart, & Slade, 1999). In a multicultural society such as that in South Africa, these two approaches would clearly be inappropriate and the middle-ground strategy was therefore adopted.

The organizational commitment measures and the demographic measures deserve special discussion because they were both modified in important ways for this study. As discussed in Chapter 2, the commitment scales evolved over time and two versions were published (Meyer & Allen, 1990, 1996). After the initial pilot studies and focus groups in this study, the

commitment items were amended according to the approach detailed above. The ACS scale was the least affected by changes, except for the first item that was excluded as it serves to conflate commitment with the outcome variable of intent to leave. The CCS scale was amended to exclude the “job alternatives” items that were considered to be an antecedent of continuance commitment rather than a defining element of it (Lee et al., 2001; Meyer & Allen, 1997). Two “high sacrifice” questions, derived from the focus group discussion, were added to the scale for measurement purposes. The normative commitment scale was rewritten according to the recommendations of Lee et al (2001) who argued that these items should reflect a sense of obligation and avoid conflation with antecedents of normative commitment such as socialization effects. Two normative commitment items were developed for this study after conducting the literature review; these were similar to those in the normative commitment scale originally prepared by Meyer and Allen (1990) and focus on beliefs regarding commitment to the organization. As with all the scales, detailed item analysis was conducted and these are reported in Chapter 5 and its associated appendices.

Demographic details were assessed using 16 items divided into two sections. The first section assessed typical personal demographics that have been found to impact on at least one of the commitment components. These include marital status, race, age, kinship responsibilities (a composite formed from marital status, number of financial dependants and number of children), educational qualifications, and how long the respondent had lived in the

same city (a measure of community involvement). The second section asked questions relating to organizational status and involvement and included questions regarding years in current position, year of entry into full-time employment, tenure, hours worked per week, organizational level, current position, and area of speciality. This set of 16 demographic variables is probably the most extensive ever included in a single study regarding organizational commitment.

Survey design issues: threats to internal validity

The survey questionnaire was the primary research instrument used in this study and its design therefore deserves further attention. This section considers threats to the internal validity of the survey and the design strategies used to counter them. After a literature review 30 possible threats to the internal validity of a research study were identified and examined. Of these only 6 transpired to be relevant to this study and each of these is considered in turn.

Respondent based threats. Respondents may have believed that the results of this could affect their interests and therefore – intentionally or unintentionally – amend their responses accordingly. Similarly, respondents may have been apprehensive about being evaluated by a university-based researcher and as a results could have responded socially desirable manner (particularly to questions regarding performance, civic virtue, and advocacy participation). To counter these threats of hypothesis guessing and social desirability bias, the survey was anonymous and participants were reassured about this. Nevertheless, caution is necessary as Arnold, Feldman, and

Purbhoo (1985) did find a tendency for individuals high in social desirability to over-represent their levels of organizational commitment.

Questionnaire design. The structuring of the questionnaire (commitment items were on page 2 of the questionnaire) may have sensitised respondents to commitment issues, framed their interpretation of later questions, exacerbated social desirability bias (bias in favour of organizationally desirable responses), and encouraged attempts to maintain consistency of responses. On balance, the benefits of this layout seemed to outweigh the potential confounding effects (Schwarz, 1999).

Mono-method bias. Mono-method bias (also called common method variance) occurs when a single method is used to collect the data and may have “extreme effects on...measures of association” (Williams and Brown (1994). It was not possible to assess the variables in this study using other methods as suggested by Podsakoff and Organ (1986) and it was therefore necessary to rely on post-hoc statistical analysis to try assess the effects of mono-method bias (see Chapter 5).

Selection related bias. Selection may be a problem since participation in this research was voluntary and respondents may differ from non-respondents. Attempts to reduce the burden of participation through clear questionnaire design could not mitigate the cognitive demands placed on a respondents asked to complete a 14 page questionnaire. Non-response bias (also called questionnaire-selection interaction) threatens the inferential value of survey data (Groves, Cialdini, & Couper, 1992). A time-trends approach proposed by Armstrong and Overton (1977) to assess the

possibility of non-response bias was considered but not implemented. This approach suggests that those who respond late are similar to non-respondents. A chi-square difference test can be used to compare the first quartile and the last quartile of each group of respondents (age, gender, race, organizational level). The Armstrong and Overton (1977) time-series approach is superior to other methods although there is no perfect way to assess non-response bias (Boshoff & Mels, 2000). Problems with the postal service from certain locations and inaccurate record keeping by participating organizations made it inappropriate to use this approach.

The different “organizational histories” of the participants in this study may result in potentially competing explanation for findings (e.g., some of the participating organizations had experienced mergers or retrenchments). The participants in this study vary across sector and occupation, each having a distinct “local history” (more precisely, a selection–history interaction effect). Still, an alternative design such as a longitudinal design would have exacerbated the history effect in this study. In order to control for this effect, the time span of the survey work was reduced to six months, a period in which I would have come to know all major history effects. Of course, it was not easy to control for random variation in the work context of different respondents and groups of respondents. Extraneous factors in each respondent’s particular work setting may have influenced results (e.g., pressure of work) and such issues if raised in the interviews and focus groups were included in the survey for possible control purposes. Of course,

it is impossible to verify that all relevant extraneous variables had been raised in the interviews and focus groups.

Self-reports. Perceptions of organizational actors are often not clear or accurate (Starbuck & Mezias, 1996). Spector, (1987, 1994) and Schmitt (1994) comprehensively discussed the issue of self-reports in survey research but seem to concur with Howard (1994) that when self-reports are employed with a sensible research design they represent a valuable and valid measurement strategy. Moorman and Podsakoff (1992) noted that despite its problems, self-reports remain the “most plausible alternative for measuring unobservable constructs such as the attitudes of organizational participants (p.131). McLaughlin (1999) and Podsakoff & Organ (1986) proposed several strategies to mitigate this method effect but these were not feasible in this study.

Instrumentation bias. There are two elements of potential instrumentation bias in this study: (a) poor measures and (b) inappropriate measures. The former is not regarded with much concern as a great deal of effort was expended in carefully operationalizing variables by developing multi-item scales and emphasizing psychometric rigour. Few scales were new (there was no a priori attempt to develop new measures), most being well-established in the literature. The issue of the portability of established measures (how appropriate they are for South African respondents) has been raised by Kamfer, Venter and Boshoff (1988) and Boshoff and Hoole (1998) who questioned the cross-cultural equivalence of scales developed in North America or Europe and then used in South Africa. The socio-economic,

legal and political contexts of Euro-American countries and South Africa differ markedly and it cannot be assumed that models and scales developed in Euro-American countries have cross-cultural equivalents in the South African context. Lonner and Berry (1986) and Triandis and Berry (1980) stated that for scales to show cross-cultural equivalence, they have to be equivalent with regard to three aspects, namely functional, conceptual and metric aspects. When testing a model developed in a particular context using scales developed in another country, issues such as a lack of semantic equivalence across languages, lack of conceptual equivalents of models across cultures, and normative differences become relevant in interpreting results (Behling & McFillen, 1997). This implies that survey questionnaires that have been deemed to be reliable in Euro-American countries may contain concepts and phrases that are not interpreted consistently in South Africa. National cultural characteristics and other factors influence the theoretical models on which surveys are based (Wasti, 2003). Most large South African organizational cultures and structures are based on "imported" management models, but South Africa is undergoing rapid transformation and these management models have been questioned for ignoring the African context of South African employees, the unique nature of South Africa with its unique history (Khoza, 1993), and indigenous management philosophies (Mbigi, 1994, 1997).

Survey design issues: threats to generalizability

Several design factors may have affected the generalizability of the research results as follows

1. The research sample was restricted to members of two occupational groups (i.e. accounting and information technology) that met the definition of knowledge workers set in this study.
2. The research sample was restricted to those of “working age” and those employed within organizations. This study therefore did not consider the “young”, those working past the age of 65, and individual contractors. These latter groups are growing in importance (Reich, 2002). For example, information technology organizations may contract work to university students or even secondary school students and auditing firms may rely on the input of senior “consultants” that have officially retired from the firm but retain a working relationship with it.
3. The study was conducted exclusively within South Africa at a time of considerable turbulence and uncertainty for knowledge workers. These contextual factors and temporal effects may have significantly influenced responses.
4. The study was restricted to those employed in public and private commercial organizations and did not include respondents from non-profit, voluntary, or advocacy organizations.
5. All survey questions and all focus group discussions were conducted in the English language even though South Africa is a multi-lingual country with 11 official languages. Non-English language speakers may have felt less disposed to responding to the survey questionnaire and less confident about participating in the focus groups.

6. The sample was drawn from organizations that I knew and that permitted me access (two organizations refused access when approached). The participants in the study may therefore represent a select sub-population on dimensions that have not been specified. Moreover, my personal system would have affected which organizations I decided to approach, which people I decided to interview, and the topics that I tended to emphasised in these interactions.

Iteration between quantitative and qualitative analysis

As mentioned, this study used a mixed method design, incorporating both qualitative and quantitative components (Creswell, 1994). The fieldwork followed a sequential path (qualitative – quantitative – qualitative) but it should be noted that the overall research process is best described as an iterative process that involved frequent shifts between the qualitative data, quantitative data and the literature. Recall, that I first conducted a thorough review of the available literature that helped to create a tentative framework for the interviews and focus groups. The results of the interviews and focus groups helped shape the development of the survey questionnaire by allowing me to develop appropriate new survey items, evaluate item clarity, and revise items in a sample appropriate manner (Hughes & du Mont, 1993). The results of the survey then helped form the grounding for further discussion in the follow-up focus groups.

When combining methods, it is necessary to pay careful attention to the congruence between the chosen research methods and the epistemological stance of the researcher (Morgan, 1998) as there is much to

be gained from recognising the deep epistemological divergences between qualitative and quantitative. Combining qualitative and quantitative methods techniques within a single research design may be interpreted as the forced methodological marriage between two divergent (some would argue incommensurable) research traditions (Wolff, Knodel & Sittitrai, 1993). Despite the resultant complexities in combining methods, incorporating qualitative methods into a dominant quantitative research design was designed to enhance the quality of the resulting analysis (Wolff, 1993 et al.). Initially, my decision to combine methods was taken on pragmatic grounds; an approach to research that is widely accepted in organizational psychology and championed by researchers such as Bryman (1989). Pragmatic approaches have been sharply criticised by those who highlight the paradigmatic complexities in combining approaches based on fundamentally contrasting views of reality and ways to explain it (Gibson & Burrell, 1979). Creswell (1994) noted that the combined use of methods drawn from different paradigmatic traditions may lead to scepticism. For example, qualitative researchers are typically reluctant to generalise their results (Wolff et al., 1993). Over the course of my studies, however, my epistemological stance shifted as I became exposed to the writings of critical realists (e.g. Sayer, 1994, 1997, 2000) and the combination of different methods began to feel appropriate and consistent with my new, more developed, epistemological stance (See chapter 6 for a full discussion on this process of self-development).

Data analysis

Different sources of data were analysed in different ways depending on whether the data elicitation method adopted.

Analysis of interview and focus group data

All focus groups were tape-recorded and after careful listening full transcripts were prepared for the initial focus groups and abridged transcripts for the later focus groups, these were considerably shorter than the full transcripts and were arranged as suggested by Morgan (1988). The qualitative data derived from the interviews and focus groups were analysed using two basic approaches: (a) a 'gestalt' analysis to give an overall sense of the data (Van Maanen, 1988) and (b) a thematic analysis to categorise the data (Miles & Huberman, 1984). The thematic analysis involved both mechanical (dividing the text) and interpretative components (assigning meaning to the text and establishing themes). A preliminary set of codes was developed prior to the fieldwork (as per Miles & Huberman, 1994); these were revised and supplemented over the course of the analysis through a process of pattern coding and clustering (Miles & Huberman). This enabled me to uncover the terms that participants used and to discern shared terms and experiences across participant groups through the triangulation of these shared terms and reflected experiences with data gained from other participant groups from different organizations and at different times. The convergence between the results produced by the two above approaches helped establish confidence in the findings, allowing the research to be grounded in and emerge from the data (Glaser & Strauss, 1967). In sum, a

“less intense” (Carey, 1995, p.126) method of coding and categorising themes was used as opposed to a more intense grounded theory approach because the focus groups were secondary to the survey research.

Silverman (1985) argued for the use of quantitative analysis in qualitative research (such as counting the occurrence of a particular viewpoint). In this study, the focus group data were not intended to provide survey information and the focus groups were not compared with one another so there was no reason for a quantitative analysis. Moreover, such analysis may be inappropriate as there is no necessary relationship between “the prominence of an issue within a group and its importance to members of that group” (Sim, 1997, p.349).

Analysis of survey questionnaire data

Using the Statistica 6.0 statistical software package (Statsoft, 2003), quantitative survey data was analysed using a variety of statistical techniques. Statistica 6.0 is a leading and award-winning statistical package (See www.statsoft.com for further information). Raw data was obtained from participants' responses to the survey questionnaire and this data was used to assess the scales used, test their dimensionality and reliability, make necessary modifications, and test the explanatory model and its attendant propositions.

Testing of assumptions

The effective application of multivariate statistical techniques requires that the data being analysed meet certain conditions or assumptions. Standard treatment of these assumptions may be found in numerous texts

(Berry & Feldman, 1985). Hayduk (1987) presents a full discussion of traditional tests of these assumptions. Fortunately, the Statistica 6.0 package contains many numerical and graphical diagnostic tests and whenever the assumptions of a particular statistical technique were violated, appropriate remedies were effected (See Chapter 5).

Testing reliability: Cronbach's alpha

Reliability refers to the internal consistency of the scales used. The internal consistency (degree of agreement) of multiple items within each measurement scale used in this study was assessed. This was necessary to ensure that scales scores were reliable (that the relative difficulty of items was equivalent for all respondents; See Dunbar, 1998). Internal consistency was measured by calculating Cronbach's (1951) alpha, a well-established and accepted reliability co-efficient, for each scale used in this study. Nunnally and Bernstein (1994) suggested that a Cronbach alpha of .7 was acceptable but others have commented that Cronbach alpha coefficients of .6 or even lower are acceptable in exploratory research. In this study, scale reliability was assessed using a stepwise procedure. In each step of this procedure the Cronbach alpha coefficients are computed and, if necessary, items were removed to improve the reliability of the scale. This procedure was applied to all the scales used in this study and items were removed if set cut-off points were not met. In this study, all the measures had Cronbach alphas that exceeded .7 (See Appendix C). Inter-item correlations were calculated and the mean inter-item correlations all fell within the guideline of $.15 < r < .5$ (Clark & Watson, 1995).

Testing validity

Validity refers to how the scales measure what they are supposed to measure. Two related forms of validity were statistically assessed in this study: (a) convergent validity, which refers to the extent to which multiple items represent a single construct (Campbell and Fiske, 1959); and (b) discriminant validity, which refers to the extent to which different sets of items measure related, but distinct constructs (Bohrnstedt & Knoke, 1994).

Factor analysis. Factor analysis uncovers patterns amongst item values through the generation of artificial independent dimensions (factors) based on the correlation of item values (Babbie, 1973). Factor analysis was therefore the most appropriate way to assess the convergent and discriminant validity of the multiple item measures used in this study (Campbell and Fiske, 1959) because it indicates the underlying structure of the items being analysed.

Given the large number of items in the survey questionnaire and the large number of proposed antecedents of ACORG, strict decision criteria for the factor analyses were adopted so that the analysed variables in the explanatory model would be independent and the explanatory model appropriately parsimonious. Five sets of decisions regarding the application of factor analysis in this study were made, based on statistical theory and established technical recommendations. These decisions concerned the following: (a) the extraction method, (b) the rotation strategy, (c) the specification of the maximum number of factors to extract; (d) the minimum eigenvalue (latent root or R) for each factor, and (e) the minimum level of

item loading and the maximum level of item cross-loadings. Below, a brief motivation for the choices related to these five issues:

1. **Extraction method:** Factor analysis using both the commonly used Principal Component extraction approach (often used for data reduction and hence especially useful when examining many interrelated antecedent items) and the theoretically more appropriate Principal Axis extraction approach (a principal factors method typically used for detecting structure and hence for determining the underlying structure of the items) were conducted. The final factor analysis results reported here will be that using the Principal Axis approach but comments regarding the Principal Components results will be noted if appropriate.
2. **Rotation strategy:** A Varimax Normalised rotation strategy was adopted. This strategy is the most common, authoritative, and widely accepted orthogonal rotation strategy (Statsoft, 2003). Oblique rotation and higher-order analysis were not considered appropriate for assessing the factor structure of the antecedents or outcomes items in this study because there was no hypothesised (or intuitive) reason that could justify correlations between all the variables, especially in the ACORG Model. Of course, correlation between some of the variables is likely (e.g. all those relating to fairness) but not across basic conceptual domains (e.g. job alternatives and fairness).
3. **Number of components:** No minimum or maximum number of factors was specified during the analysis as the factor analysis was conducted for exploratory rather than confirmatory purposes.
4. **Eigenvalue cut-off:** Kaiser's criterion of $R > 1$ was applied when using the Principal Components extraction method but Joliffe's criterion of $R > .7$ was also considered when using the Principal Axis extraction method. This choice of eigenvalue cut-offs typically yields the most interpretable factor structures and is consistent with the differences in these two extraction methods as Principal Component approaches tend to extract too many factors and Principal Axis extraction, too few factors (Statsoft, 2003). The widespread application of Kaiser's criterion has been contested (Gorsuch, 1990, 1997) and a detailed analysis of eigenvalues, scree plots, and an assessment of the percentage variance explained by the factor structure was considered when deciding of the most appropriate factor structure.
5. **Item loading and cross-loading:** Gorsuch (1997) regarded a minimum factor loading of .6 as significant but noted that others regarded factor loadings of greater than .5 for items expected to load together as significant evidence of convergent validity. Campbell and Fiske (1959) noted that factor loadings of less than .3 for items not expected to load together is evidence of discriminant validity (that the measures of different constructs were not too highly correlated). Given the large sample size in this study, all factor loading greater than .3 were examined (See Hair, Anderson, Tatham, & Black, 1998). Any item that cross-loaded with a loading of over .3 on another factor was dropped. That is, whenever discriminant validity appeared problematic (it was unclear whether items

were tapping distinct constructs) items were eliminated, sometimes resulting in the elimination of proposed scales

A stepwise approach to the exploratory factor analysis was adopted. That is, a series of factor analysis were conducted (Gorsuch, 1997). Using this approach individual items were removed from scales at each step of the stepwise factor analysis procedure (if this was suggested by the analysis) to ensure the discriminant and construct validity of the scales. The procedure was repeated until all scales had acceptable levels of discriminant validity (all the items measuring one construct loaded onto one factor) and displayed factorial validity. This approach helped ensure the statistical rigour of this study. That is, the scales used in the final analysis of survey responses demonstrated high levels of factorial validity and reliability (internal consistency), meeting Tull and Hawkins' (1993, p.319) criteria for ensuring construct validity (that the scales measured mechanisms proposed in the explanatory model).

Testing the model

Responses to the survey questionnaire provided the raw data necessary for testing the explanatory model described in Chapter 3. The model described in Chapter 3 comprises of several sets of independent and dependent variables that are proposed to have direct relationships. In order to investigate the explanatory power of the explanatory model (rather than the pattern of relationships shown by correlation analysis) it was necessary to conduct a variety of inferential statistical analyses.

Multiple regression analysis. Multiple regression analysis is a statistical technique used to examine the relationship between a dependent

variable and two or more independent (predictor) variables. Multiple regression analysis (MRA) enabled me to estimate the relative importance of several proposed predictors of a dependent variable of interest (Healey, 1990; Berry & Feldman, 1985). MRA is particularly useful in this study as there are a large number of independent variables specified as antecedents of ACORG and MRA is a powerful way to determine the relative importance of several hypothesised variables on a particular dependent variable.

Hierarchical regression analysis (entering block of independent variables in to the analysis were conducted when appropriate (See Chapter 5) in order to control for certain variables or determine the incremental effects of certain variables or interaction terms. Standard rather than stepwise regression was used (See Thompson, 1995) and a full battery of residual analyses and diagnostic tests were performed (to check for the violation of statistical assumptions) after each analysis, as recommended by leading statistical texts (e.g. Hair et al., 1998; Howell, 2002; Statistica, 1995).

Confirmatory Factor Analysis. In general, Confirmatory Factor Analysis (CFA) allows one to specify a priori, a pattern of factor loadings for a particular number of orthogonal or oblique factors, and then test whether the observed correlation matrix can be reproduced given these specifications (Statsoft, 2003). CFA was used to assess the dimensionality of commitment.

There are various ways to conduct CFA and a few notes on the process adopted in this study are therefore necessary. For each model, the maximum likelihood method (ML) was used to calculate the correlation matrix of observed variables and estimate model robustness. Although covariance

structural modelling procedures were originally designed to operate directly on a covariance matrix it is often more useful to analyse correlations than covariances in a confirmatory factor model because it makes CFA results much easier to compare with exploratory factor analysis procedures (generally applied to a correlation matrix). The problem with using a correlation matrix is that the statistical distribution of the elements of a covariance matrix is not the same as that of a correlation matrix. That is, the diagonal elements of a covariance matrix (the variances of the variables), vary from sample to sample whereas the diagonal elements of a correlation matrix are not random variables and always equal 1. Analysing a correlation matrix as if it were a covariance matrix is likely to lead to incorrect results (Statistica, 1995), as the sampling distribution theory employed is not applicable to a correlation matrix, except in special circumstances (Cudeck, 1989). Fortunately, the Statistica 6.0 programme used in this study can be set so that a correlation matrix can be analysed as if it were a covariance matrix in a correct and appropriate way. Unlike other statistical software, the SEM module in Statistica 6.0 uses constrained estimation theory (Statsoft, 2003), and therefore provides the correct standard errors, estimates, and test statistics.

Mels (1989), who pioneered the above approach, adds three statistical reasons for (correctly) analysing correlation matrices rather than covariance matrices, all of which are based on the realization that analysing the sample covariance matrix is inconvenient in practice. The three reasons are: (a) the sample covariance matrix may be ill-scaled; (b) variables standardised to the

same scale (unit variance) are generally easier to interpret; and (c) in many earlier studies available for reanalysis, only the correlation matrix is available. These considerations have led many researchers to input sample correlation matrices to covariance structure analysis programs as though they were covariance matrices. Cudeck (1989) warned that this could lead to incorrect results. In particular, unless the model is invariant under diagonal rescaling, the calculated standard errors will almost certainly be incorrect, and the observed test statistic may be incorrect. As mentioned, this was not a problem in this study because the analytic strategy adopted correctly analysed the sample correlation matrix and eliminated the problems detailed by Cudeck (1989).

Structural equation modelling. Structural equation modelling (SEM) is a multivariate technique that combines aspects of multiple regression (that is, of examining dependent relationships) and factor analysis (representing unmeasured concepts or factors, with multiple variables) to estimate series of inter-related dependence relationships at the same time (Hair et al., 1998.. SEM differs from other multivariate techniques in that it estimates a series of separate but inter-dependent multiple regression equations simultaneously by specifying the structural model to be used by a statistical programme (p. 584). The dependent variable in one equation can become the independent variable in another equation and this set of multiple inter-related equations can be estimated simultaneously. Another important feature of SEM is that it can incorporate latent variables (a hypothesised concept that can only be approximated by observable variables) into data analysis. SEM

specifies the measurement model and specifies the rules of correspondence between manifest and latent variables (Hair et al., 1988 p. 586). It therefore accounts for measurement error, providing less biased estimates of structural coefficients of correlations because the effects of random measurement error are removed from the analysis (Brooke et al., 1998). SEM was an appropriate way to answer research questions regarding the outcome variables in this study because a theoretical model was outlined before the application of this technique. This aspect of the study was therefore not exploratory but confirmatory of a given model. SEM is not a suitable technique for conducting exploratory analyses. Hair et al. (1998) emphasised the need for theory-based approaches in which specified causal relationships were based on theory. Structural equation models specify the causal relationship between constructs. The essence of SEM is that specific relationships represent causal links rather than measures of association.

Structural equation modelling is more appropriate than MRA when there are measurement errors in the observed variables, when there is interdependent or simultaneous causation amongst constructs and when the nature of research is theory-based (Goldberger & Duncan, 1973; Statsoft, 2003). SEM is therefore the most appropriate method to investigate those outcomes of organizational commitment (i.e. turnover intention) that are strongly based on prior research and established theory.

SEM is a widely used technique and has several advantages over traditional analytical techniques. First, it can represent interrelated latent concepts and accounts for measurement error in the estimation process.

Second, it permits the estimation of multiple and interrelated dependent relationships. These multiple equations can be interrelated so that the dependent variable in one equation can be the independent variable in other equations. This permits the modelling of complex relationships, which is not possible with other multivariate techniques (Hair et al. 1998).

Several procedural decisions need to be considered before estimation using SEM can occur. Six issues were considered and they are discussed in turn: (a) Level of aggregation; (b) Number of indicators per construct; (c) Matrix for analysis; (d) Method of estimation; (e) Steps in analysis; (f)

SEPATH Model. Each of these issues are discussed below

1. **Level of aggregation:** There are three levels of aggregation in modelling constructs: total aggregation, partial aggregation, and total disaggregation. In the total aggregation model, a single value for each construct (combining all indicators) is used as input for SEM. In the partial aggregation model, subsets of items are combined into composites that are treated as multiple indicators of a particular construct. In the total disaggregation model, the true single items are used as multiple measures of the latent constructs. The use of the disaggregated model allows the most explicit test of construct quality and is therefore used in this study (Baumgartner & Homburg, 1996).
2. **Number of indicators per construct:** Hair et al (1998) recommended at least three indicators per construct but here is no consensus in the literature and two indicators per construct is often used. The use of two indicators increases the risk of reaching an infeasible solution (Baumgartner & Homburg, 1996; Hair et al, 1998). The use of too many indicators may result in a non-parsimonious measurement model. In this study, when using SEM, all constructs will have three indicators per construct.
3. **Matrix for analysis:** This issue was discussed in the previous chapter where it was noted that the analytical strategies adopted permitted the use of a correlation matrix without the problems attendant on such a choice with all the advantages of such a choice.
4. **Method of estimation:** Estimation techniques transform the input matrix into structural parameters. In this study, five iterations using the Generalised Least Squares estimation procedure were followed by Maximum Likelihood Estimation using the Maximum Wishart Likelihood (ML) discrepancy function. The Wishart distribution is a somewhat less restrictive assumption than the requirement that the observed variables

follow a multivariate normal distribution, which is frequently contestable in behavioural sciences research (Statsoft, 2003). Maximum Likelihood approaches are the most widely used in SEM and they are robust against moderate violations of the normality assumption if the sample size is larger than 100, as it was in this study. Estimation processes such as ADF (asymptotically distribution-free) estimation do not require normally-distributed data. This approach is rarely used because it requires extremely large samples and is not widely available. The primary reason it was not used in this study was that it does not necessarily outperform ML methods (Baumgartner & Homburg, 1996).

5. **Steps in analysis:** Single-step analysis, which involves the simultaneous estimation of the measurement and structural models, was used in this study. A two-step analysis applies a separate estimation for the measurement model prior to the simultaneous estimation of the measurement and structural models. Single-step analysis is preferable when the model is theoretically sound and has highly reliable measures (Hair et al, 1998). Kumar and Dillon (1987, p.98) clearly stated that "though measurement and structure can be estimated independently of each other, in general they should not be". The measures used in this study are highly reliable and strong theoretical support exists for the structural model estimated in this study (outcomes of commitment).
6. **Standardization of structural parameters:** For interpreting linear structural relationships, it is often desirable to have structural parameters standardised (i.e., constrained so that all latent variables have unit variance). It is easy to constrain the variances of exogenous latent variables to unity. Since these variances appear as parameters in the standard model specification, one simply sets these parameters equal to a fixed value of 1. This approach is often not available for *endogenous* latent variables, because their variances could not be specified directly. Consequently, "standardised" solutions were generated in older statistical programmes by first computing the unstandardized solution, then computing (non-iteratively) the values of standardised coefficients after the fact, using standard regression algebra (Statistica, 1995). Statistica (1995) noted that there are, in practice, some problems with such solutions. First, standard errors are not available. Second, some equality constraints specified in the model coefficients, which are satisfied in the unstandardized solution, may not be achieved in the standardised version. *SEPATH* in Statistica 6.0 offers an option which produces a standardised solution by constraining the variances of endogenous latent variables during iteration using a constrained Fisher Scoring algorithm. This approach produces a solution where all latent variables, both independent and dependent, have variances of 1. Unlike other methods, however, standard errors are available with this option. Combining this option with the correlation matrix option allowed me to estimate a completely standardised path model, where all variables, manifest and latent, have unit variances, and standard errors can be estimated for all parameters. Steiger (1995) recognised that older programs can generate a standardised solution after iteration is complete, and then perform a

calculation after the fact to transform the solution to a standardised form but noted that though this method gets a solution faster than the option used in this study (because it does not need to use constrained estimation), standard errors cannot be computed.

Fit indices. Fit indices indicate the degree to which data fits a given model (confirmatory or structural). There is no uniform set of accepted fit indices (Hair et al., 1998) and commitment researchers have paid little attention to discussing alternative fit indices. The following series of goodness of fit indices are reported in this study either because they have been cited in past studies or because they are considered to be particularly useful fit indices (Hair et al, 1998):

1. **Joreskog Goodness of Fit Index or GFI.** The GFI is a negatively biased estimate of the population GFI and tends to produce a pessimistic view of the quality of population fit. It is presented because of its historical popularity. The Population Gamma index is a superior realization of the same rationale (See later). Values above .95 indicate good fit but values above .90 are acceptable.
2. **Joreskog Adjusted Goodness of Fit Index or AGFI.** This index is, like the GFI, a negatively biased estimate of its population equivalent. As with the GFI, this index is presented because of its historical popularity. The Adjusted Population Gamma index is a superior realization of the same rationale (See later). Values above .95 indicate good fit but values above .90 are also acceptable.
3. **Bentler-Bonett (1980) Normed Fit Index or NFI.** The NFI is regarded as an important fit index. It measures the relative decrease in the discrepancy function caused by switching from a "Null Model" or baseline model, to a more complex model. A value of 1 indicates perfect fit and a value of .90 is acceptable. The NFI does not compensate for model parsimony.
4. **Bentler-Bonett Non-Normed Fit Index or NNFI.** The NNFI compensates for model parsimony (many researchers believe that parsimony adjustments are important but there is some debate about whether they are appropriate). Steiger (1995) cited the view that researchers should evaluate model fit independent of parsimony considerations, but evaluate alternative theories favouring parsimony. That is, a model would not be penalized for having more parameters, but if simpler alternative models fit equally well, the simpler model should be favoured. A value of .90 or greater is regarded as indicating an adequate fit of the model.

5. **Bentler Comparative Fit Index or CFI.** The CFI estimates the relative decrease in population noncentrality obtained by changing from the "Null Model" to the k'th model. It is widely regarded as an important fit index. Values of .90 and above indicate good fit.
6. **James-Mulaik-Brett Parsimonious Fit Index or PFI.** The PFI, an early index that compensates for model parsimony, operates by rescaling the NFI to compensate for model parsimony. Values above .75 are acceptable.

The use of a variety of indices was important because the traditional chi-square (χ^2) indicator is a poor fit index and there is no consensus regarding the best index to use (Statsoft, 2003). Chi-square is a poor fit index because it is affected by sample size, model size and the distribution of variables (Hair et al., 1998). Large samples tend to produce large chi-squares that are more likely to be significant (Type I error) and small samples tend to accept poor models (Type II error). Consequently, it is difficult to get a non-significant chi-square when samples sizes are much over 200, even when other indices suggest a decent fitting model. Model size also has an increasing effect on chi-square values so that models with more variables (more complicated models) tend to have larger chi-squares. Chi-square is also affected by the distribution of variables. Highly skewed and kurtotic variables increase chi-square values (multivariate normality assumption).

The ratio of chi-square to degrees of freedom (the χ^2/df ratio) has been proposed with a ratio between 2 and 3 indicating a good fit (Carmines & Mclver, 1981) but Medskar, Williams, and Holahan (1994) cautioned that even this approach suffers from arbitrary standards of interpretation. The GFI and AGFI (presented above) are based on variations of the chi-square and should also be used with caution. In recent papers the CFI and NNFI have

been presented as the most useful fit indices for examining theoretical models (e.g. Stinglhamber et al., 2002). In this study, it was not necessary to calculate item aggregates as suggested by Bagozzi and Heatherton (1994) because there were a relatively small number of items in each factor.

Sample goodness of fit indices test the overall hypothesis that that fit is perfect but are often pessimistic when sample size is high (Statsoft, 2003). Noncentrality based indices of fit are a class of statistic for evaluating the overall fit of a model to the data that are not widely used yet but which have gained considerable favour with structural modelling experts (Statsoft, 2003). Many noncentrality fit indices lend themselves naturally to a confidence interval approach to fit assessment and assess (with a confidence interval) how good fit is and how accurately fit has been determined (precision). A variety of noncentrality-based, goodness-of-fit indices (goodness-of-fit assessments based on an estimation of the population noncentrality parameter) were therefore calculated.

The philosophy behind noncentrality-based indices of fit represents a change of emphasis in assessing model fit because instead of testing the hypothesis of perfect fit, it provides an index of "badness of fit" and an assessment of how accurately the population "badness-of-fit" was determined from the sample data (Steiger, 1990). Consequently, the indices presented in this section allow confidence interval assessment as well as the more traditional point estimates. As a result, they reward high sample size, and high power, with a narrower confidence interval expressing a higher

precision of estimate. The following noncentrality fit indices were calculated (Statsoft, 2003; Statistica, 1995):

1. **Population Noncentrality Parameter.** This is a direct estimate of the population noncentrality parameter used to compute other noncentrality-based indices. It is included here because future researchers may wish to use it in future calculations.
2. **Steiger-Lind RMSEA Index.** This index corrects the population noncentrality parameter by compensating for model parsimony. It was developed on the assumption that, other things being equal, more parsimonious models (those with fewer parameters) tend not to fit as well as less parsimonious models. Consequently, an index of fit that fails to compensate for the number of parameters in the model can be somewhat misleading. The Steiger-Lind index compensates for model parsimony by dividing the estimate of the population noncentrality parameter by the degrees of freedom. This ratio, in a sense, represents a "mean square badness-of-fit." In general, values of the RMSEA index below .08 indicate adequate fit, values below .05 indicate very good fit, values below .01 indicate outstanding fit. The RMSEA index tends to produce the same conclusions about population fit as the Adjusted Population Gamma Index (See below).
3. **McDonald's Index of Noncentrality.** McDonald proposed this index of noncentrality as one approach to transforming the population noncentrality index into the range from 0 to 1. The index does not compensate for model parsimony and adopts a pragmatic rationale for the exponential transformation it applies. Good fit is indicated by values above .95 but a value of .90 is acceptable.
4. **Population Gamma Index.** This index is an extension of the rationale for the GFI and is intended to be a strictly descriptive (sample based) statistic. However, Tanaka and Huba (1989) showed that the GFI and AGFI could be justified on the basis of a "coefficient of determination" rationale. Steiger (1989) noted that this rationale could be extended to the population as well as the sample, and developed the asymptotic sampling theory of the statistic. The population gamma index is an estimate of the "population GFI," the value of the GFI that would be obtained if we could analyse the population covariance matrix. For this index, good fit is indicated by values above .95, but a value of .90 is acceptable.
5. **Adjusted Population Gamma Index.** This index is an extension of rationale of the AGFI and is essentially an estimate of the population GFI corrected for model parsimony. Good fit is indicated by values above .95, though a value of .90 is acceptable.

Significance and effect sizes. Every relationship between variables has two formal properties (a) its magnitude or "size" and (b) its reliability or

“truthfulness” (Statistica, 1995, p.1411). The latter property denotes the significance of the relationship and pertains to how well the results obtained are thought to represent those of the entire population (Statistica, 1995). Statistical significance is denoted by the value (or “p-level”) associated with a particular relationship (“p-level” is thought to represent the “probability of error” involved in accepting the validity of the observed result as representative of the entire population). In the social sciences, p-levels below .05 are considered “borderline statistically significant”, p-levels below .01 are considered “statistically significant”, and p-levels below .001 are often termed “highly significant” (Statistica, 1995, p.1412). These are arbitrary conventions and p-levels are strongly affected by sample size (See Statistica, 1995). For example, in this study the large sample size will mean that even low correlation coefficients (practically insignificant results) may be statistically significant. Similarly, if analysis in this study was not proposition driven then some correlations would be significant, by chance (See Statistica, 1995). Thompson (1994) commented that statistical significance “is a function of at least seven interrelated features of a study...(but) sample size is a basic influence on significance” and significance should therefore only be interpreted “within the context of sample size” (p.843).

For these and other reasons (See Cohen & Cohen, 1990 & Thompson, 1994, 2002), significant testing has become a highly contested issue in psychological and educational research and some have even recommended that it be “banned from journals” (Thompson, 2002, p.25). The American Psychological Association recommends that statistical significance

be reported along with “some index of effect size or strength of relationship in your Results section” (APA Publication Manual, 2001, p.25). Unfortunately, the APA did not recommend specific measures even though their recommendations had been based on the report of an APA task force that had deliberated for almost two years on the issue (Wilkinson & APA Task Force on Statistical Inference, 1999). In keeping with the APA’s recommendation, the Results section in this dissertation will present estimates of the effect size, or strength of relationship of all relevant findings. This is particularly important to facilitate comparisons with future research (Thompson, 2002). In this study, all post-hoc power analyses will be calculated using the G*Power software package (Buchner, Erdenfelder, & Fail, 1997). Power reflects the probability of finding what one is looking for given the sample size and sample statistics, sufficient power is typically considered as .8 or 80% (Miles, 2003). Moreover, in the multiple regression analyses “adjusted R²” will be reported along with R² (adjusted R² adjusts the value of R² by accounting for the number of independent variables in the regression equation). G*Power will be applied to calculate the effect size (magnitude of the result) of the regression models and these effect sizes (i.e. f²) will be evaluated using the criterion set by Cohen (1998, 2000). The importance of calculating effect size is to determine whether a statistical result has practical significance (i.e. whether it is a substantive result).

Ethical threats and human subject concerns

Internationally recognised ethical guidelines (of the American Psychological Association, the British Psychological Society, and the

Psychological Society of South Africa) were scrutinised before commencing this research study in order ensure that these guidelines were followed to safeguard the rights and welfare of individuals who participated. Smith's (1995) paper on ethical issues in focus group research was also consulted, as this method is not specifically covered in available ethical codes. This study posed minimal risks to individual respondents and there is therefore no risk that this study could be rejected on ethical grounds.

Final notes

This chapter detailed the stringent methods and procedures that were applied in this study to ensure the integrity of its conclusions and counter any potential threats to its validity. Specifically, this chapter performed important task of clearly describing the methods and procedures that were used to develop and test the proposed explanatory model of organizational commitment amongst South African knowledge workers. It described how a mixed method design was adopted and how it incorporated both qualitative and quantitative methods including focus groups, interviews, secondary sources, and a survey questionnaire. The data analysis strategy was carefully discussed and the chapter critically discussed issues relating to the application of the methods used and the analysis of data arising from implementing them. The next chapter presents the results of the survey.

CHAPTER 5: RESULTS

This chapter presents the results of the quantitative analysis of responses to the survey questionnaire. The chapter is divided into five broad sections. The first section outlines the data screening procedures and initial analyses that were conducted on the data. The second section presents results concerning the nature and dimensionality of the organizational commitment construct. The third section presents results concerning multiple foci of commitment. The fourth section examines the antecedents of each form of organizational commitment. The fifth section presents results concerning the outcomes of organizational commitment, including the importance of different foci of commitment in explaining these outcomes. The sixth section presents results regarding the application of these results across private sector and public sector organizations.

Data screening and initial analyses

The data screening process recommended by Hair et al., (1998) was applied. For example, (a) the pattern of missing data was graphically examined to confirm that the missing data was randomly distributed and not a potential source of bias, (b) data verification processes to check for incorrect data inputting were conducted, and (c) the descriptive statistics and distributions of all the scales used in this study were examined prior to assessing their appropriateness for use in advanced data analysis. After

considering different options, casewise deletion of missing data was set as the default setting for all analyses because it represented the most theoretically sound approach and introduced the least bias into the analyses (See Nunnally & Bernstein, 1994).

Descriptive statistics

Table 5.1 presents the descriptive statistics for all the commitment variables used in this study and all the control variables used in the analyses, details regarding the skewness, kurtosis and normality of the scales are presented in Appendix C.

Table 5.1

Descriptive Statistics: Commitment Scales and Interval Control Variables

	N	Mean	-95%	+95%	SD	SE	α
COMMITMENT SCALES							
<i>ACORG</i>	626	3.113	3.045	3.180	0.861	0.034	.87
<i>CCORG</i>	630	3.150	3.076	3.224	0.946	0.038	.90
<i>NCORG</i>	632	2.622	2.553	2.692	0.886	0.035	.89
<i>ACORG (3 items)</i>	628	3.123	3.050	3.196	0.933	0.037	.87
<i>ACMAN (3 items)</i>	622	2.803	2.727	2.879	0.965	0.039	.90
<i>ACCW (3 items)</i>	626	3.324	3.256	3.392	0.867	0.035	.90
<i>CCORG (3 items)</i>	632	3.139	3.060	3.218	1.009	0.040	.87
<i>CCMAN (3 items)*</i>	622	2.375	2.306	2.443	0.868	0.035	.88
<i>CCCW (3 items)*</i>	625	2.431	2.367	2.495	0.814	0.033	.91
<i>NCORG (3 items)</i>	632	2.575	2.502	2.648	0.935	0.037	.85
<i>NCMAN (3 items)*</i>	623	2.448	2.376	2.521	0.924	0.037	.89
<i>NCCW (3 items)*</i>	624	2.504	2.434	2.573	0.886	0.035	.91
CONTROL VARIABLES							
<i>Age</i>	624	36.069	35.255	36.883	10.352	0.414	-
<i>Tenure</i>	629	8.499	7.849	9.150	8.309	0.331	-
<i>Years in Profession*</i>	533	11.832	11.026	12.637	9.464	0.410	-
<i>Negative Affect</i>	622	1.383	1.307	1.459	0.965	0.039	.83

Notes: * = excluded from final analysis; ** unsuitable for regression analysis; *** = revised scale. Range of all from 1-5 except *Years in Profession* with .5 to 43. performance from 3 to 5, *Wellness* 0-4, *Negative Affect* 0-4. Description of categorical control variables can be found in Chapter 4. *Helping* is combine *Altruism* and *Courtesy* scales. α = Cronbach Alpha coefficient

Table 5.2 presents the descriptive statistics of all the antecedent and outcome variables proposed in Chapter 3.

Table 5.2
Descriptive Statistics: Proposed Antecedents, Correlates and Outcomes

	N	Mean	-95%	+95%	SD	SE	α
ANTECEDENTS							
<i>Distributive Justice</i>	627	3.084	3.009	3.159	0.960	0.038	.93
<i>Work Overload</i>	621	3.245	3.162	3.327	1.048	0.042	.90
<i>Job Variety</i>	619	3.172	3.095	3.249	0.978	0.039	.88
<i>Job Formalization</i>	620	2.906	2.832	2.981	0.947	0.038	.84
<i>Job Feedback</i>	620	3.319	3.241	3.397	0.986	0.040	.95
<i>Charismatic Leadership</i>	625	3.194	3.119	3.269	0.953	0.038	.95
<i>Job Security</i>	617	3.373	3.307	3.439	0.833	0.034	.78
<i>OBSE</i>	618	3.859	3.810	3.909	0.626	0.025	.85
<i>Mgt. Support`</i>	622	3.592	3.520	3.663	0.908	0.036	.90
<i>Mgt. Vision`</i>	621	3.159	3.085	3.234	0.942	0.038	.90
<i>Interpersonal PJ`</i>	622	3.462	3.396	3.529	0.846	0.034	.83
<i>Mgt. Relationships</i>	620	3.528	3.463	3.594	0.837	0.034	.93
<i>Met Expectations (4 items)*</i>	626	3.091	3.019	3.163	0.918	0.037	.88
<i>Met Expectations***</i>	627	3.098	3.023	3.173	0.954	0.038	.89
<i>POS*</i>	631	2.894	2.827	2.962	0.859	0.034	.91
<i>Multicultural PJ*</i>	625	3.496	3.431	3.561	0.832	0.033	.77
<i>Org. Prestige*</i>	627	3.374	3.299	3.450	0.963	0.038	.90
<i>Structural PJ</i>	625	3.017	2.952	3.082	0.831	0.033	.85
<i>Job autonomy*</i>	618	3.608	3.550	3.667	0.738	0.030	.71
<i>Learning environment*</i>	626	3.377	3.305	3.449	0.913	0.037	.80
<i>Self Investment</i>	626	4.243	4.199	4.288	0.569	0.023	.86
<i>Job Alternatives</i>	616	3.275	3.190	3.359	1.068	0.043	.90
<i>Skill Transferability (3 items)*</i>	617	3.867	3.822	3.911	0.558	0.022	.58
<i>Skill Transferability***</i>	618	4.133	4.087	4.178	0.579	0.023	-
<i>Socialized Loyalty</i>	621	3.624	3.562	3.686	0.790	0.032	.71
CORRELATES							
<i>Work Motivation</i>	621	3.960	3.909	4.011	0.647	0.026	.80
<i>Job Satisfaction</i>	620	3.543	3.475	3.611	0.859	0.035	.93
<i>Occupational Commitment</i>	625	3.903	3.845	3.961	0.738	0.030	.90
OUTCOMES							
<i>Helping</i>	623	4.068	4.034	4.102	0.435	0.017	.84
<i>Turnover Intention</i>	616	2.617	2.526	2.707	1.144	0.046	.93
<i>Boosting</i>	625	4.011	3.939	4.084	0.925	0.037	.86
<i>Wellbeing</i>	618	2.874	2.802	2.946	0.910	0.037	.87
<i>Encouraging*</i>	626	3.940	3.895	3.984	0.568	0.023	.79
<i>Improving*</i>	623	4.064	4.003	4.126	0.781	0.031	.78
<i>Grumbling*</i>	624	3.117	3.048	3.186	0.876	0.035	.66
<i>Participating**</i>	623	3.968	3.896	4.040	0.916	0.037	.78
<i>Performance**</i>	623	4.268	4.232	4.304	0.457	0.018	.91
<i>Contributing*</i>	625	4.179	4.115	4.244	0.819	0.033	.79
<i>Slacking**</i>	608	1.673	1.605	1.741	0.857	0.035	.76
<i>Innovating**</i>	625	4.002	3.936	4.068	0.837	0.033	.91

Notes: * = excluded from final analysis; ** = not used in the hierarchical regression analyses; *** = revised scale. Range: 1-5 except *Year in Profession* with .5 to 43. *Performance* from 3 to 5, *Wellness* 0-4, *Negative Affect* 0-4. Descriptive statistics of categorical control variables can be found in Chapter 4. *Helping* is the proposed combination of the *Altruism* and *Courtesy* scales. 1 = collapsed into *Management Relationships* scale. α = Cronbach Alpha coefficient. SE = SE of mean. -95% = lower 95% confidence interval for mean, +95% = upper 95% confidence interval for mean.

Table 5.3 (in three parts) presents the correlation analysis of the three components of organizational commitment, the proposed control variables, and the proposed antecedents of commitment to the organization (See later for comment on these statistics).

Table 5.3 (part 1)

Correlation Analysis: Commitment, Control Variables and Antecedents

	1	2	3	4	5	6	7	8	9
1. <i>ACORG</i>									
2. <i>CCORG</i>	.24								
3. <i>NCORG</i>	.43	.22							
4. <i>Age</i>	.16	.22	.02						
5. <i>Tenure</i>	.15	.21	.01	.60					
6. <i>Yrs in Profession*</i>	.17	.23	.04	.86	.66				
7. <i>Negative Affect</i>	-.36	.07	-.15	-.07	.04	-.02			
8. <i>Distributive Justice</i>	.33	.16	.20	.10	.11	.09	-.18		
9. <i>Work Overload</i>	.04	.01	.11	-.06	.02	.01	.10	-.19	
10. <i>Job Variety</i>	.19	.02	.11	.22	.17	.24	-.22	.15	.04
11. <i>Job Formalization</i>	.33	.12	.14	-.06	.06	-.09	-.14	.19	-.10
12. <i>Job Feedback</i>	.34	.02	.20	-.03	.03	-.06	-.36	.20	-.07
13. <i>Charismatic Leadership</i>	.38	.04	.17	-.14	-.10	-.12	-.28	.24	-.07
14. <i>Job Security</i>	.29	-.02	.05	.01	.07	.07	-.28	.01	.05
15. <i>OBSE</i>	.44	.05	.24	.18	.16	.18	-.40	.18	.07
16. <i>Mgt. Relationships</i>	.27	.01	.22	-.11	-.04	-.12	-.29	.25	-.11
17. <i>Met Expectations</i>	.46	.10	.28	-.01	.08	-.02	-.35	.26	-.04
18. <i>POS</i>	.15	.08	.08	.14	.19	.20	.02	-.06	.30
19. <i>Multicultural PJ*</i>	-.03	.36	.04	.25	.20	.22	.30	-.00	.06
20. <i>Org. Prestige*</i>	-.06	-.20	-.14	-.01	-.10	.02	-.02	-.08	.22
21. <i>Structural PJ*</i>	.31	.26	.40	.12	.15	.17	.05	.12	.04
22. <i>Job autonomy*</i>	.53	.03	.33	-.09	-.08	-.10	-.45	.37	-.07
23. <i>Learning environment*</i>	.33	-.01	.22	-.10	-.06	-.08	-.28	.24	.02
24. <i>Self Investment</i>	.30	-.02	.17	-.30	-.24	-.26	-.25	.19	-.07
25. <i>Job Alternatives</i>	.36	.09	.21	.00	.01	-.02	-.28	.25	-.03
26. <i>Skill Transferability***</i>	.28	.04	.16	.20	.12	.17	-.23	.16	-.05
27. <i>Socialized Loyalty</i>	.40	.03	.18	-.24	-.14	-.17	-.32	.24	.01

Note: N = 461

* = excluded from final analyses

*** = revised scale

All $r > .122$ at $p < .01$; All $r > .155$ at $p < .001$; All $r > .183$ at $p < .0001$

Table 5.3 (continued, part 2)

Correlation Analysis: Commitment, Control Variables and Antecedents

	10	11	12	13	14	15	16	17	18
1. ACORG									
2. CCORG									
3. NCORG									
4. Age									
5. Tenure									
6. Yrs in Profession*									
7. Negative Affect									
8. Distributive Justice									
9. Work Overload									
10. Job Variety									
11. Job Formalization	-.08								
12. Job Feedback	.09	.40							
13. Charismatic Leadership	-.01	.24	.32						
14. Job Security	.15	.04	.16	.09					
15. OBSE	.25	.12	.34	.28	.24				
16. Mgt. Relationships	.09	.27	.40	.32	.08	.40			
17. Met Expectations	.10	.30	.35	.33	.25	.31	.38		
18. POS*	.16	-.08	-.03	-.08	.05	.27	.00	.05	
19. Multicultural PJ*	-.12	-.10	-.16	-.11	-.17	-.05	-.12	-.13	.06
20. Org. Prestige*	.19	-.17	-.00	-.07	.17	.15	-.07	-.10	.16
21. Structural PJ*	-.03	.18	.13	.17	-.04	.19	.08	.12	.17
22. Job autonomy*	.10	.40	.46	.48	.21	.39	.49	.51	.01
23. Learning environment*	.05	.31	.39	.42	.11	.30	.39	.40	.03
24. Self Investment	-.03	.30	.37	.42	.24	.06	.24	.34	-.15
25. Job Alternatives	-.00	.32	.38	.40	.12	.32	.36	.38	.07
26. Skill Transferability	.22	.06	.31	.15	.09	.43	.28	.30	.17
27. Socialized Loyalty	.02	.33	.42	.46	.24	.24	.36	.44	-.01

Note: N = 461

* = excluded from final analyses

Revised scales

All $r > .122$ at $p < .01$; All $r > .155$ at $p < .001$; All $r > .183$ at $p < .0001$

Table 5.3 (continued, part 3)

Correlation Analysis: Commitment, Control Variables and Antecedents

	19	20	21	22	23	24	25	26	27
1. <i>ACORG</i>									
2. <i>CCORG</i>									
3. <i>NCORG</i>									
4. <i>Age</i>									
5. <i>Tenure</i>									
6. <i>Yrs in Profession*</i>									
7. <i>Negative Affect</i>									
8. <i>Distributive Justice</i>									
9. <i>Work Overload</i>									
10. <i>Job Variety</i>									
11. <i>Job Formalization</i>									
12. <i>Job Feedback</i>									
13. <i>Charismatic Leadership</i>									
14. <i>Job Security</i>									
15. <i>OBSE</i>									
16. <i>Mgt. Relationships</i>									
17. <i>Met Expectations</i>									
18. <i>POS*</i>									
19. <i>Multicultural PJ*</i>									
20. <i>Org. Prestige*</i>	-.08								
21. <i>Structural PJ*</i>	.17	-.12							
22. <i>Job autonomy*</i>	-.22	-.10	.10						
23. <i>Learning environment*</i>	-.07	-.03	.06	.56					
24. <i>Self Investment</i>	-.18	-.01	.07	.48	.43				
25. <i>Job Alternatives</i>	-.02	-.17	.16	.50	.46	.32			
26. <i>Skill Transferability</i>	.06	.06	.17	.22	.22	.01	.22		
27. <i>Socialized Loyalty</i>	-.18	-.01	.08	.56	.49	.58	.41	.16	

Note: N = 461

* = excluded from final analyses

Revised scales

All $r > .122$ at $p < .01$; All $r > .155$ at $p < .001$; All $r > .183$ at $p < .0001$

Table 5.4 presents the correlation analysis of the commitment foci with each of the outcomes of commitment proposed in Chapter 3 (See later for comment on these statistics).

Table 5.4 (part 1)

Correlation Analysis: Commitment Foci and Outcomes

	1	2	3	4	5	6	7	8	9	10	11	12
1. <i>ACORG</i>												
2. <i>CCORG</i>	.24											
3. <i>NCORG</i>	.46	.25										
4. <i>ACORG</i>	.96	.22	.42									
5. <i>ACMAN (3 items)</i>	.36	.11	.29	.36								
6. <i>ACCW (3 items)</i>	.26	.07	.23	.25	.32							
7. <i>CCORG (3 items)</i>	.20	.97	.24	.18	.09	.05						
8. <i>CCMAN (3 items)*</i>	.24	.22	.33	.22	.66	.27	.21					
9. <i>CCCW (3 items)*</i>	.16	.17	.30	.13	.21	.57	.16	.41				
10. <i>NCORG (3 items)</i>	.42	.22	.97	.38	.25	.21	.21	.30	.28			
11. <i>NCMAN (3 items)*</i>	.27	.16	.55	.24	.56	.27	.16	.71	.44	.51		
12. <i>NCCW (3 items)*</i>	.21	.18	.49	.19	.20	.44	.17	.35	.74	.47	.56	
13. <i>Helping</i>	.14	.10	.07	.11	.11	.39	.10	.05	.20	.06	.08	.19
14. <i>Turnover Intention</i>	-.56	-.35	-.38	-.56	-.29	-.09	-.32	-.19	-.12	-.38	-.19	-.17
15. <i>Boosting</i>	.48	.09	.32	.43	.14	.15	.08	.09	.10	.30	.18	.16
16. <i>Wellbeing</i>	.08	-.02	-.03	.07	.06	.03	-.04	.02	-.01	-.06	.01	-.02
17. <i>Encouraging*</i>	.13	.01	.14	.11	.06	.39	-.00	.00	.14	.12	.06	.18
18. <i>Improving*</i>	.22	-.08	.14	.20	.08	.15	-.09	.07	.08	.12	.09	.06
19. <i>Grumbling</i>	-.17	.07	-.01	-.19	-.02	.03	.08	.03	.06	-.01	.08	.10
20. <i>Participating**</i>	.29	.04	.16	.25	.06	.11	.04	-.03	.02	.14	.09	.08
21. <i>Performance**</i>	.02	-.01	-.01	.01	.01	.11	-.01	-.03	-.02	-.03	-.02	.02
22. <i>Contributing*</i>	.24	.09	.19	.21	.06	.06	.07	-.01	.06	.19	.12	.16
23. <i>Slacking**</i>	-.25	-.04	-.21	-.23	-.12	-.07	-.02	-.06	-.05	-.20	-.10	-.12
24. <i>Innovating**</i>	.18	-.07	.11	.13	.08	.18	-.08	-.00	.05	.09	.07	.07

Notes: N=563 (casewise deletion of missing variables)

* = variable excluded from final analysis

** variable excluded from regression analysis

r>.122 has p<.01; r>.155 has p<.001; r>.163 has p<.0001

Table 5.4 (part 2)

Correlation Analysis: Commitment Foci and Outcomes

	13	14	15	16	17	18	19	20	21	22	23	24
1. ACORG												
2. CCORG												
3. NCORG												
4. ACORG												
5. ACMAN (3 items)												
6. ACCW (3 items)												
7. CCORG (3 items)												
8. CCMAN (3 items)*												
9. CCCW (3 items)*												
10. NCORG (3 items)												
11. NCMAN (3 items)*												
12. NCCW (3 items)*												
13. Helping												
14. Turnover Intention	-.07											
15. Boosting	.19	-.36										
16. Wellbeing	.04	-.07	.12									
17. Encouraging*	.42	.01	.18	.01								
18. Improving*	.11	.01	.32	.13	.23							
19. Grumbling	.00	.23	-.12	-.10	.05	-.03						
20. Participating**	.10	-.16	.37	.10	.19	.30	.09					
21. Performance**	.35	.03	.12	.06	.32	.13	-.01	.06				
22. Contributing*	.26	-.11	.29	.03	.28	.29	.05	.31	.27			
23. Slacking**	-.11	.20	-.19	-.04	-.13	-.19	.12	-.16	-.09	-.40		
24. Innovating**	.18	.03	.23	.10	.42	.42	.09	.34	.22	.37	-.17	

Notes: N=563 (casewise deletion of missing variables)

* = variable excluded from final analysis

** variable excluded from regression analysis

r>.122 has p<.01; r>.155 has p<.001; r>.163 has p<.0001

Dimensionality of commitment

This section presents the results of a series of analyses that examined the dimensionality of commitment amongst South African knowledge workers. The results of these analyses are an important part of this study because (a) the multidimensional, three-component model of commitment is a core feature of the proposed theoretical model presented in Chapter 2; (b) the research propositions were developed in relation to this multidimensional model; and (c) research is required to ascertain the generalizability of the three-component model outside North America (Lee et al., 2001).

Dimensionality of organizational commitment

Three factor analytical approaches, discussed in Chapter 4, were applied to examine the dimensionality of organizational commitment: (a) confirmatory factor analysis; (b) exploratory factor analysis; and (c) higher-order factor analysis. A three-component structure consisting of distinct but related components was expected (i.e. affective commitment, continuance commitment, and normative commitment as distinct components).

Confirmatory factor analysis

Confirmatory factor analysis (CFA) was particularly appropriate to assess whether the three commitment scales measured three distinct components of commitment. As discussed in Chapter 3, the three-component structure of organizational commitment has enjoyed considerable theoretical and empirical support (Meyer & Allen, 1997) and CFA was specifically developed to test measurement models based on a-priori information about data structure derived from theory or empirical studies (Joreskog & Sorbom, 1993). It should be noted that the oft contested unidimensionality of the continuance commitment measure was not an issue in this study as the scale used in this study was completely revised and excluded items relating to a perceived lack of job alternatives, as discussed in Chapter 2.

Alternative structural models. In CFA, it is best practice to compare different plausible models about the data structure rather than assess the goodness of fit of any one model (Stapleton, 1997). Accordingly, a series of six plausible factor models were constructed and examined. These models included

1. A null model where each item was treated as an independent factor on its own (constrained to independence) (M0)
2. A one-factor model where all commitment items were loaded onto one factor (M1)
3. Three two-factor orthogonal models where two of the three commitment scales measured one factor and the remaining scale measures the other factor, with the two factors uncorrelated (M2, M3, and M4)
4. Three two-factor oblique models where the one factor defined by two of the three commitment scales and the other factor defined by the remaining scales were correlated (M5, M6, and M7)
5. Three-factor orthogonal model where the three scales measures three distinct factors , but were not correlated (M8)
6. Three-factor oblique model where the three distinct factors defined by the three commitment scales were correlated (M9)

As discussed in Chapter 4, a variety of fit indices were calculated but primary reference will be made to the CFI, which is regarded as the most important fit index in this instance. Chi-square values and degrees of freedom are reported for completeness. Table 5.5 presents the results of the CFA.

Table 5.5
Fit Indices: Three Component Model of Organizational Commitment

Model	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI
M0: Null	5654.62	105						
M1: 1 factor	2945.21	90	0.50	0.34	0.48	0.40	0.49	0.41
<u>Two-factor orthogonal</u>								
M2: ACO+CCO&NCO	2043.29	90	0.61	0.48	0.64	0.59	0.65	0.55
M3: ACO+NCO &CCO	1421.06	90	0.67	0.56	0.75	0.72	0.76	0.64
M4: ACO&CCO+NCO	2062.86	90	0.60	0.47	0.64	0.59	0.64	0.54
<u>Two factor oblique</u>								
M5: ACO+CCO&NCO	1992.74	89	0.61	0.47	0.65	0.60	0.66	0.55
M6: ACO+NCO&CCO	1375.76	89	0.67	0.56	0.76	0.73	0.77	0.64
M7: ACO&CCO+NCO	1973.83	89	0.62	0.49	0.65	0.60	0.66	0.55
<u>Three-factor</u>								
M8: 3-factor orthogonal	547.39	90	0.90	0.86	0.90	0.90	0.92	0.77
M9: 3-factor oblique	347.56	87	0.93	0.90	0.94	0.94	0.95	0.78

Note: Goodness of fit indices explained in Chapter 4.

As hypothesised, the three-component oblique model (M9) provided the best fit for the data and this was evident across all fit indices. A simple comparison of the fit of M9 with the fit of the other models illustrates the quantum improvement in fit that M9 has over the other alternative models. Although there is no single established criterion for evaluating the quantum improvement in fit across models, differences of less than .01 are considered unimportant on practical grounds (Dunham et al, 1994). The three-factor oblique model (M9) shows a quantum goodness of fit improvement ranging from .01 to .04 over the fit indices. This clearly shows that M9, the three-factor oblique model of organizational commitment, provides the best fit to the data. That is, the three components of commitment are distinct but related to one another, as proposed in the conceptual model described in Chapter 2.

Table 5.6 presents the calculated noncentrality fit indices for M9, the three-component oblique model, along with the 90% confidence intervals for each point estimate.

Table 5.6***Noncentrality fit indices: Three-component Oblique Model (M9)***

Noncentrality fit index	Lower 90% confidence boundary	Point estimate	Upper 90% confidence boundary
Population Noncentrality Parameter	0.34	0.43	0.52
Steiger-Lind RMSEA Index	0.06	0.07	0.08
McDonald Noncentrality Index	0.77	0.81	0.84
Population Gamma Index	0.93	0.95	0.96
Adjusted Population Gamma Index	0.91	0.93	0.94

Note: Fit indices explained in Chapter 4.

The noncentrality indices indicate that M9 adequately fits the data. Together with the sample fit indices it is clear that three-component model adequately fits the data and provides a better fit to the data than any other theoretical model. Nevertheless, given the extent of construct development and item refinement over almost 20 years, it is somewhat disappointing that the refined scales used in this study (i.e. a unidimensional CCORG scale with no reverse scoring across any items), provide a good rather than an outstanding fit to the data. This may indicate the need for even further item development.

Exploratory Factor analysis

Even though the confirmatory factor analysis presented above confirmed the three-component structure of organizational commitment, it was still useful to examine the factor loadings for each of the fifteen organizational commitment items to evaluate whether each of the commitment items had adequate loadings on the appropriate factors.

The most commonly reported approach to exploratory factor analysis in the literature is to use principal components extraction with a varimax rotational strategy, this approach is also known as the “Little Jiffy” (Nunnally,

1978). It should be noted that this oft used approach uses an orthogonal rotation strategy (that does not allow the factors to be correlated) not an oblique rotation strategy (which allows the factors to be correlated) as suggested by the CFA. The “Little Jiffy” approach is presented here because it remains the most common approach used in commitment research and therefore facilitates comparison with previous research findings. The results of this factor analysis are presented in Table 5.7.

Table 5.7
Factor Analysis: Commitment Components

	F 1	F 2	F 3
ACORG1	.582	.058	.215
ACORG2	.844	.046	.175
ACORG3	.833	.142	.192
ACORG4	.845	.079	.161
ACORG5	.826	.104	.225
CCORG1	.231	.780	.043
CCORG2	.017	.876	.069
CCORG3	.020	.865	.115
CCORG4	.094	.830	.129
CCORG5	.077	.816	.071
NCORG1	.361	.205	.704
NCORG2	.164	.150	.802
NCORG3	.211	.077	.837
NCORG4	.220	.006	.846
NCORG5	.142	.060	.819
Explained Variance	3.481	3.594	3.457
Prop. of Total	0.232	0.240	0.230
Eigenvalue	5.749	2.964	1.819
% Total Variance	38.234	19.762	12.127
Cum. % Total Variance	38.234	58.086	70.213

Notes: Marked loadings, in bold, are > .6
Extraction method: Principal Components
Rotation: Varimax normalized

The above “Little Jiffy” factor analysis evidences the three factor structure of organizational commitment. As indicated, all the ACORG items load adequately on the affective commitment factor, although ACORG1 displays a relatively low loading (.582) compared to the other items in the ACORG scale. For the CCORG scale the items have adequate loadings, all

above .7 (Nunnally & Bernstein, 1994). For the NCORG scale, all five items show adequate factor loadings but NCORG1 cross-loads on the affective commitment factor far more than the other NCORG items. Other than ACORG1 and NCORG1, none of the items cross-load across more than one factor (with a loading of greater than .3 on another factor, as discussed in Chapter 4).

Principal components extraction with varimax rotation (i.e. "Little Jiffy") has been severely criticised. Gorsuch (1997) cautioned that the "Little Jiffy" can produce misleading results (e.g. by preventing the identification of general factors, producing too many factors, and inflating factor loadings) so that "answers" given in sources, such as Gorsuch (1974) and Nunnally (1978), are "now out of date and can no longer be recommended" (p.533). Gorsuch (1990) further commented that the continued use of "Little Jiffy" is the result of "decisions made when there were problems computing common factor analysis, which no longer exist, and the continuation of its being a ready default on computer programs" (p.39).

Theoretically, the three components of commitment should be correlated, as they represent components of a single commitment construct and this has been evidenced in past empirical research (Meyer & Allen, 1997). The CFA discussed above also suggested an oblique rotation of the factors. In exploratory factor analysis, common oblique factor rotation strategies, such as promax, typically use an algorithmic approach to rotate factors so as to best represent 'clusters' of variables, without the constraint of orthogonality of factors (Harman, 1976; Jennrich & Sampson, 1966; Clarkson

& Jennrich, 1988). Allowing factors to correlate “more accurately reflects the complexity of the examined variables because constructs in the real world are rarely uncorrelated” (Ford, MacCallum, & Tait, 1999, p.296). Gorsuch (1990) nevertheless cautioned that commonly used oblique factor rotation strategies are often difficult to interpret (with many cross-loadings) and do not provide information regarding higher-order factors.

Higher-order factor analysis

Wherry (1984) popularised a rotational strategy that addressed concerns with default oblique factor rotation strategies and his approach was therefore applied in this study to assess the factor loadings on the three components of OC. In this rotational strategy, clusters of items are identified and axes are rotated through these clusters. The correlations between the (oblique) factors are computed, and that correlation matrix of oblique factors is further factor-analysed to yield a set of orthogonal factors that divide the variability in the items into that due to shared or common variance (secondary factors), and unique variance due to the clusters of similar variables (items) in the analysis (primary factors). The original factors (primary factors) in effect become the variables for the second, higher-order, factor analysis. This procedure determines whether the primary factors are correlated and how these correlations are structured. Items that correlate well with the higher-order (secondary) factor can be considered to load on a higher-order or general factor. This approach overcomes simple structure bias and yields a significant improvement over traditional approaches to oblique rotation (Gorsuch, 1997; Statsoft, 2003).

Table 5.8
Higher-order Factor Analysis: Commitment Components

	Primary Factors			Higher Order
	1	2	3	
ACORG1	.320	-.005	.072	.422
ACORG2	.585	-.053	-.028	.578
ACORG3	.569	.035	-.021	.606
ACORG4	.590	-.022	-.044	.580
ACORG5	.559	-.002	.007	.610
CCORG 1	.106	.667	-.058	.340
CCORG 2	-.061	.807	-.016	.265
CCORG 3	-.066	.787	.018	.289
CCORG 4	-.008	.731	.018	.328
CCORG 5	-.008	.711	-.017	.281
NCORG 1	.124	.091	.423	.635
NCORG 2	-.026	.050	.526	.568
NCORG 3	-.005	-.027	.570	.605
NCORG 4	.001	-.095	.586	.600
NCORG 5	-.041	-.028	.549	.542

Notes: Marked loadings are > .4
 Based on principal-axis extraction

Careful examination of the loadings in Table 5.8 leads to the following conclusions:

1. A general (secondary) organizational commitment factor affects the ACORG and NCORG items. It has some effect on CCORG items but this is much less evident than the effect it has on the other two components. This finding is consistent with the theory in that the underlying nature of affective commitment and normative commitment is similar (Meyer & Allen, 1997)
2. There are three primary, unique areas of organizational commitment that can be best described as reflecting affective, continuance and normative commitment. Again, this was in accord with expectations.
3. The first item in the affective commitment scale (ACORG1) may require further attention or modification as it falls below the loading threshold of .4 set for this analysis. Three considerations ameliorate

concerns about this item. First, the difference between the loading of ACORG1 on the appropriate factor as opposed to its loading on the other two factors is large. Second, principal-axis factor analysis was used; ACORG1 loaded over .4 on the appropriate factor when a principal components factor analysis was conducted. Third, the significance cut-off of .4 is somewhat arbitrary and .3 or even .2 has been used as cut-off criteria in previous research. This item was therefore retained for the initial analyses.

The three primary factors are related in an oblique manner (correlated with one another). Factor 1 (Affective Commitment to the Organization) correlated the most with Factor 3 (Normative Commitment to the Organization) with a correlation coefficient of .549. Factor 1 was also correlated with Factor 2 (Continuance Commitment to the Organization) with a correlation coefficient of .257. The correlation between Factor 2 and Factor 3 was .268.

Correlation analysis of factors and scales

The correlations mentioned above are those between the underlying *factors* uncovered by factor analysis. It is also important to assess the correlation between the different commitment *scales*. This allows for a comparison with older studies and an assessment of the construct validity of the three-component model. The finding, using confirmatory factor analysis, supporting the acceptance of M9 (an oblique model) implies that the three

commitment scales are correlated with one another. Table 5.9 shows the zero-order correlations amongst the three commitment scales.

Table 5.9
Correlations: Commitment Components

Variable	M	SD	Kurtosis	1	2	3
1. ACORG	3.11	0.86	-.20	(.87)		
2. CCORG	3.15	0.95	-.70	0.212**	(.90)	
3. NCORG	2.62	0.90	-.46	0.476**	0.224**	(.89)

Notes: **Marked correlations are significant at $p \leq .001$

Cronbach α Reliabilities are in parentheses

N=601

The results in Table 5.9 indicate that the ACORG and NCORG scales are highly correlated with one another ($r=.476$, $p < .001$). The correlation between the ACORG scale and the CCORG scale is also significant but relatively low ($r=.224$, $p < .001$) as is the correlation between CCORG and NCORG ($r=.224$, $p < .001$). Correlations in studies with large samples are often reported as significant but it is especially important to consider the quantum value of the correlation coefficient in these circumstances. Post-hoc power analysis determined that the power of the each bivariate relationship exceeded .9 (over 90% power).

In sum, the findings of this study support the convergent validities of the ACORG, CCORG, and NCORG scales and echo the findings of previous studies. Allen and Meyer (1990), Reilly and Orsak (1991), Dunham et al. (1994), Hackett et al. (1994) all found that the items (of the original eight item scales) loaded highest on the appropriate factor, representing the appropriate construct. Meyer et al. (1990), Shore and Tetrick (1991), Shore and Wayne (1993), Somers (1993), and others reported that the ACORG items and CCORG items loaded on the appropriate separate factors. It should be noted

that Dunham et al. (1994) found that some ACORG and CCORG items had low factor loadings and that Hackett et al. (1994) found that some items (especially those of the CCORG scale) did not load on the appropriate factor. These findings were taken into account when modifying the scales for this study and therefore did not and were not expected to emerge in the results of this study.

The ACORG and NCORG scales may have a high correlation and reflect a higher-order factor but the mean scores of the two scales are significantly different amongst the knowledge workers in this study. That is, the levels of affective commitment and normative commitment are very different with normative commitment being significantly lower. To illustrate the significance of differences between final component scores a series of t-tests for independent variables were conducted. These tests showed that levels of NCORG were significantly different from levels of CCORG and ACORG and that the overall level of CCORG was not significantly different from that of ACORG. These results are not reported in detail because diagnostic tests showed that the assumption of normality for the application of the t-test had been violated. Although many statisticians declare that parametric tests such as the t-test are robust enough even if the assumption of normality is violated (Howell, 2002), this remains controversial and a series of nonparametric tests were therefore conducted to assess the differences between the levels of each component of commitment. These results are shown in Table 5.10 below:

Table 5.10
Differences between Commitment Components

Wilcoxon matched-pair test				
Pair of variables	N	T	Z	p-value
ACORG & NCORG	625	30031	12.505	.000
ACORG & CCORG	623	80834	.279	.780
CCORG & NCORG	629	40007	10.649	.000
Sign Test				
Pair of variables	Tied pairs	% of v<V	Z	p-value
ACORG & NCORG	556	26.079	11.239	.000
ACORG & CCORG	572	50	-.042	.967
CCORG & NCORG	573	29.319	9.859	.000

Note: both tests show differences significant at $p < .001$

The above results show that levels of NCORG were statistically significantly different from overall levels of CCORG and ACORG but that levels of ACORG and CCORG were not that dissimilar from one another.

Levels of organizational commitment

A common way to differentiate between respondents with “high” and “low” commitment is to split the average sum commitment score at the theoretical midpoint of the response scale (i.e. 2.5 on a 5-point scale) and determine how many respondents experience commitment above that point. Table 5.11 shows the frequency distributions of those above the midpoint and those below it.

Table 5.11 indicates that over 75% of respondents had affective commitment scores greater than the midpoint of the scale, that over 70% of respondents had continuance commitment scores greater than the midpoint of the scale, and over 50% of respondents had normative commitment scores over the midpoint of the scale.

Table 5.11
Organizational Commitment Scores per Component

	N	Cumulative N	Percent	Cumulative %
<u>Affective commitment</u>				
Below midpoint	143	143	22.45	22.45
Above midpoint	483	626	75.82	98.27
Missing	11	637	1.73	100.00
<u>Continuance commitment</u>				
Below midpoint	182	182	28.57	28.57
Above midpoint	448	630	70.33	98.90
Missing	7	637	1.10	100.00
<u>Normative commitment</u>				
Below midpoint	300	300	47.10	47.10
Above midpoint	332	632	52.12	99.22
Missing	5	637	.79	100.00

Note: Midpoint ≤ 2.5

Foci of commitment

The dimensionality of commitment across commitment foci was assessed using confirmatory factor analysis (CFA) using the same decision criteria used to assess the dimensionality of organizational commitment. The CFA analysis was conducted on the three most plausible models per each commitment focus (organization, immediate manager, and co-workers) of commitment and per each component (affective, continuance, normative) of commitment. A null model (for comparative purposes), a single factor model, a 2-factor oblique model (with the normative and affective items loading on a single factor), and the hypothesised 3-factor oblique model were tested. After these analyses, the full 9-factor model was examined.

To ensure an equal number of equivalent items per factor, with a minimum of three items per factor (as recommended by Hair et al., 1998 but c.f. Stinglhamber et al., 2002), the commitment scales were shortened to three items based on the factor analysis results (loadings and communality

estimates) of the 5-item scale. Table 5.1 contains the descriptive statistics of the nine commitment scales. The results of the analyses regarding the dimensionality of commitment per focus of commitment are presented in Table 5.12.

Table 5.12

Fit Indices: Commitment Components per Focus

Model	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI
Organization (revised)								
MO: Null	2886.47	36						
M1: 1 factor	1555.39	27	.62	.37	.46	.29	.46	.35
M2: 2-factor	708.36	27	.78	.63	.76	.68	.76	.57
M3: 3-factor	80.65	26	.97	.95	.97	.97	.98	.70
Management								
MO: Null	4183.07	36						
M1: 1 factor	1000.49	27	.69	.49	.76	.69	.77	.57
M2: 2-factor	1484.05	27	.63	.38	.58	.44	.58	.43
M3: 3-factor	728.64	26	.84	.72	.83	.77	.83	.60
Co-workers								
MO: Null	4566.05	36						
M1: 1 factor	1224.89	27	.66	.43	.73	.65	.74	.55
M2: 2-factor	1658.57	27	.62	.36	.64	.52	.64	.48
M3: 3-factor	702.47	26	.85	.74	.85	.79	.85	.61

Notes: Goodness of fit indices explained in Chapter 4.

Two-factor oblique model: [AC+NC] & CC

The results show that for each focus, the three-component model showed significant improvements (e.g. all CFI improvements were greater than .1) over more constrained models. Loadings for the best-fitting models were all significant ($p < .0001$). In absolute terms however, only the organization focus provided a good fit to the data (with fit indices meeting the criteria set for this study; e.g. with an AGFI and CFI above .90). The other fit indices may be described as moderate (e.g. CFI value above .80 but below

.90) but certainly do not represent a very good fit to the data according to most established fit criteria.

Table 5.13 shows the results of the analysis regarding the dimensionality of commitment within each component of commitment across the three foci of commitment. Non-centrality fit indices for the 3-factor models across foci are provided in Appendix C. The CFA analyses were conducted for five plausible models (e.g. it was not plausible that an orthogonal model would display better fit than an oblique model because of the inherent relationship between the scales that all measured a particular component of commitment to different foci; this assumption was checked and found to be correct) and the null model (for comparative purposes). That is, I tested the null model, three alternative 2-factor models with foci combined on a two by two basis, and the hypothesised 3-factor model. Given the similar wording of the items across commitment foci (with only the referent focus being changed), the error terms for these items were correlated in this set of CFA analyses (Statistica, 1995). That is, I allowed the estimated error terms for these items to covary freely (Clugston et al., 2000; Mueller & Lawler, 1999).

Table 5.13

Fit indices: Three Commitment Components across Foci

DESCRIPTION	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI
AFFECTIVE COMMITMENT								
Null model	3578.16	36						
[ACORG+ACCW+ACMAN] 1 factor	1792.16	22	.61	.20	.50	.18	.50	.31
[ACORG+ACCW]&ACMAN 2 factor oblique	691.03	17	.81	.49	.81	.60	.81	.38
[ACORG+ACMAN]&ACCW 2 factor oblique	796.40	17	.78	.41	.78	.53	.78	.37
ACORG&[ACCW+ACMAN] 2 factor oblique	1101.91	17	.73	.29	.69	.35	.69	.33
ACORG&ACCW&ACMAN 3 factor oblique	65.68	15	.98	.93	.98	.97	.99	.41
CONTINUANCE COMMITMENT								
Null model	3428.58	36						
[CCORG+CCCW+CCMAN] 1 factor	1574.73	18	.64	.10	.54	.08	.54	.27
[CCORG+CCCW] &CCMAN 2 factor oblique	886.49	17	.76	.37	.74	.46	.74	.35
[CCORG+CCMAN] &CCCW 2 factor oblique	77.45	17	.98	.93	.98	.97	.98	.46
CCORG & CCCW+CCMAN] 2 factor oblique	765.56	17	.78	.42	.78	.53	.79	.37
CCORG & CCCW&CCMAN 3 factor oblique	32.44	15	.99	.97	.99	.99	.99	.41
NORMATIVE COMMITMENT								
Null model	3787.47	36						
[NCORG+NCCW+NCMAN] 1 factor	1120.84	18	.71	.28	.70	.41	.71	.35
[NCORG+NCCW] & NCMAN 2 factor oblique	530.76	17	.83	.56	.86	.71	.86	.41
[NCORG+NCMAN] & NCCW 2 factor oblique	288.72	17	.92	.79	.92	.85	.93	.44
NCORG & [NCCW+NCMAN] 2 Factor oblique	731.62	17	.80	.46	.81	.60	.81	.38
NCORG&NCCW&NCMAN 3 Factor Oblique	53.55	15	.98	.94	.99	.98	.99	.41

The results in Table 5.13 show that for each component of commitment, the three-factor model not only shows a significant improvement over more constrained models (with CFI improvements greater

than .1) but the absolute fit of the three-factor models exceeds the set fit criteria. Parameter loadings for the best-fitting models were all significant ($p < .0001$).

Table 5.14 presents set of analyses that examined the full nine-factor model of organizational commitment (three components across three foci). Three possible models were evaluated: the full 9-factor model with no correlation between the factors, a 9-factor model with the normative and affective components correlated for each focus and a 9-factor model with all the components correlated within each focus. None of these models reached the fit criteria set for this study but the 9-factor oblique model is promising because its fit indices are moderately high and would even have been deemed acceptable by some authors (e.g. Clugston et al., 2000a).

Table 5.14
Fit indices: Nine Factor Commitment Model

DESCRIPTION	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI
Null model	12612.17	351						
9- factor orthogonal	3167.00	324	.68	.62	.75	.75	.77	.69
9-factor [NC+AC] & CC	2749.03	321	.74	.69	.78	.78	.80	.72
9-factor oblique	2098.50	312	.82	.78	.83	.84	.85	.74

Table 5.15 presents the zero-order correlations between the scales. The pattern of correlations between the component scales for the management and co-worker foci were particularly high (ranging from .45 to .74; all significant at $p < .001$). The correlation between NCMAN and CCMAN ($r = .7$, $p < .0001$), and between NCCW and NCC ($r = .74$, $p < .0001$) were

particularly high, which suggests that they are not sufficiently independent for inclusion in further analyses (i.e. multicollinearity problem; see later).

Table 5.15
Correlation Analysis: Nine Commitment Foci (revised scales)

	1	2	3	4	5	6	7	8	9
1. ACORG	(.87)								
2. ACMAN	.382*	(.90)							
3. ACCW	.254*	.326*	(.90)						
4. CCORG	.155*	.074`	.049``	(.87)					
5. CCMAN	.225*	.647*	.271*	.222*	(.88)				
6. CCCW	.161*	.222*	.557*	.166*	.416*	(.91)			
7. NCORG	.400*	.268*	.214*	.195*	.297*	.286*	(.85)		
8. NCMAN	.257*	.541*	.278*	.183*	.702*	.439*	.502*	(.89)	
9. NCCW	.222*	.218*	.449*	.179*	.354*	.740*	.477*	.569*	(.91)

Note: N=605 (casewise deletion of missing data)

p < .0001, ` p = .068, `` p = .234; Cronbach alpha on the diagonal

NC = Normative Commitment, CC = Continuance Commitment, AC = Affective Commitment
ORG = organization, CW = coworkers, MAN = management

See Appendix C for the exploratory factor analysis (based on the correlation matrix) that showed considerable cross loading of many items across factors (especially the continuance and normative commitment items for the co-worker and management foci), rendering the factor structure difficult to interpret. Various factor analytical approaches were tried to help determine a more interpretable factor structure but these attempts were to no avail and no satisfactory structure emerged.

Clugston et al., (2000) noted that responses to commitment items evoke a response towards both bases and foci of commitment. That is, the dualistic nature of each scale makes it difficult to determine whether respondents are responding to the psychological bases evoked by the question, the focus or target of commitment implicit in the question, or some combination of bases and foci that may differ between individuals. The CFA

results of alternative theoretical models should therefore be compared to determine the best fitting model for the data collected: bases, foci or bases and foci (9-factor model). For this purpose, two additional fit criteria were calculated because they are suggested as particularly useful for comparing non-nested models (Statistica, 1995). These are the Expected Cross-Validation index (ECVI) and the Akaike Information Criteria (AIC). For these two fit criteria, lower values indicate a better fit to the data

Table 5.16

Fit indices: Three-component Commitment Measurement Models

Model	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI	ECVI	AIC
Null model	12612.17	351								
3-factor by bases #	6667.27	323	.46	.37	.47	.44	.48	.43	11.22	11.22
3-factor by foci oblique #	4726.94	321	.56	.48	.63	.61	.64	.57	8.02	8.02
3-factor by foci orthogonal	5047.73	324	.55	.47	.60	.58	.62	.55	8.55	8.54
9-factor bases and foci oblique	2098.50	312	.82	.78	.83	.84	.85	.74	3.70	3.69

Notes: # AC and NC bases are correlated

Analysis of residual plots showed moderate deviations from normality

The three-factor model by bases has all foci measuring a particular component of commitment loaded on separate latent constructs (affective, continuance, normative). Two three-factor models that analysed had all bases measuring a particular focus were loaded on one latent construct (organization, manager, co-worker), one model correlated these foci and one did not. The nine-factor model is repeated here for ease of comparison (this model assesses model fit with each focus and component loading on a separate latent construct. On every fit index, the nine-factor model represents the best fit to the data but does not meet the fit criteria set for this study (e.g. CFI exceeding .9).

Multiple foci of affective commitment

From the above it appeared that only the affective component of the multiple foci of commitment has the necessary factorial validity and sufficiently high fit index for inclusion in further analyses. Since, to date, only one validation study has been conducted on multiple foci of affective commitment, it is necessary to examine the construct validity of the model further. After establishing factorial validity as demonstrated above, the next validation step is to assess whether each affective factor has unique antecedents (Hinkin, 1995). Given the solid evidence of the relationship between support and affective commitment (Meyer & Allen, 1997), regression analyses were conducted to determine whether specific forms of support would best predict specific forms of affective commitment. The relationship between support received from the organization and affective commitment to the organization is widely held to operate through the reciprocity norm (Gouldner, 1960; Settoon et al., 1996) and this relationship has been well-documented (Rhoades et al., 2001; Settoon et al., 1996; Wayne et al., 1997). A similar social-exchange logic has been used to explain the relationship between employees and their managers (Gerstner & Day, 1997; Settoon, et al., 1996) and the limited research on team commitment indicates that the same mechanism operates in the relationship between employees and their co-workers (Bishop & Scott, 2000; Bishop et al., 2000; Heffner & Rentsch, 2001). Accordingly, *Perceived Organizational Support* (a scale of three items measuring support from the organization), *Co-worker Support* (a scale of three items measuring perceived support from co-workers), and *Management*

Support (a scale of three items measuring perceived support from immediate managers) were regressed against the three affective commitments (See Appendix C). The results of this set of analyses showed that focus specific support was the only significant predictor of the related focus of affective commitment, further demonstrating the construct validity of the three-focus model of affective commitment. The correlations are presented in Table 5.17. The regressions models are presented in Appendix C.

Table 5.17
Correlation Analysis: Affective Foci with Support Antecedents

	1	2	3	4	5	6
POS						
MANSUP	.48*					
CWSUP	.23*	.28*				
ACORG	.57*	.31*	.20*			
ACMAN	.44*	.64*	.18*	.38*		
ACCW	.14`	.12``	.44*	.25*	.32*	

Notes: N=606 (casewise deletion)

` p=.001; `` p=.002; * p<.0001

Overall, the results of these analyses show that the proposed antecedents of the commitment variables relate differentially and in the expected direction with the affective commitment outcomes, further substantiating the construct validity of the three-factor model of affective commitment and justifying its use in further analyses.

Commitment model

This section presents the results of the analyses conducted to examine the proposed explanatory model of organizational commitment, presented in Chapter 3. For clarity of presentation this section is divided into seven sub-sections. The first section presents an overview of the results concerning the control variables proposed in Chapter 3. The second, third,

and fourth sections present the results concerning the antecedents of ACORG, CCORG and NCORG, respectively. The fifth section presents the results concerning the outcomes of commitment, including results relating to the significance of interaction effects between components of commitment and the significance of different commitment foci in explaining variance in important organizational outcomes. The sixth section presents an overview of differences in the pattern of results across sectors and the seventh and final section makes some final notes regarding the results.

Table 5.18 presents the correlations of all the proposed antecedents with all three components of commitment for a preliminary assessment of the propositions regarding antecedents of commitment in Chapter 3.

Table 5.18
Correlation Analysis: Commitment with Proposed Antecedents

	Mean	SD	ACORG	CCORG	NCORG
Met Expectations	3.105	.948	.49*	.11``	.30*
Distributive Justice	3.094	0.948	.35*	.18*	.21*
Work Overload	3.227	1.040	-.03	.00	.04
Job Variety	3.173	0.973	.21*	.06	.14`
Job Formalization	2.909	0.945	.33*	.13``	.14``
Job Feedback	3.321	0.981	.38*	.06	.24*
Charismatic Leadership	3.216	0.942	.42*	.09``	.22*
Job Security	3.350	0.836	.26*	-.01	.07
OBSE	3.840	0.627	.45*	.06	.27*
Relationship with Mgt	3.402	0.812	.35*	.06	.28*
Self Investment	4.243	0.567	.18*	.10``	.11``
Job Alternatives	3.289	1.060	-.01	.32*	.02
Skill Transferability	4.122	0.579	-.06	-.21*	-.17
Socialized Loyalty	3.590	0.785	.33*	.27*	.43*

Notes: N= 563 (casewise deletion of missing data)

Highlighted variables correlate the highest with the proposed component of commitment

* = p < .0001; ` = p < .001; `` = p < .01; ```` = p < .05

All the proposed antecedent variables correlate the most with the appropriate component of commitment except for *Work Overload* and *Self Investment*. The former does not correlate statistically significantly with any component of commitment and the latter correlates most with affective

commitment to the organization rather than continuous commitment as proposed. Both are retained in further analyses as they may add a significant amount of additional explained variance in explaining organizational commitment.

Commitment model: Control variables

As discussed in Chapter 3, seven control variables are included in the regression models. Table 5.1 contains the descriptive statistics and correlation analysis of the four continuous control variables (*Negative Affect, Tenure, Age, and Years in the Profession*). The correlation analysis of the continuous control variables are presented in Table 5.19.

Table 5.19
Correlation Analysis: Control Variables

	1	2	3	4
1. Age	-			
2. Tenure	.62**	-		
3. Yrs in profession	.87**	.68**	-	
4. Negative Affect	-.06	.04	-.02	(.83)

Note: Only continuous variables included in the correlation analysis; Marked correlations (**) significant at $p < .0001$, all others $p > .2$; Cronbach alphas on the diagonal, whenever appropriate; $N = 517$ with casewise deletion

The zero-order correlations between the continuous control variables were calculated because high correlations ($r > .75$) between variables included in a regression model are a preliminary warning of multicollinearity (Hair et al, 1998). An examination on the correlation coefficients for the control variables shows that *Years in the Profession* and *Age* correlate over .75 ($r = .864$, $p < .0001$). Either this suggests the combination of the variables or the elimination of one. There is no logical reason for combining the variables so the more specific and less common *Years in Profession* was

eliminated and will be removed from the proposed models of commitment in further analyses. Further tests of multicollinearity will be discussed in the sections that discuss the multiple regression analyses as this condition (i.e. high correlations amongst independent variables in a regression equation) makes it difficult to estimate parameters and leads to unstable estimates of regression coefficients and high standard errors of these estimates (Statsoft, 2003).

The correlation between *Tenure* and *Age* was high and highly significant ($r = .622, p < .0001$) but not high enough to present preliminary evidence of multicollinearity problems based on Hair et al.'s (1998) criterion. *Tenure*, as measured by number of years employed in the organization, is probably related to *Age* for two reasons. First, the higher an employees age the greater their opportunity to develop a longer period of employment. Second, younger employees may not have high levels of tenure for at least three other reasons: (a) they are 'trying out' different work experiences in the early stage of their careers, (b) they value tenure less than older employees, and (c) they have a higher proclivity to move from organization to organization.

The correlation between *Tenure* and *Negative Affect* was low and significant only at the .1 level (a very low level of significance in a sample of this size, with $N=600$ after casewise deletion of missing data). The correlation between *Negative Affect* and *Age* was low and not significant ($r=.037, n.s$).

The single item nature of all the control variables, except *Negative Affect*, did not necessitate the use of factor analysis or reliability analysis.

The *Negative Affect* scale was unidimensional and its reliability was high (Cronbach $\alpha = .83$, average inter-item correlation = $.62$; all item-total correlations exceeded $.67$; $N=622$ with casewise deletion).

Correlation analysis was conducted to assess the relationship between the continuous control variables and the organizational commitment variables. Table 5.20 contains tables showing the pattern of correlations between the continuous control variables and the commitment variables.

The correlations are significant but weak except for the strong and significant negative correlation ($r = -.383$, $p < .0001$) between *Negative Affect* and *Affective Commitment to the Organization* (ACORG). *Tenure* did not correlate significantly with NCORG ($r = .051$, n.s) and neither did *Age* ($r = .047$, n.s). The low correlation between *Age* and NCORG was interesting because it is widely believed that older employees will have higher levels of NCORG (Meyer & Allen, 1997). It was therefore surprising that NCORG did not significantly correlate with *Age* or *Tenure*. NCORG is only related to one control variable, *Negative Affect*, and this relationship is substantively weak albeit statistically significant ($r = .178$, $p < .0001$).

Table 5.20

Correlation of Control Variables with Commitment Variables

	Age	Tenure	Yrs in Profession	Negative Affect
ACORG	.151*	.153*	.163**	-.383**
CCORG	.229**	.215**	.230**	.059
NCORG	.024	.013	.045	-.178**

Note: $N=508$ (casewise deletion)

Only continuous variables included in the correlation analysis

** = $p < .0001$, * $p = .001$, all non-marked correlations $p > .2$ (not significant).

Commitment model: antecedents of affective commitment (ACORG)

This section examines empirically the antecedents of ACORG as proposed in Chapter 3. As mentioned in Chapter 3 an important objective of this study was to assess a comprehensive model without adopting a “laundry list” approach to specifying antecedent variables. The proposed antecedents of ACORG were derived from an iterative process of literature review and qualitative investigation and it is therefore very important to assess the psychometric properties of the items and scales to ensure that the scales are independent, reliable, and appropriate. Many antecedents of ACORG are suggested in the literature and participants in the focus groups that preceded the survey suggested a large number. Many of the antecedents mentioned by participants echoed those mentioned in the literature. Nevertheless, because all the proposed antecedents have never before been examined in a single study it was necessary to be cautious so that results would not be artificially inflated due to error variance resulting from the inclusion of an unnecessary large number of related variables. The independence of the proposed antecedents of ACORG were examined using exploratory factor analysis, the reliabilities of the measurement scales were assessed using item analysis, and the relationship between antecedents were considered using correlation analysis. After these analyses, the final ACORG model was examined using hierarchical regression analysis.

Initial analysis

After making the changes suggested by a process of stepwise exploratory factor analysis, a clear construct structure was determined, with

each item loading on the appropriate factor and meeting all the technical criteria specified in Chapter 4.

The results of this analysis are presented in Appendix C. The exploratory factor analyses helped improve the parsimony of the ACORG model as follows

1. Nine items concerning the employee-immediate manager relationship (three items from the *Interpersonal Procedural Justice* scale, three items from the *Management Support* scale and three items from the *Management Vision* scale) loaded on one factor and can be considered to represent a single construct of *Relationship with Manager*. That is, the general supportiveness of the immediate manager, their fairness in interacting with the individual knowledge worker and their ability to inspire with a vision for the future contributes to a composite perception of the manager by the knowledge worker. The reliability of this new composite 9-item scale was calculated and was very high ($\alpha = .93$; average inter-item correlation of .63; $N=617$). The nine items in the *Relationship with Manager* scale loaded on a single factor regardless of the extraction method used in the factor analysis and none of the individual items significantly cross-loaded on any other factor.
2. There was a great deal of construct redundancy across the support scales. The five items of the general *POS* scale cross-loaded across different factors at each step of the stepwise factor analysis and each *POS* item was eventually eliminated. Items in the *Learning Environment* failed to load over .6 on any single factor and were eliminated from further

analysis. Three items from the four-item *Met Expectations* scale were retained and loaded over .6 on their own factor across each step of the factor analysis process. Future research is required to ascertain the construct independence of the support constructs proposed in this study and to examine whether *POS* is a mediating construct of the other constructs proposed in the ACORG model.

3. The three items from the *Multicultural Procedural Justice* scale did not load more than .6 on any factor and significantly cross-loaded on other factors. Again, further work is required on this scale to determine whether it is a distinct construct, a component of procedural justice or an element of perceived support. These three items were therefore excluded from further analysis.
4. Items from the *Charismatic Leadership* scale each loaded over .8 on their own factor. The focus of these items was on the Chief Executive (or Town Clerk) rather than the immediate manager and it is therefore logical that it formed a different factor from that of immediate manager (c.f. Conger & Kanungo, 1987).
5. The job characteristics variables each loaded clearly on distinct factors, but the items in the original *Job Autonomy* scale loaded less than .6 on any factor and were therefore excluded from further analysis.
6. The three items from the *Structural Procedural Justice* scale and the three items from the *Organizational Prestige* scale failed to load over .6 on their own factors and were therefore eliminated from further analyses.

After making the changes suggested by the initial set of exploratory factor analyses, the remaining scales were assessed. Each item loaded on the appropriate factor and met all the technical criteria specified in Chapter 4.

The factors in the final factor analysis explained over 70% of the variance in the items, which meets the recommendations set by Gorsuch (1997).

It should be noted that factor analyses using Joliffe's criterion ($R > .7$) suggested the addition of two factors (representing *Organizational Prestige and Structural Procedural Justice*) but careful examination of the scree plot together with the factor structures suggested the retention of the 10 factor structure, in which each factor met Kaiser's criterion for minimum eigenvalue level ($R > 1$). For the purpose of comparison with other studies, it should also be noted that when the items were subjected to stepwise factor analysis using the same criteria but using Principal Components factor analysis the results of this analysis indicated the retention of 13 factors. *The Management Vision* items were eliminated but the *Organizational Prestige, Structural Procedural Justice* and *Job Autonomy* items were retained and loaded on their own factors.

The final ACORG model consisted of the one proposed Challenge variable (Role Overload or "*Work Overload*"), one Fairness variable (*Distributive Justice*), one Esteem variable (*OBSE*), three Job Characteristics variables (*Job Feedback, Job Formalization, and Job Variety*), two Leadership variables (*Charismatic Leadership* and the new composite *Relationship with Management scale*), and two variables that reflect support

and reciprocity (*Job Security* and *Met Expectations*). That is, 10 independent variables were finally proposed for inclusion in the final ACORG model.

Table 5.2 shows the descriptive statistics of the 10 proposed antecedents in the final ACORG model. Except for *Job Formalization* (with a mean of 2.9), all means exceeded 3. Appendix C presents the distribution and normality analysis of the scales. The non-normal distribution of the data was not unexpected. The high levels of skewness and kurtosis (“peakedness” of the scale distributions) are one indication that the distribution of scale scores is not normal (any major deviation from zero requires investigation and all the values exceeded 0). This was not unexpected and more detailed analysis of the distributions of all the variables in this study (using the Kolmogorov-Smirnov statistic, the Lilliefors test and the Shapiro-Wilk’s *W* statistics confirmed this). As discussed in Chapter 4, normality was not a concern in examining the proposed models of commitment given the large sample size and the robustness of the techniques used. Measures of skewness and kurtosis are provided in Appendix C as indicators of the shape of the distribution, particularly for comparison with future studies.

Table 5.3 shows inter-correlations for the full set of proposed antecedents of affective commitment to the organization (ACORG). The Cronbach Alpha coefficients of all the scales were above .7 and therefore acceptable (Nunnally & Bernstein, 1994). As expected the proposed antecedent variables all correlated positively with ACORG, except for *Work Overload*, which was also the only proposed antecedents that was not

statistically significantly correlated with ACORG (or any other component of commitment). Apart from *Job Formalization* (with a practically very low correlation of .12, $p = .004$), none of the ten variables correlated at a statistically significant level with CCORG. All except *Job Security* correlated with NCORG but always at a lower level (as expected the highest cross-correlation was that of *Met Expectations*). Using partial correlation to control for *Sector* (i.e. public sector or private sector employment), the same pattern of correlations emerged. It should be noted that *Distributive Justice*, *Job Formalization*, *Charismatic Leadership*, and *Met Expectations* had statistically significant but substantively very low correlations with CCORG after *Sector* had been partialled out of the correlations; the power of these correlations was low and they were not investigated further.

Hierarchical regression analysis

Hierarchical regression analysis was conducted to examine how much of the variance in ACORG could be explained by the final ACORG model. Hierarchical Multiple Regression analysis is the most appropriate way to assess the proposed ACORG model for South African knowledge workers because it allows the researcher to determine if the proposed antecedents of ACORG have any effect on ACORG over and above the effect of demographic variables. The seven control variables were entered in the first step and the ten proposed antecedent variables in the second step. The results of the hierarchical regression analysis are presented in Table 5.21.

Table 5.21
Hierarchical Regression Analysis: ACORG antecedents

	Beta	SE	B	SE	t(529)	p
<u>Control Variables</u>						
1. Gender	.017	.033	.031	.059	.51	.607
2. Marital	.013	.037	.008	.022	.34	.735
3. Race	.042	.033	.028	.023	1.25	.212
4. Education	.044	.034	.045	.035	1.29	.197
5. Age	.118	.046	.010	.004	2.59	.010
6. Tenure	.072	.042	.007	.004	1.72	.085
7. Negative Affect	-.075	.039	-.065	.034	-1.94	.053
<u>Proposed antecedents</u>						
1. <i>Distributive Justice</i>	.147	.036	.129	.031	4.13	.000
2. <i>Work Overload</i>	.085	.034	.068	.027	2.52	.012
3. <i>Job Variety</i>	.046	.035	.040	.030	1.33	.183
4. <i>Job Formalization</i>	.139	.036	.123	.032	3.87	.000
5. <i>Job Feedback</i>	.051	.039	.043	.033	1.29	.197
6. <i>Charismatic Leadership</i>	.218	.037	.193	.033	5.87	.000
7. <i>Job Security</i>	.093	.034	.093	.034	2.74	.006
8. <i>Org.-based Self-esteem (OBSE)</i>	.146	.039	.197	.053	3.74	.000
9. <i>Management Relationships</i>	.016	.040	.016	.041	0.40	.692
10. <i>Met Expectations</i>	.203	.038	.179	.034	5.31	.000

Notes: N=555 (casewise deletion)

After Step 1: R= .43; R²= .19; Adjusted R²= .18; F(7,547) = 17.799; p < .0001; SE of Estimate = .760

After Step 2: R= .69; R²= .47; Adjusted R²= .46; F(17,537) = 28.51; p < .0001; SE of Estimate = .617

$\Delta R^2 = .29$; F to enter 29.51; p < .0001

Post-hoc power of this model: 100%

The control variables explained less than 19% of the variance in ACORG, which has higher than expected. After Step 1, *Tenure* (beta = .191, p < .001) and *Negative Affect* (beta = -.394, p < .0001) were statistically significant, but amongst the seven control variables in the final model (i.e. after Step 2), only *Age* had a statistically significantly positive effect on ACORG (beta = .118, p = .01). This suggests a possible interaction effect between these variables and the proposed antecedents in explaining ACORG. In Step 2, the additional 10 proposed antecedents variables to the regression model made a large and significant difference ($\Delta R^2 = .29$, p < .0001). The regression model was highly statistically significant and the post-hoc power analyses calculated power of 100%.

The full regression model of ACORG explained just over 47% of the variance in ACORG. However, the only significant beta coefficients (at the .01 level) amongst the proposed antecedents were those of *Distributive Justice, Job Formalization, Charismatic Leadership, Job Security, OBSE, and Met Expectations*. It could be argued that *Work Overload* should be added to the model as its p-value of .012 is close to the strict set criterion of $p < .01$. That would mean that seven of the final 10 proposed antecedents significantly helped explain ACORG in this sample of South African knowledge workers. All the relationships were in the expected direction. Three variables, *Job Variety, Management Relationships, and Job Feedback* were not statistically significant predictors of ACORG. Eliminating these three variables would result in a simpler and therefore more comprehensible model (Cohen & Cohen, 1990). Nevertheless, given the importance of these variables in previous research, future researchers should not be discouraged from including them in their proposed models. That is, until the probability of a Type II error (accepting the null hypothesis when it is false. See Pedhazur, 1982) can be discounted based on further research across different samples.

Commitment model: antecedents of continuance commitment (CCORG)

In this section, the antecedents of CCORG will be examined in the same way that the antecedents of ACORG were examined. Factor analysis, item analysis (including reliability analysis), and correlation analysis were used to assess the proposed model before hierarchical regression analysis was used to assess the amount of variance in CCORG explained by the proposed antecedents variables.

It must be emphasised that the CCORG scale used in this study was a revised and refined scale (See Appendix B) and that the results in this study cannot be directly compared with those in other studies. In fact, the results in this study will be more conservative than those in other studies because the CCORG construct has been more carefully defined and measured with the effects that it should share less error variance with its proposed antecedents.

Initial analysis

The same technical criteria applied to examine the factor structure of the items proposed as indicators of scales to be applied as antecedents of ACORG were applied when assessing the factor structure in the CCORG model. The results of the factor analysis here was much 'cleaner' and easier to interpret with the result that multiple analyses did not need to be conducted and there was no need to eliminate variables from the model. Only one item appeared problematic: the second item of the *Skill Transferability* scale did not load over .6 on the appropriate factor. It loaded .276 on the appropriate factor and cross-loaded over .3 on the *Job Alternatives* factor. This item was therefore removed and the factor structure reanalysed. The removal of the item did not necessarily violate Gorsuch's (1997) recommendation that there be at least three items for each proposed factor because there were three items in the first iteration of the factor analysis process and the items were removed for the purposes of model clarity. The resultant factor structure was satisfactory, with each item loading appropriately and meeting all the criteria specified above. The six factors

explained over 68% of the variation amongst the items. The factor structures are shown in Appendix C.

The final CCORG model consisted of three variables, as originally hypothesised (*Self-Investment*, *Job Alternatives*, and *Skill Transferability*). Only the *Skill Transferability* scale was revised to ensure scale independence.

Table 5.2 presents the descriptive statistics for the proposed antecedents of CCORG. Presented in Appendix C are the normality estimates for the proposed antecedents of continuance commitment to the organization (CCORG). Full details regarding the zero-order correlations of the proposed antecedents of CCORG and the Cronbach alpha reliability coefficient for each scale are also presented in Appendix C.

The Cronbach alpha coefficients of the scales of all three proposed antecedents of CCORG were satisfactory and exceeded the cut-off of .7 recommended by Nunnally and Bernstein (1994). That is, the Cronbach alpha coefficients for *Self-Investment*, *Job Alternatives*, and the revised *Skill Transferability* scales were .86, .90, and .75 respectively.

It is interesting that the means of each of the variables in the CCORG model are above the midpoint and that the variables with the highest minimum values also have the highest means and the lowest standard deviations. The high mean values of *Self-Investment* (M= 4.24) and *Skill Transferability* (M= 4.13) are consistent with the nature of the sample of knowledge workers who could be expected to invest in their self-development and have highly transferable skills. The high SD of *Job Alternatives* (SD =

1.068) is worthy of comment as there is clearly a wide spread of perceptions about job alternatives in the labour market. This should probably be expected in a large and diverse sample of knowledge workers; in some ways it supports the generalizability of the results.

The correlation analysis shows that *Job Alternatives* ($r = -.312, p < .0001$) and *Skill Transferability* ($r = .207, p < .0001$) are the only two proposed antecedents that correlate significantly with CCORG. Both correlate in the expected direction and correlated more with CCORG than the other two components of commitment (neither correlated significantly with ACORG and only *Skill Transferability* had a low but significant correlation with NCORG). That is, the availability of alternative job prospects will decrease the perception of costs associated with leaving the organization and high levels of perceived skill transferability will decrease perceptions regarding the costs associated with leaving the organization. Self-Investment correlated the least with CCORG ($r = .099, p < .017$, which is not statistically significant given the criteria set for this study) and correlated more with ACORG ($r = .194, p < .0001$) and NCORG ($r = .116, p < .005$).

Hierarchical regression analysis

Table 5.22 presents the results of the hierarchical regression analysis of the proposed CCORG antecedents. Hierarchical regression analysis was conducted so that the seven proposed control variables of CCORG were entered in the first step and the six proposed antecedent variables were entered in the second step.

Table 5.22

Hierarchical Regression Analysis: CCORG Antecedents

	Beta	SE	B	SE	t(572)	p-level
Control Variables						
Gender	.032	.040	.064	.081	.79	.432
Marital Status	-.019	.043	-.013	.030	-.45	.652
Race	-.029	.040	-.023	.030	-.74	.458
Education	-.017	.040	-.020	.046	-.42	.674
Age	.059	.054	.005	.005	1.09	.274
Tenure	.095	.050	.011	.006	1.90	.057
Negative Affect	-.038	.040	-.037	.040	-.093	.352
Proposed Antecedents						
Self Investment	.077	.040	.128	.066	.93	.055
Job Alternatives	.276	.041	.245	.036	.74	***
Skill Transferability	-.191	.040	-.314	.066	-4.75	***

Notes: N=595 (casewise deletion); *** = $p < .0001$

After Step 1: $R^2 = .06$; Adj. $R^2 = .053$; $F(7,576) = 5.743$; $p < .0001$; SE of Estimate = .921

After Step 2: $R^2 = .17$; Adjusted $R^2 = .16$; $F(10,573) = 11.865$; $p < .0001$; SE of Estimate = .869

$\Delta R^2 = .11$, F to enter 24.775; $p < .0001$

Post-hoc power of this model: 100%

The seven control variables accounted for less than 7% ($R^2 = .064$) of the variance in CCORG. *Tenure* was significant (beta = .135, $p < .01$) when only the control variables were regressed against CCORG but its beta was not significant in the final CCORG regression equation after the proposed antecedent variables had been entered. This suggests that *Tenure* may interact with the other variables in explaining the variance in CCORG. It is also interesting to note that *Tenure* was significant in the final ACORG model and not in the final CCORG model. After adding the three proposed antecedents to the equation (Step 2), *Self-Investment* was not significant (but at .055 it was “almost” significant at the .05 level), *Job Alternatives* was highly significant (beta = .276, $p < .0001$), and *Skill Transferability* was highly significant (beta = -.191, $p < .0001$).

Moderator analysis showed that employee tenure greater than seven years had no effect on the relationship between CCORG and perceptions of *Skill Transferability* amongst knowledge workers in this study.

The addition of the three proposed antecedents added significantly in explaining the variance of CCORG ($\Delta R^2 = .11$, $p < .0001$). The final CCORG model explained 17% of the variance in CCORG.

Further analyses. After finalising the CCORG model for this study, the effects of three demographic variables that have been mentioned in the literature but have not been mentioned in relation to knowledge workers or mentioned by focus group participants were examined for exploratory purposes. They were *Community Ties* (measured by a single item of years in same city), *Years in Previous Job* (single item), and *Organizational Level* (single item). These three variables were added to the model in a third hierarchical step to assess whether they added anything the explaining the variance of CCORG above that explained by the variables in the hypothesised model. The regression analysis showed that they did not ($\Delta R^2 = .004$; n.s.).

Commitment model: antecedents of normative commitment (NCORG)

This section presents the process and results used to assess the NCORG model. The NCORG model is examined in the same way that the antecedents of ACORG and CCORG were examined. The initial set of analysis consisted of exploratory factor analysis, item analysis (including reliability analysis), and correlation analysis. Hierarchical regression analysis

was then used to assess the amount of variance in NCORG explained by the proposed antecedent variables.

Initial analysis

The same technical criteria applied to examine the factor structure of the items proposed as indicators of scales to be applied as antecedents of ACORG and CCORG were applied when assessing the factor structure in the NCORG model. The results of the factor analysis here was clear as there were only two proposed antecedents of NCORG. All the items loaded on the appropriate factors with no significant cross-loadings. All the items loaded on their factors with loadings exceeding .6, except for the third *Socialized Loyalty* item that only had a loading of .523. The item was retained for three reasons: (a) its loading was close to the set criterion and well within the recommendations of Hair et al (1998), (b) the scale would have been reduced to only two items if it were removed; and (c) the item had a very low cross-loading on Factor 1 (.026). It should also be noted that when using Principal Components Analysis, all the items loaded over .7 and the two factors explained 70% of the variance in the item scores.

Table 5.2 contains the descriptive statistics of the proposed antecedents of normative commitment to the organization (NCORG). The only notable descriptive statistic is that the mean value of *Socialized Loyalty* (Mean = 3.624) was much higher than expected.

The Cronbach alpha coefficients of the scales of both proposed antecedents of NCORG were satisfactory and exceeded the cut-off of .7 recommended by Nunnally and Bernstein (1994). The reliability coefficient of

Met Expectations was .885 ($\alpha = .885$, standardised alpha = .885; average inter-item correlation = .669; item-total correlations all exceeded .64; N= 626 with casewise deletion of missing values). The reliability coefficient of *Socialized Loyalty* just above .7 ($\alpha = .700$, standardised alpha = .710; average inter-item correlation = .449; item-total correlations all exceeded .44; N=621 with casewise deletion of missing values).

The zero-order correlations of both the proposed antecedents of NCORG were statistically significant at the .001 level. The zero-order correlation between *Met Expectations* and NCORG was high and significant ($r = .355$, $p < .001$) as was the correlation between *Socialized Loyalty* and NCORG ($r = .423$, $p < .001$). The correlation between *Met Expectations* and *Socialized Loyalty* was substantively low but statistically significant ($r = .133$; $p = .001$; N= 613 with casewise deletion of missing variables).

Hierarchical regression analysis

The hierarchical regression analysis consisted of two steps (See Table 5.23). The seven control variables were entered in the first step and the two proposed antecedent variables were entered in the second step. In Step 1, only *Negative Affect* had a significant beta ($p < .001$ but note that this dropped to a significance level of $p < .05$ after Step 2), possibly indicating an interaction effect between *Negative Affect* and the proposed antecedent variables. Though the regression model at Step 1 was significant at the .01 level, it only explained 4% of the variance in NCORG. In Step 2, the proposed antecedent variables were added and the model was significant at the .001 level. The inclusion of the two proposed antecedents added

significantly to the model ($\Delta R^2 = .26$; $p < .001$). Table 5.23 presents the full results of the hierarchical regression analysis.

Table 5.23
Hierarchical Regression Analysis: NCORG Model

	Beta	SE	B	SE.	t(580)	p-level
<u>Control Variables</u>						
Gender	-.046	.037	-.085	.068	-1.25	.212
Marital	-.018	.040	-.012	.025	-0.47	.642
Race	.030	.036	.021	.026	0.82	.410
Education	.044	.037	.047	.040	1.18	.238
Age	.008	.051	.001	.004	0.16	.870
Tenure	-.039	.046	-.004	.005	-0.84	.399
Level	-.037	.038	-.031	.032	-0.97	.334
Negative Affect	-.077	.039	-.070	.035	-1.98	.048
<u>Proposed antecedents</u>						
Met Expectations	.289	.039	.276	.038	0.35	***
Socialized Loyalty	.415	.036	.458	.040	11.42	***

Notes: N = 595 (casewise deletion); *** = $p < .0001$

After Step 1: $R^2 = .041$, $F(8,582) = 3.115$; $p = .002$; SE of Estimate = .865

After Step 2: $R^2 = .30$; Adjusted $R^2 = .29$; $F(10,580) = 24.894$; $p < .0001$; SE of Estimate = .74

$\Delta R^2 = .26$, F to enter 107.453, $p < .0001$

Post-hoc power of this model: 100%

The final model explained 30% of the variance in NCORG ($R^2 = .30$, $p < .0001$) and was highly statistically significant with a 100% post-hoc power rating. This is a highly satisfactory result given the inclusion of only two variables in the theoretical model, the relative paucity of literature on normative commitment and its antecedents, and the limited time that focus group participants spent discussing it. Moderator analysis did not show any effect of employee tenure of less than two years on the relationship between NCORG and *Met Expectations*.

Note on regression diagnostics

Regression diagnostic tests were performed after each regression analysis. An examination of regression diagnostics confirmed that there were

no problems with any of the regression models presented in this chapter (i.e. the assumptions of multiple regression were not violated). Bivariate scatterplots of the variables were examined to assess the linearity of the relationships between variables. Tolerance values (calculated as 1 minus the squared multiple correlation of the variable with all other variables in the regression equation) were well above .4 for each variable, indicating that multicollinearity was not a problem (i.e. variable was not redundant with the contribution of the other variables in the regression equation). Mahalanobis distance and Cook's distance scores were examined to help detect possible outliers but none were found. The normal probability plot of residuals showed a good fit (i.e. the residuals appeared to be normally distributed). There were no other unusual residual phenomena.

Outcomes of organizational commitment

This section presents the results of the statistical analysis of the relationship between the three components of organizational commitment and the proposed outcomes of commitment. An initial set of data analysis was conducted prior to examining the propositions. A series of exploratory factor analyses were first examined to determine the underlying structure of the items measuring the proposed outcomes of organizational commitment and to ensure that examined outcomes in this study were independent of one another. After this, item analysis of the remaining items allowed for an assessment of the reliability of the scales used and an examination of the pattern of correlations between them and the three components of commitment. Hierarchical multiple regression was then used to assess the

directional relationship between the three measures of commitment and the final set of outcomes.

Initial analysis

A total of fourteen variables were proposed in Chapter 3 as outcomes of commitment. These fourteen included ten forms of organizational citizenship behaviours and represented a combination of issues raised by focus group participants and those described in the literature. Given these two sources and the fact that this study includes more outcome variables than perhaps any previous study, it was particularly necessary to determine the independence of the outcome constructs.

The same technical criteria applied to examine the factor structure of the antecedents of the components of commitment were applied when assessing the factor structure in the proposed outcomes of the three components of commitment.

The stepwise factor analyses showed that seven of the initial fourteen scales loaded on the appropriate factors. The items from the *Altruism* and *Courtesy* scales loaded onto the same factor, as expected and proposed in Chapter 3. The combined scale was called *Helping*.

Three sets of items (*Encouraging*, *Improving*, and *Contributing*) displayed extensive cross loading so as to render them unclear and not independent. One set of items (*Grumbling*) did not load to the extent required for inclusion in the final set of outcomes. *Encouraging* others to participate in meeting emerged as both a form of helping behaviour and a performance enhancing activity; it did not emerge as an independent construct. *Improving*

work skills through training and learning also seemed implicit in the performance-related factor and did not emerge as a unique factor. Similarly, *Contributing* seemed part of both the performance factor and helping factor and did not emerge as an independent construct. In sum, *Role Performance*, *Turnover Intentions*, *Personal Wellness*, four organizational citizenship behaviours (*Helping*, *Boosting*, *Participating*, and *Innovating*), and one counterproductive workplace behaviour (*Slacking*) were retained for further analysis:

Appendix C contains the final factor structure of the items indicating the eight outcomes of organizational commitment retained for analysis. The final factor structure meets all the criteria set for the study, all items load on the appropriate factor with loading above .6 (as rounded up), and in the expected direction. The two 'negative' outcomes of *Turnover Intentions* and *Slacking* behaviour had negative factor loadings.

Table 5.2 presents the descriptive statistics for the eight outcomes of organizational commitment. It is interesting to note that the self-rated *Performance* scale had a high mean value (4.268) and that individual scores were never lower than 3 on the 5-point scale. This indicates a bias in responses that may affect further analyses. This bias is due to a lack of variance in the scores and suggests the need to rewrite this scale in future studies, use a longer response scale, or use alternative approaches to evaluating performance (e.g. peer-evaluations, performance appraisal records, or rating given by the employee's immediate managers). The high self-rated performance scores were not unexpected because employees tend

to rate their own perform highly. Fortunately, the survey questionnaire contained another set of items that could be used as a surrogate measure of performance. These three items, which had been included for exploratory purposes on the first page of the survey questionnaire, were combined into a performance scale, called *Performing*. The first item asked for a self-rating of competence “in performing your job”, the second item asked for a rating of how they thought their managers rated their competence in performing their job, and the third item asked how they thought their co-workers rated their competence to perform their job. The correlation between these items was high. The correlation between self and manager ratings was .665 ($p < .0001$, $N = 630$ with casewise deletion) and the correlation between self and co-worker perceptions was .680 ($p < .0001$, $N = 630$ with casewise deletion). These are high and highly significant correlation coefficients but still not as high as what may be expected given that the typically advanced performance management systems in use, the widespread use of “360 degree” evaluation processes, and the importance of performance rating in the determination of incentive pay (serving to motivate knowledge workers to participate in the performance management system).

Table 5.24 presents the zero-order correlation coefficient of each component of commitment with each proposed outcomes of organizational commitment. The Cronbach alpha reliability coefficient is also noted for each scale, with each scale having a sufficiently high Cronbach alpha (Nunnally, 1978).

Table 5.24

Correlation Analysis: Commitment Components with Outcomes

	A	ACORG	p	CCORG	p	NCORG	p
<i>Helping</i>	.84	.164	***	.119	.004	.086	.040
<i>Turnover Intention</i>	.93	-.562	***	-.358	***	-.391	***
<i>Boosting</i>	.86	.477	***	.087	.037	.319	***
<i>Wellbeing</i>	.87	.068	.106	-.021	.614	-.030	.481
<i>Encouraging`</i>	.79	.131	.002	.021	.615	.139	.001
<i>Improving`</i>	.78	.214	***	-.084	.044	.133	.001
<i>Grumbling`</i>	.66	-.164	***	.061	.142	-.013	.764
<i>Participating</i>	.78	.291	***	.042	.314	.163	***
<i>Performance</i>	.91	.030	.478	-.016	.711	-.009	.830
<i>Contributing`</i>	.75	.247	***	.084	.045	.191	***
<i>Slacking</i>	.75	-.254	***	-.045	.282	-.210	***
<i>Innovating</i>	.91	.170	***	-.070	.095	.103	.013

Notes: N = 573 (casewise deletion)

` = variable excluded after factor analysis

Outcomes that correlate with at least one commitment component are highlighted in bold

*** = $p < .0001$

As expected, all three components of organizational commitment correlate with *Turnover Intention* in the expected direction. These associations are both practically significant and statistically very significant. Of the five organizational citizenship behaviours investigated in this study, all are statistically significantly correlated with ACORG and NCORG. *Helping* is positively correlated with CCORG at the .01 level and CCORG is positively correlated with *Boosting* at the .05 level.

From the correlation matrix in Table 5.24 it appears that in-role job performance and sense of personal wellbeing do not correlate significantly with any of the organizational commitment components. These latter variables will therefore not be included in the regression analyses because regression is based on correlation and the regression model will certainly not be significant if the zero-order correlations are not significant (Statsoft, 2003). This reduced the number of outcomes that were considered using regression analysis to six.

Regression analysis

Regression analyses were conducted with the three components of organizational commitment as independent variables and six proposed outcomes (*Helping, Boosting, Participating, Slacking, Innovating, and Turnover Intention*) as dependent variables. An examination of the regression model diagnostics showed that the assumptions of a linear relationship between the predictors (independent variables) and the outcomes variables (dependent variables) only held for three outcome variables: *Turnover Intent, Boosting, and Helping*. That is, the normal probability plots of the residuals for these two regression models were acceptable and only these three regression models are therefore reported.

Table 5.25, Table 5.26, and Table 5.27 present the regression model of the three components of organizational commitment against the three outcome variables of *Turnover Intention, Boosting, and Helping*.

Table 5.25

Regression Analysis: DV = Turnover Intention

	Beta	SE	B	SE	t(573)	p-level
ACORG	-.460	.038	-.613	.050	-12.2	.000
CCORG	-.208	.034	-.248	.041	-6.1	.000
NCORG	-.126	.038	-.162	.049	-3.3	.001

Notes: R= .62, R²= .37, Adjusted R²= .38, F(3,573)=119.95, p< .0001,

SE of estimate = .889, N = 575

Post-hoc power analysis: 100% power. Effect size f²=0.59,

Critical F(3,571) = 7.161, Lambda = 337.698

The above regression model is highly statistically significant and substantively significant (large effect size). It shows that organizational commitment explains 37% of the variance in the turnover intentions of South African knowledge workers. Each component of commitment is highly

statistically significant as and the overall model is highly statistically and substantively significant.

Table 5.26

Regression Analysis: DV = Boosting

	Beta	SE	B	SE	t(573)	p-level
ACORG	.423	.042	.454	.045	10.09	.000
CCORG	-.051	.038	-.049	.037	-1.34	.181
NCORG	.131	.042	.136	.044	3.11	.002

Notes: R= .49, R²= .24, Adjusted R²= .23, F(3,573)=59.387, p< .0001, SE of estimate = .797, N = 575

Post-hoc power analysis: 100% power. Effect size f²=0.32, Critical F(3,571) = 7.161, Lambda = 181.528

The above regression model shows that organizational commitment explains 24% of the variance in *Boosting* behaviour amongst South African knowledge workers. This is a medium to large effect size. Both ACORG and NCORG are highly statistically significant “predictors” of *Boosting* behaviour and the overall model is statistically and substantively significant.

Table 5.27

Regression Analysis: DV = Helping

	Beta	SE	B	SE	t(573)	p-level
ACORG	.160	.047	.081	.024	3.39	.001
CCORG	.075	.043	.034	.019	1.75	.081
NCORG	.004	.047	.002	.023	0.09	.931

Notes: R= .19, R²= .04, Adjusted R²= .03, F(3,573)=7.5164, p<.0001, SE of estimate: .422, N= 595

Post-hoc power analysis: 100% power. Effect size f²=0.23, Critical F(3,571) = 7.161, Lambda = 134.838

The above regression model shows that organizational commitment does not explain a substantively important amount of an individual employee’s propensity to engage in helping behaviours. Despite the statistical significance of the overall regression model and the statistical

significance of ACORG in the model, the model is weak and only explains 4% of the variance in *Helping*.

Interaction effects. Meyer and Allen (1991) noted the importance of examining interaction effects between the components of commitment and salient outcomes because each component of commitment “can exert independent (and possibly interactive) effects on a particular behavior” (p.74). Hierarchical regression analysis was used to assess interaction effects between the commitment components and their effect on the proposed outcome variables. Variables were centred as suggested by Aiken and West (1991) to avoid multicollinearity problems with the interaction terms. Two-way interaction terms were added after inclusion of the first order effect terms. Three-way interaction terms were added to the equation after the two-way blocks. It must be noted that the interpretation of the beta value of a centred variable is different from the typical interpretation of beta values in regression analysis. The betas represent conditional rather than constant effects (Aiken & West, 1991). That is, a zero beta coefficient now corresponds with the variable being at its mean, not at zero. For example, a beta coefficient of 2 for ACORG on *Turnover Intention* represents the effect of ACORG on *Turnover Intention* when all other predictors are equal to zero. Interpretation of the overall model (R^2) is not affected by centring the independent variables.

Table 5.28 shows the full interaction regression model of each commitment component on *Turnover Intention*. As expected, the first order effects of all three components of commitment are significant. There were no

significant interaction effects between components of commitment. The model explained almost 40% of the variance in *Turnover Intention* ($R^2 = .39$ for the overall model with $p < .0001$ and $R^2 = .38$ for the main effects with $p < .0001$). This is a very satisfactory result and is higher than that typically found in commitment research (Meyer et al., 2002). Power analysis showed that the main effects step of the model had a power level of 100%, the two-way interactions step of the model had an unsatisfactory level of power (37%) and the three-way interactions step of the model had a very low power level (8%).

Table 5.28

Hierarchical Regression Analysis (Interactions): DV = Turnover Intention

	Beta	SE	B	SE	T(567)	p
Step 1: Main effects						
ACORG	-.448*	.040	-.597	.053	-11.3	.000
CCORG	-.205*	.038	-.243	.045	-5.4	.000
NCORG	-.139*	.039	-.178	.050	-3.6	.000
$R^2 = .38; p < .0001$						
Step 2: Two-way interaction effects						
ACORG*CCORG	.051	.042	.065	.055	1.2	.233
ACORG*NCORG	.047	.038	.062	.050	1.2	.215
CCORG*NCORG	.038	.041	.047	.050	.9	.347
$\Delta R^2 = .011; p = .017$						
Step 3: Three-way interaction effects						
ACORG*CCORG*NCORG	.010	.042	.010	.043	.2	.811
$\Delta R^2 = .0000062; n.s$						

Note: * $p < .0001$ $N = 575$; overall $R^2 = .39$ ($p < .0001$); Adjusted $R^2 = .39$ (actually Adjusted $R^2 = .386$, so it is only marginally less than R^2)

Post hoc power analysis: 100% for main effects, 37% for the addition of 2-way interaction effects, 8% for the addition of 3-way interaction effects. That is, only main effects had sufficient power.

Table 5.29 illustrates the importance of commitment in understanding turnover intention by adding three widely known predictors in the second step of the hierarchical regression analysis.

Table 5.29

Hierarchical Regression (Commitment Correlates): DV = Turnover Intention

	Beta	SE	B	SE	t(581)	p
<u>Commitment Components</u>						
<i>ACORG</i>	-0.360	0.040	-0.482	0.053	-9.05	.000
<i>CCORG</i>	-0.207	0.033	-0.248	0.040	-6.21	.000
<i>NCORG</i>	-0.111	0.037	-0.144	0.048	-3.01	.003
<u>Correlates</u>						
<i>Work Motivation</i>	-0.031	0.041	-0.054	0.071	-0.76	.449
<i>Job Satisfaction</i>	-0.220	0.041	-0.287	0.054	-5.34	.000
<i>Occupational Commitment</i>	0.054	0.035	0.083	0.054	1.55	.123

Notes: N = 588

After Step 1: $R^2 = .376$, $F(3,584) = 117.32$, SE of estimate .897, $p < .0001$;After step 2: $R^2 = .417$, $F(6,581) = 69.392$, $p < 0.0001$, SE of estimate = .868Change in $R^2 = 0.041$, $p < .0001$

Table 5.29 shows that only *Job Satisfaction* significantly adds to understanding the variance in *Turnover Intentions* and that the three proposed correlates of organizational commitment add little to our overall understanding of turnover intentions amongst South African knowledge workers ($\Delta R^2 = .04$, $p < .0001$). That is, approximately 4% extra variance in turnover intentions is explained by adding these variables.

Table 5.30 shows the regression model of the commitment components on *Boosting*. All three components of commitment are significant predictors of *Boosting* behaviours at the .01 level (the p-level for CCORG is marginally higher than .01 but this margin is too small to discount its significance). The strongest predictor in the model is ACORG, which is to be expected given that those who feel a strong emotional connection to their organization are likely to speak highly of it to others. The significant and positive beta for NCORG is somewhat surprising, as those remaining with an organization out of a felt obligation to remain are not expected to be necessarily more likely to boost that organization to others. Of course,

boosting the organization to others may be part of the felt obligation to the organization (as a member of the organization it may be perceived as appropriate to boost the organization to others). This relationship may also be an effect of the ACORG and NCORG scales being highly correlated and it should therefore be noted but not over-interpreted. The regression model explained 28% of the variation in *Boosting* behaviours ($R^2=.28$; $p<.0001$) and this was regarded as a satisfactory result.

Table 5.30
Hierarchical Regression Analysis: DV = Boosting

	Beta	SE	B	SE	t(567)	p-level
Step 1: Main effects						
ACORG	.400*	.043	.430	.047	9.2	.000
CCORG	-.105*	.041	-.101	.039	-2.5	.011
NCORG	.132*	.042	.137	.044	3.1	.002
$R^2=.25$; $p<.0001$						
Step 2: Two-way interaction effects						
ACORG*CCORG	-.052	.046	-.054	.048	-1.1	.262
ACORG*NCORG	-.068	.041	-.072	.044	-1.6	.101
CCORG*NCORG	-.065	.044	-.064	.044	-1.5	.141
$\Delta R^2 = .023$; $p = .001$						
Step 3: Three-way interaction effects						
ACORG*CCORG*NCORG	.101	.046	.084	.038	2.2	.028
$\Delta R^2 = .006$; $p = .028$						

Note: * $p<.05$; $N=575$; overall $R^2=.28$ ($p<.0001$); Adjusted $R^2 = .27$
Post hoc power analysis: 100% for main effects, 45% for the addition of 2-way interaction effects, 36% for the addition of 3-way interaction effects. That is, only the main effects had sufficient power.

Transformation of data. Tabachnick and Fidell (1989) discussed the transformation of variables to overcome problems in the distribution of residuals. Their guidelines were followed to attempt to transform the *Slacking*, *Innovating*, *Participating*, and *Performance* variables. It was not possible to transform the *Slacking* or *Innovating* outcome variables to render them amenable for regression analysis (i.e. to yield a normal probability plot of residuals) but it was possible to transform the *Participating* variable.

Participating was squared and this reduced the severe deviations from normality in the distributions of residuals in the regression model. The *Participating*² variable was then regressed against the three components of organizational commitment. The final regression model was statistically significant but substantively weak ($R^2 = .087$, $p < .000$, SE of Estimate 6.146) with only the beta of ACORG being statistically significant (beta = .283, $p < .0001$, $N = 610$).

It was not possible to transform the original *Performance* variable in any way as it displayed too little variance (.2) with no respondent scoring themselves lower than 3 on the 5 point scale for any of the three items in the scale. This lack of variance implies that this scale should not be used as a dependent variable in multivariate analyses. To examine performance the three items from the questionnaire relating to the respondents self-rating of their performance and their perceptions regarding how their co-workers and their managers rate their performance, was summed into a scale, and called *Performing*. The *Performing* variable ($M = 3.742$, $SD = .721$, $N = 630$ with casewise deletion, Cronbach's $\alpha = .86$, unidimensional factor structure) was then regressed against the three components of organizational commitment. The final regression model was substantively very weak ($R^2 = .02$, $p < .01$, SE of estimate = .712, $N = 630$) with only the beta of ACORG being statistically significant (beta = .14, $p < .01$).

Next Step

Respondents were asked where they were most likely to go if they left their current employer. There were two dimensions to the responses. One

dimension assessed the proclivity to emigrate and the second the proclivity to continue to work in their current career. The results of this question are presented in Table 5.31. Over 70% of respondents expressed an intention to remain in South Africa.

Table 5.31

Summary: Next Step Responses

	N	%	Cumulative %	% of all
Stay in South Africa and work in same career	269	42.50	42.50	42.23
Stay in South Africa and change to new career	193	30.49	72.99	30.30
Go overseas and work in same career	121	19.12	92.10	19.00
Go overseas and work in another career	32	5.06	97.16	5.02
Other	18	2.84	100.00	2.83
Missing	4	0.63		0.63

Foci of commitment

To examine whether commitment to different foci (other than the organization) helps explain significant variance in important organizational outcomes hierarchical regression analysis was performed. Regression models were calculated for the three outcome variables of *Boosting*, *Turnover Intention* and *Helping*. Hierarchical regression was conducted to examine the interactive effects of the affective commitments to multiple foci on these three outcomes. Table 5.1 contains the descriptive statistics of the commitment foci. Table 5.32 presents the zero-order correlations between the three outcome variables and the three foci of affective commitment. Table 5.33, 5.34, and 5.35 show the results of the hierarchical regression analyses.

Table 5.32

Correlations: Affective Commitment Foci with Outcomes

	Mean	SD	ACORG	ACMAN	ACCW
<i>Boosting</i>	4.012	.920	.440*	.150 ^{***}	.155 ^{***}
<i>Turnover Intention</i>	2.613	1.135	-.562*	-.277*	-.109 ^{**}
<i>Helping</i>	4.064	.427	.140 ^{***}	.115 ^{**}	.415*

Notes: N=595 (casewise deletion)

` =p<.05; `` =p<.01; ```` =p<.001' * =p<.0001

As expected, the above correlation analysis shows that all three affective foci are negatively related to *Turnover Intention* (though the correlation coefficient of ACCW with *Turnover Intention* is substantively weak and less statistically significant) and that *Helping* behaviour is only strongly correlated with ACCW ($r = .42, p < .0001$).

Table 5.33

Hierarchical Regression Analysis (Affective Foci): DV = Boosting

	Beta	SE	B	SE	t(567)	p
Step 1: Main effects						
ACORG *	0.432	0.041	0.431	0.041	10.543	***
ACMAN	-0.017	0.042	-0.016	0.040	-0.404	.687
ACCW	-0.020	0.042	-0.021	0.045	-0.468	.640
R ² = .20; p < .0001						
Step 2: Two-way interaction effects						
ACORG*ACMAN	0.012	0.042	0.011	0.038	0.295	.768
ACORG*ACCW	-0.066	0.043	-0.065	0.043	-1.522	.128
ACMAN*ACCW	-0.087	0.042	-0.086	0.042	-2.064	.040
$\Delta R^2 = .022; p = .001$						
Step 3: Three-way interaction effects						
ACORG*ACMAN*ACCW	0.116	0.045	0.086	0.033	2.599	.010
$\Delta R^2 = .009; p = .01$						

Note: * p<.0001; N=595; overall R² = .23 (p<.0001); *** = p < .0001

All scales are revised 3-item scales

Post hoc power analysis: 100% for main effects, 42% for the addition of 2-way interaction effects (low effect size of .02), 38% for the addition of 3-way interaction effects (inconsequential effect size). That is, only main effects had sufficient power.

Table 5.34***Hierarchical Regression Analysis (Affective Foci): DV = Turnover Intention***

	Beta	SE	B	SE	t(567)	p
Step 1: Main effects						
ACORG	-0.529*	0.038	-0.650	0.047	-13.905	***
ACMAN	-0.091	0.039	-0.107	0.046	-2.318	.021
ACCW	0.085	0.039	0.113	0.052	2.173	.030
R ² = .32; p < .0001						
Step 2: Two-way interaction effects						
ACORG*ACMAN	0.034	0.039	0.038	0.043	0.868	.386
ACORG*ACCW	0.063	0.040	0.078	0.049	1.579	.115
ACMAN*ACCW	-0.022	0.039	-0.027	0.048	-0.564	.573
ΔR ² = .007; p = .121						
Step 3: Three-way interaction effects						
ACORG*ACMAN*ACCW	-0.070	0.041	-0.065	0.038	-1.695	.091
ΔR ² = .003; p = .091						

Note: N = 595; *** p < .0001; R² = .33 (p < .0001)

All scales are revised 3-item scales

Post hoc power analysis: 100% for main effects (large effect size), 54% for the addition of 2-way interaction effects (inconsequential effect size), 36% for the addition of 3-way interaction effects (inconsequential effect size). That is, only main effects had sufficient power.

Table 5.35***Hierarchical Regression Analysis (Affective Foci): DV = Helping***

	Beta	SE	B	SE	t(567)	p
Step 1: Main effects						
ACORG	0.033	0.041	0.015	0.019	0.795	.427
ACMAN	-0.054	0.043	-0.024	0.019	-1.261	.208
ACCW	0.362*	0.043	0.180	0.021	8.477	***
R ² = .175; p < .0001						
Step 2: Two-way interaction effects						
ACORG*ACMAN	0.086	0.042	0.036	0.018	2.031	.043
ACORG*ACCW	-0.068	0.044	-0.032	0.020	-1.562	.119
ACMAN*ACCW	0.058	0.043	0.027	0.020	1.356	.176
ΔR ² = .022; p = .001						
Step 3: Three-way interaction effects						
ACORG*ACMAN*ACCW	0.138	0.045	0.048	0.016	3.059	.002
ΔR ² = .013; p = .002						

Note: N = 595; *** p < .0001; R² = .21 (p < .0001)

All scales are revised 3-item scales

Post hoc power analysis: 100% for main effects (large effect size), 44% for 2-way interaction effects (small effect size), and 38% for 3-way interaction effects (inconsequential effect size). That is, only main effects had sufficient power.

The full interaction models explain 23% of the variance in *Boosting* (boosting behaviour), 33% of the variance in *Turnover Intentions*, and 21% of the variance in *Helping* (helping behaviours). Amongst the main effects, only affective commitment to the organization (ACORG) was highly significant in explaining boosting behaviour (beta = .432, $p < .0001$) and turnover intentions (beta = - .529, $p < .0001$). Amongst the two-way interaction effects the interaction between affective commitment to co-workers (ACCW) and affective commitment to managers (ACMAN) was significant (beta = -.087, $p < .05$) in explaining boosting behaviour. The interaction between ACORG and ACMAN was significant in explaining helping behaviour (beta = .086, $p < .05$). Three-way interactions are impossible to interpret in commitment research and are not typically examined (e.g. Somers, 1995). These interactions were calculated for exploratory purposes and only helped explain an additional .009% of the variance in loyalty boosting behaviour (*Boosting*).

As discussed earlier, a full set of regression diagnostics was conducted. No problems were detected (e.g. tolerance levels were all well above .4 and there were therefore no multicollinearity problems, indicating stability within the regression model)

The key mediating construct debate. As discussed in Chapter 3, there is a debate in the commitment literature regarding the nature of the influence of multiple foci of commitment on turnover intentions. It was therefore decided to examine whether organizational commitment should be seen as a “key mediating construct” (Hunt & Morgan, 1994, p.1570) of

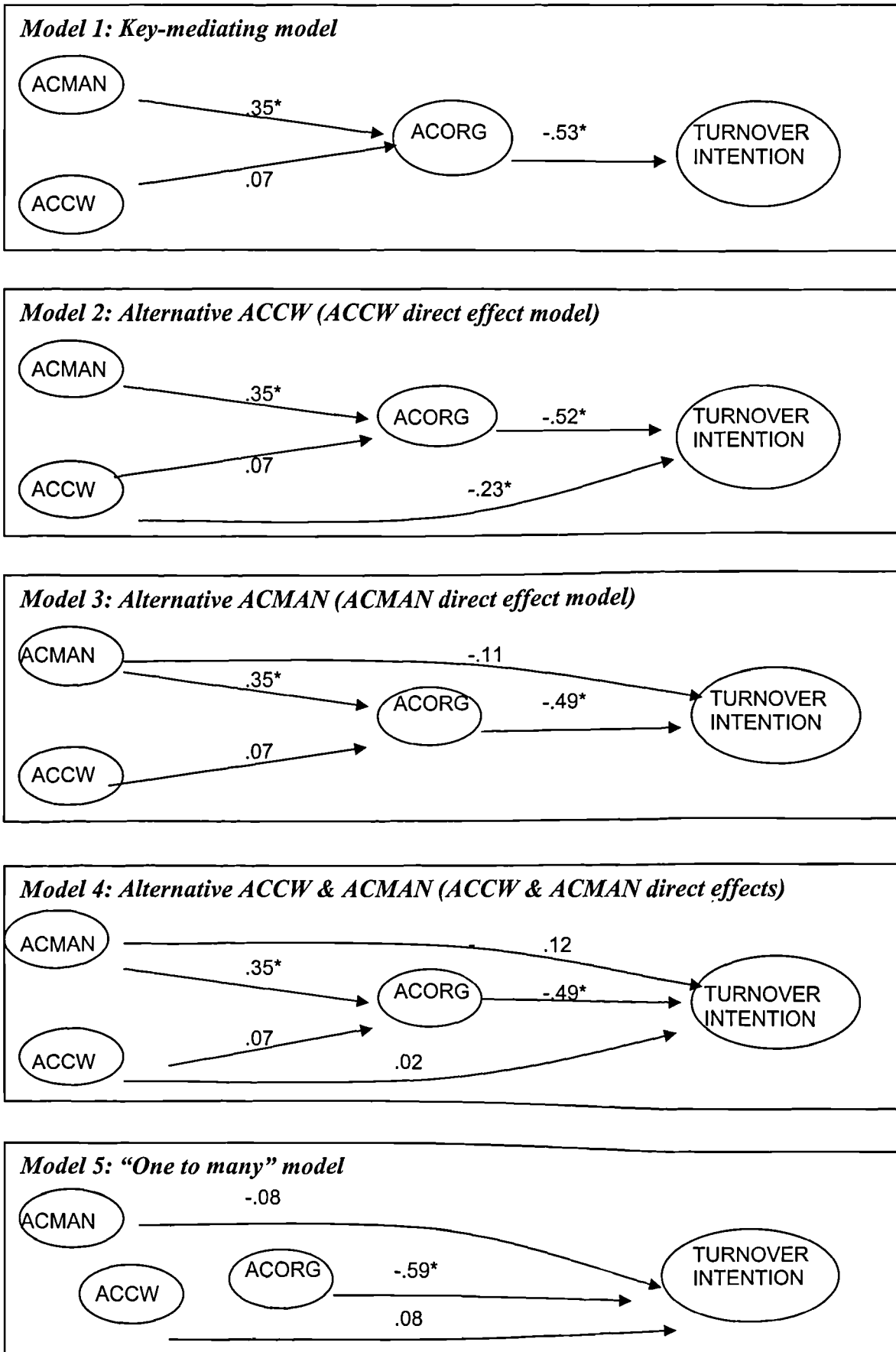
commitment to other commitment foci within the organization or whether it is one of many commitments affecting important organizational outcomes.

The strong theoretical basis for the relationship between affective commitment and turnover intentions permits the use of structural equation modelling (SEM). The procedural and technical decisions made relating to SEM were motivated in Chapter 4. SEM is particularly useful for evaluating the validity of two or more competing models because it permits the estimation of multiple and correlated relationships, accounts for measurement error in the estimation process (Hair et al., 1998; Statsoft, 2003), and allows the quantitative comparison of alternative models. Five plausible alternative models were tested. Figure 5.1 shows the different SEM models.

Figure 5.1

Alternative SEM models: “One to many” and Alternative Mediating Models

(* indicates statistically significant relationship, $p < .001$)



The results of the goodness of fit calculations for each of the five possible models are presented in Table 5.36, which shows that the “one of many” model (the model positing that each focus of affective commitment will have a direct effect on turnover intentions) fits the data best according to all the fit indices that were calculated.

Table 5.36

Fit Indices: “One of Many” and “Key-mediating Construct” Models

Model	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI	ECVI	AIC
“Key mediating construct” model	396.82	33	.88	.80	.89	.87	.90	.66	.74	.73
Alternative ACCW	396.45	32	.88	.80	.89	.86	.90	.64	.74	.74
Alternative ACMAN	388.58	32	.88	.80	.90	.87	.90	.64	.73	.73
Alternative ACCW&ACMAN	388.36	31	.88	.79	.90	.86	.90	.62	.73	.73
“One of many” model	240.73	30	.92	.86	.94	.92	.94	.62	.49	.49

Note: each alternative model adds the specified path directly to *Turnover Intentions*

The results of the above analysis are not directly comparable with previous studies that have addressed this debate. Hunt and Morgan (1994) used a different model of commitment with compliance, identification, and internalization as bases of commitment. Boshoff and Mels (2000) only used identification as a basis of commitment and included professional commitment, a commitment to an entity external to the organization in their model. Hunt and Morgan’s (1994) study favoured the “key mediating construct” model whereas Boshoff and Mels (2000) asserted that the fit of the two models were very similar but did not use any statistical criteria in making this determination. In fact, the “one of many” model in their study had a better fit, which is significant according to the criteria used in this study. It should be noted that the criterion used in this study, following Widaman (1985) who

stated that a .1 difference in the CFI is a significant improvement is widely but not universally accepted (e.g. Hom & Griffeth, 1991, set a .2 to .3 change as the criterion for a significant difference in the CFI). Both studies have other limitations that further confound comparison. Hunt and Morgan (1994) did not conduct an item analysis on the scales, their sample was drawn from a single organization, and they analysed a correlation matrix as if it was a covariance matrix, which can yield incorrect measures of fit indices and standard errors (Cudeck, 1989). Boshoff and Mels (2000) used a little known custom developed computer programme for SEM, which correctly analyses correlation matrices but whose properties are not known. The results of this study therefore represent a more rigorous assessment of this question than any published study.

Comparison of public sector and private sector knowledge workers

Appendix D contains full details of all the analyses, conducted separately for those knowledge workers employed in the private sector and those employed in the public sector. To examine the overall effect of sector on the regression models presented above, a dichotomous variable denoting the sector in which the individual knowledge worker was employed was added as a third regression step to the hierarchical regression models.

Sector did not add appreciably to explaining the variance of ACORG ($\Delta R^2 = .003$, $p = .068$), CCORG ($\Delta R^2 = .006$, $p = .047$) or NCORG ($\Delta R^2 = .00007$, $p = .80$) and, consistent with expectations, was neither practically significant nor statistically significant. However, when considering each model separately a different picture emerged. In the ACORG model for public sector knowledge

workers only two were significant at the set level of .01: *Charismatic Leadership* (beta = .173, $p = .01$) and *Organization Based Self-Esteem* (beta = .192, $p < .01$). *Job Feedback* (beta = .180, $p = .011$) and *Met Expectations* (beta = .166, $p < .05$) are also worthy of mention. Amongst the knowledge workers employed in the private sector, *Charismatic Leadership* and *Met Expectations* were also significant (both at the .0001 level) as were *Job Security* and *Distributive Justice* at the .0001 level and *Job Formalization* ($p = .001$). *Workload* approached significance in the regression equation ($p = .018$). Overall, the regression model for public sector knowledge workers explained 47% of the variance in ACORG and the regression model for private sector knowledge workers explained 54% of the variance in ACORG. Both models were highly substantively and highly statistically significant ($p < .0001$)

In the CCORG model, both *Job Alternatives* and *Skill Transferability* were statistically significant variables across sectors. *Self Investment*, which was not a statistically significant variable in the regression model for the total sample, was statistically significant (beta = .143, $p < .05$) in the regression model for knowledge workers in the public sector. The most notable finding here was that the regression model for knowledge workers in the public sector explained 29% of the variance in CCORG, which is both highly substantively and highly statistically significant, whereas the regression model for knowledge workers in the private sector explained only 12% of the variance in CCORG and the regression model for the total sample explained 17% of the variance in CCORG.

In the NCORG model, both proposed antecedents (highly significant in the regression model for the total sample) were highly statistically significant for knowledge workers employed in both sectors and both sector specific models were highly statistically significant (both at .0001 level).

Bivariate analyses were conducted (See Appendix D) on all the variables that were included in the final analyses. For example, public sector knowledge workers were significantly higher in levels of *Negative Affect*, and *Socialized Loyalty*, which points to a possible difference in the personal orientation and upbringing of public sector employees. Public sector knowledge workers had significantly higher levels of CCORG (at the .0001 level), ACCW (at the .001 level), and CCCW (at the .0001 level), which may directly reflect the nature of public service and the consequent greater felt obligation of public sector employees. Private sector knowledge workers had significantly higher levels of *Job Formalization*, *Job Feedback*, *Charismatic Leadership*, and *Management Relationships*, which reflects unsurprising differences in perceptions regarding leadership, communication about performance, and specific work requirements. Interestingly, private sector and public sector knowledge workers did not differ significantly on their perceptions regarding their job security or skills transferability and, despite the negative stereotyping of public sector work, no significant differences were found regarding perceptions of workload and job variety. Sectoral differences are rooted in context and require further research, which was beyond the scope of this study.

Final notes

This chapter presented results of the quantitative analysis of the survey data. The initial psychometric analyses confirmed the proposed three-component model of organizational commitment and evidenced the strong psychometric properties of the organizational commitment scales used in this study. The relationship between the commitment scales was discussed and the higher-order relationship between ACORG and NCORG was examined. Overall levels of commitment were found to be high and certainly higher than the populist literature seems to suggest.

Concerning the multiple commitments of knowledge workers, the presented results provide preliminary support for the distinctiveness of commitment components across forms and foci of commitment. Results concerning the application of the three-component model across all the foci (the full nine-factor model) were promising but highlighted specific refinements that need to be made to the scales. The three-factor model of affective commitment was robust and was used in further analyses. These further analyses evidenced the importance of proximal commitments in the explanation of organizational outcomes. Interaction effects were also examined but these findings, though exploratory were weaker than expected.

In all, the results presented in this chapter provide substantial support for the commitment model presented in Chapter 3 and significantly advance understanding regarding the nature, antecedents, dimensionality and importance of the commitment relationship between knowledge workers and their employing organizations.

CHAPTER 6: DISCUSSION

This chapter discusses and reflects on the key features of the results presented in the previous chapter. It is divided into six sections. The first section reflects on my personal orientation to the research and how it shifted over the course of the research process. This section precedes any discussion of the results because my personal orientation influences my approach to discussing the results of this study and my interpretation of these results regarding the nature of organizational commitment amongst knowledge workers in South Africa. Section two comments on the high levels of commitment found amongst respondents to the survey questionnaire, critically examining the persistence of organizational commitment amongst knowledge workers. Section three discusses issues relating to the nature and dimensionality of commitment amongst knowledge workers, including multiple foci of commitment. Section four discusses the importance of commitment with specific reference to its effect on important outcomes such as performance, citizenship behaviours, and personal wellness. Section five discusses the results in relation to the proposed antecedents or drivers of commitment as proposed in Chapter 3. Given the detail of the research findings, this chapter draws on key themes evident in the analysis of results and discusses these in the light of the literature and the comments of participants in the five post-survey focus groups.

Self-reflection

This section is divided into two sub-sections. The first sub-section reflects on personal factors that influenced this research study. The second sub-section reflects on shifts within my epistemological stance over the course of the research process and how this affected my approach to the research.

Personal factors

The choice of commitment as the topic of research, to the exclusion of other possible topics, largely reflects my own personal system as a researcher. Of course, as Blaikie (2000) recognised, the choice of any research topic is also restricted by initial impressions about the requirements of those perceived to be the eventual audience for this research, my examiners and the broader scientific community. Personally, the chosen topic regarding the commitment of knowledge workers is a target of personal curiosity (having chosen an academic career and hence being a knowledge worker, of sorts, myself). It is also a means of making a contribution to knowledge about a topic that is important to me both theoretically and practically. Gaining insight into the puzzle of organizational commitment amongst knowledge workers and helping to explain the nature, antecedents and outcomes of commitment is especially important to me given the context of my life and of this research, South Africa. As previously mentioned, South Africa faces a unique set of development challenges and opportunities that require the skilful and careful management of its human capital.

A second set of personal motives for investigating the organizational commitment of knowledge workers in South Africa is to make a unique contribution to an ongoing global stream of research concerning commitment. In sum, my contribution to solving a functionalist problem that bedevils South African organizations (i.e. retaining and maximising the performance of their knowledge workers) is not managerialist. Rather it stems from a complex of personal motives as well as the pragmatic recognition of the need for South African organizations to become competitive in a globalized economy that competes with and for the talents of South African knowledge workers.

From pragmatism to critical realism

My initial approach this research was pragmatic and relatively unconcerned with meta-theoretical issues. Over the course of the research process and sparked by my exploration of meta-theoretical issues, I developed an affinity for a particular philosophy of social science, Critical Realism. Critical Realism (CR) is a broad church and has many variants but all recognise the reality of the social order and the events and discourses of the social world. Critical Realism acknowledges that the social world can only be changed if it is understood through identifying the structures that generate events and discourses (Sayer, 2000). I do not claim that this dissertation is an exemplar of critical realist research or even represents an orthodox application of critical realism. It is merely my contention that this social science philosophy has influenced my own philosophical outlook and has therefore been implicit in much of this dissertation

To understand critical realism it is useful to consider its distinction between the *Real*, *Actual* and *Empirical*. Critical Realists argue that the *Real* world is ontologically stratified and differentiated and consists of a plurality of structures that generate events that occur and do not occur (these structures are often called generative mechanisms). The *Actual* consists of experienced events and behaviours, whether we observe them or not. The *Empirical* consists of sensations, perceptions, impressions, and direct and indirect experience of the actual. In critical realism, causal laws are *transfactual*, independent of empirical results, because empirical results are dependent on contingent conditions, context, and the multiple other objects and mechanisms at work at the same time and in the same place. Structures are not easily observable in events and can only be identified through empirical and theoretical research. Reality thus has *transitive* and *intransitive* dimensions. The former includes knowledge and theories about the world and the latter the world itself (Outhwaite, 1987; Sayer, 1994, 1997).

Critical Realists rarely mention work organizations but, by extension, these would be considered to be complex and real open social systems within which complex, reflexive and intentional individual behaviour is enacted.

Layder (1998) addressed the issue of basing social science research on a critical realist perspective and was sympathetic to the development and application of middle-range theory (See Merton, 1968) and attempts to develop causal explanations. He (1998) argued that critical realist social scientists may rely on quantitative methods (i.e. statistical analysis) but

should understand such analyses in a different way (i.e. not as constant conjunctions).

Critical realism and statistics

The careful reader will notice that the language of this dissertation avoids the true/false or accept/reject dualism of standard quantitative dissertations. This approach is consistent with the critical realist thesis that research is an ongoing process of testing *propositions* (as formulated in Chapter 3) and that emphatic 'hypothesis-rejection' and 'hypothesis-acceptance' is not appropriate (Olsen, n.d.). Critical realists broadly refer to their reasoning strategy as retrodution and to retroduce means to ascertain the mechanisms causing a particular set of observations. This epistemology concerns uncovering the "tendencies in things" rather than discerning constant conjunctions of events as advocated by Positivism (Blaikie, 2000, p. 108). Of course, explanatory mechanisms must first be proposed and research undertaken to evidence their existence so that they can be explained in their given context (Blaikie, 2000).

Critical realism is methodologically pluralist but examines statistical findings with the understanding that a closed statistical model cannot represent the "real world" (See Mingers, 2000), which is transitive (i.e. sensitive to our descriptions of it and therefore containing contradictions, indeterminacy, and feedback). A critical realist approach requires engagement by the researcher and a degree of self-reflexivity not required in typical statistical reporting (it is not value neutral) and begs a normative dimension to research endeavours (Sayer, 2000), including some reflection

on why a particular topic was chosen (as discussed above). This extends to the interpretation of results especially the prominence given issues relating to practical adequacy, inter-subjective agreement, fallibility, and the development of further speculative propositions from a basis of 'tested' propositions (Lawson, 1997; Olsen, 1999, 2002). The next five sections focus on discussing different aspects arising from the findings of this study.

The persistence of commitment

An important finding of this study is that overall commitment levels amongst knowledge workers are high. As discussed in the Chapter 1, the level of organizational commitment amongst knowledge workers has been much debated with many claiming that the construct is no longer relevant in an era characterised by, inter alia, downsizing (corporate disloyalty), portfolio careers, and new work values (e.g. Baruch, 1998).

The average scores of all three measured components of organizational commitment were sufficiently high to question the prevailing consensus in much of the popular management literature that knowledge workers are not committed to their employing organizations. An assumption shared by both knowledge workers and their managers.

Overall, the high ACORG and CCORG mean scores (i.e. means of 3.11 and 3.15 respectively on a five-point scale) indicate that most knowledge workers are emotionally and materially attached to their employing organizations (over 70% and 75% of respondents scored above the midpoint of the scale for ACORG and CCORG respectively). The relative weakness of normative commitment (i.e. statistically significant lower mean

score of 2.62) amongst respondents was not unexpected. It evidences the widely accepted notion that knowledge workers feel less beholden to bureaucratic prescriptions regarding the “exemplary worker” and do not perceive commitment primarily as an obligation to the organization (e.g. Arthur & Rousseau, 1996). Nevertheless, the actual quantum of the mean score of NCORG ($M = 2.62$) was still surprisingly high, with over 50% of the respondents having NCORG scores higher than the midpoint of the scale.

The relatively high score on the CCORG component scale should be interpreted with caution. It is substantially similar to the ACORG component score (difference of .034) and has a wider dispersion of its scores ($SD = .944$). Its magnitude may also have been affected by contextual factors such as perceptions regarding an unstable labour market and a lack of job alternatives at the time that the survey was distributed, increasing respondents’ perceived costs of leaving their current employment relationship.

In general, there are three reasons why the relative scores of the different component scores should be treated with caution. First, the stability of commitment attitudes over time was not assessed in this study. Second, respondents who had higher levels of ACORG and CCORG may have had a greater propensity to complete the questionnaire than their colleagues who did not respond may have had. Third, the stability of the three-component commitment structure over time was not explicitly examined or established.

Of course, high levels of organizational commitment do not imply any hope or aspiration for lifelong employment with an organization. One focus

group participant noted that high commitment and the realization that tenure would be limited could coexist, just as it does on projects or when students attend a university (assuming high commitment to the institution coupled with the realization that they will eventually graduate and leave the institution).

The nature of commitment

This study advanced current theoretical knowledge regarding the nature of commitment in the workplace in three ways. First, by examining both the dimensionality of the widely accepted three-factor model of organizational commitment, based on the work of Meyer and his colleagues (e.g., Meyer & Allen, 1991; Meyer, Allen, & Smith, 1993), amongst South African knowledge workers. Second, by examining the extension of the three-factor model to multiple commitment foci amongst South African knowledge workers, and third, by developing an appropriate definition of commitment that is consistent with recent advances in commitment theory.

Dimensionality of organizational commitment

The application of the three-component model of commitment for explaining commitment amongst South African knowledge workers was substantially confirmed but cannot be accepted without reservation.

Using advanced factor analytic techniques it was found that ACORG and NCORG are distinct but that both reflect a higher-order factor, which was labelled affective attachment. This is an important finding of this study. Previous research did not apply recent advances in factor analysis to examine the higher order factors in the commitment construct. The

application of higher-order factor analysis in this study helps address the prevailing confusion regarding the high correlations that have been consistently found between NCORG and ACORG and opens the way for further theoretical investigation regarding the nature and distinctiveness of affective and normative forms of commitment.

Angle and Lawson (1993) contended that normative commitment is “qualitatively different from the other two components of commitment” (p.5) because it addresses the employee’s internalization of commitment to an organization as a personal value, which is a characteristic of the individual employee not the relationship between them and the organization. In this sense, normative commitment reflects commitment propensity (an inclination to become committed), an antecedent of affective and continuance commitments to an organization, not an equal component. Affective commitment to an organization is based on an emotional attachment to an organization and normative commitment is based on a felt moral obligation to be loyal to the organization and continue employment (See Meyer & Allen, 1997). Both of these definitions reflect affective attachment to the organization. The ACORG component seems to reflect a broad or generalised affective attachment whereas the NCORG component seems to reflect a more specific attachment related to an obligation-based emotional connection to the organization. As such, the specific NCORG attachment can become subsumed within the broader ACORG attachment, capturing both the employee’s desire and felt obligation to stay with the organization. Even Meyer and Allen (1990, 1991) in their first major presentations of the three-

component model admitted that there is an inherent psychological overlap between their two scales.

Further refinement of the NCORG scale, with the development of more felt obligation items (a process initiated in this study), will help achieve greater operational clarity and appropriately tap distinct normative commitment energy. This implies the retention on the normative commitment scale as a distinct scale, contrary to the suggestions of Ko et al. (1997) and others who have contended that NCORG should not be distinguished from ACORG or that it may be an antecedent or moderator of affective commitment. Further research will help determine the importance of having discerned the affective saturation of NCORG and the implications of uncovering a higher-order factor on claims regarding the dimensionality of commitment.

As previously noted the inclusion of continuance commitment as a component of attitudinal commitment has been questioned at a conceptual level. Despite research findings evidencing a statistically significant relationship between ACORG and CCORG, Mathieu and Zajac (1990) noted that on balance “the two forms of OC are sufficiently distinct to permit comparisons between their relative relationships with other variables” (p.172). Meyer and Allen (1997) continue to assert that the two components of commitment are distinct and recent empirical evidence, including the results of this study strongly supports this conclusion (Meyer et al., 2002).

Defining commitment

The definition of commitment presented and operationalized in this study should itself help advance knowledge concerning commitment because it prompts an examination of extant definitions of organizational commitment and extends the application of commitment theory.

The organizational commitment construct is never precisely defined in recent literature and is still best referred to as a “psychological state that binds an individual to the organization” (Meyer & Allen, 1990, p.1). This broad definition is then partitioned into three components each of which has more precise definitions. The construct is therefore implicitly defined through what is common between the three components, rather than representing a higher order concept partitioned into three components. All three components focus on the organization as a whole as the referent, are psychological dimensions of attitudinal commitment, and refer to a link between the employee and the organization. The three-component model as currently defined in the literature may therefore be adding to the confusion in the organizational commitment literature and deterring further conceptual work. This study therefore presented and operationalized a new definition of commitment that accounts for recent advances in commitment theory (e.g. Meyer & Herscovitch, 2001) and is both more rigorous and less restrictive than earlier definitions.

On a conceptual level, it is hoped that the results and theoretical critique presented in this study will be used to advance commitment theory by helping to identify weaknesses and inadequacies that can form the basis

for inter-theoretical bridge building, resulting in an improvement of the original conceptualization.

Multiple foci of commitment

The specific contribution of this study regarding multiple foci of commitment include (a) the development of reliable, distinct measures of affective commitment to three foci, (b) the finding that multiple foci of affective commitment help explain the variance in important organizational outcomes, and (c) preliminary evidence that the three components of commitment can be discerned within and across three foci of commitment (after further scale refinement). These findings lend credence to Meyer & Herscovitch's (2001) proposed generalization of the commitment model and the application of this proposition in the model presented in Chapter 3 of this dissertation.

The relationships between commitment components across foci deserve special attention. Both normative commitments and continuance commitments across foci were statistically and substantially correlated across foci and these relationships were reflected in both the exploratory and confirmatory factor analyses.

The strong correlation across normative commitments to different foci was unexpected. One possible explanation of this finding is that normative commitment develops from socialization experiences encountered prior to organizational entry (Stinglhamber et al., 2001). These experiences, even those in early childhood (Weiner, 1982), may lead to the internalization of normative pressure that is experienced as a generalised sense of obligation

to any significant other. That is, normative commitment is generalised to other foci of commitment.

By extension, the relationships between continuance commitments across commitment foci may be explainable with reference to a generalised sense of aversion to incurring the costs associated with withdrawing from a relationship with a particular focus of commitment. Another possible explanation is that continuance commitments are nested within one another. For example, Meyer and Allen (1997) noted that the perceived costs of leaving an organization are typically increased if the perceived costs of leaving a particular cohort of co-workers and managers are high but there was no evidence of this in this study.

The distinct nature of the three affective commitments is explained by (a) the refinement of the affective commitment scales used in this part of the study and (b) the distinct nature of the psychological bond that develops between organization and employee, employee and their co-workers, and employee and their manager.

Overall, the results concerning the dimensionality of multiple foci of commitment should not be regarded as final and provide strong evidence for the need for further research. Indeed, it should be expected that the development of more refined scales that clearly specify the nature of a particular form of commitment to a particular focus might result in a clear nine factor model of commitment across the three foci and three components considered in this study.

Dynamics of commitment

This study still presents what Coopey and Hartley (1991) termed a “snapshot view” of commitment. Given the sustained attention given to the commitment construct over the past three decades it is surprising that so little attention has been paid to the dynamics of the commitment process (O’Reilly & Chatman, 1986). This renders all discussion regarding process issues “necessarily speculative...intended primarily to illustrate the importance of process considerations, to indicate how different processes are likely to operate....and to provide direction for future research” (Meyer & Allen, 1991, p.74). Emerging literature on commitment to change and commitment to new approaches together with dynamic commitment models in the information technology literature, and even practical models used by consulting organizations (Conner & Patterson, 1982; Huges, 1990) contain the seeds for further growth of this area of commitment research. Unfortunately, such a consideration was beyond the scope of this study.

Context and commitment

Contextual issues were considered at every stage of this study, albeit in a rather limited way. A distinctive feature of this study (as part of the commitment literature) was that multiple sources were used to gain contextualized information about the research domain: (a) secondary sources were consulted to gain an understanding of the respondent’s frame of reference at work; (b) the extant literature was compared with focus group discussions; (c) interviews and focus groups were conducted to ascertain the meaning and changing nature of different forms of commitment relationships

and (to ensure variability); and (d) respondents were chosen across occupational group and employment sector. The scales were also subjected to psychometric analysis, which increases inter-subject variation (Johns, 1991).

Organizational context is of concern in all organizational research because, as in linguistic semantics, the substantive meaning of a construct and the nature of the interrelationship between constructs may vary as a function of context (Johns, 1991; Johns, 2001). Context is external to the individual employee, typically at a higher level of analysis, and provides constraints or opportunities for behaviour and attitudes in organizations (Johns, 2001). Shore and Coyle-Shapiro (2003) noted research in which context variables (e.g. organizational strategy) moderated the effects of social exchange on organizational outcomes. Salancik and Pfeffer (1978) proposed that external factors (e.g. group norms, prior experience, and social comment) play a primary role in attitude formation. Weick (1979) noted the importance of considering the “situation” and its effects on employment relationships. Meyer and Allen (1997) commented that “the strongest influences [on ACORG] tend to be situational” (p.83).

In this dissertation, frequent reference has been made to the global, continental and national contextual factors that impact on commitment relationships (e.g. economic instability and corporate scandals) and the lack of contextualization in organizational commitment research. Contextual factors that may have impacted on the research process and the interpretation of the results were also noted.

Perhaps the most distinctive contextual factor in this study is its national context, which differs from the one in which the constructs were developed. As mentioned in Chapter 1, South Africa is a developing economy characterized by a diverse population, entrenched labour relations, legislated affirmative action, and a stable democracy. Knowledge workers in South Africa have world-class education and skills and are regarded as a "scarce resource". Interestingly, knowledge workers in both the private and public sectors, across occupations, were experiencing a period of change and ambiguity. Public sector knowledge workers, in particular, reported on the total transformation of their organization, the replacement of most of its leadership, new organizational priorities, new structures, and a major restructuring effort that resulted in great job insecurity. Limited contextual information was gathered from each respondent's organization, a constraint on any reflection concerning context effects, a gap in this study.

Nevertheless, sensitivity to context issues in this study provided several benefits: (a) it rendered the results more interesting, (b) helped make sense of surprising findings such as the importance of job security and the high scores for *Socialized Loyalty* amongst South African knowledge workers, (c) provided levels of interpretation beyond the "intrapsychic perceptions, cognitions, attributions, and dispositions" (Johns, 2001, p.34) such as the effects of the economic context on perceptions regarding job alternatives (Hulin, Rozniosky & Haichya, 1985). Future research should incorporate richer contextual information (e.g. organizational culture, performance

history, organizational history, history of employee relations, competitive environment) from the outset.

The importance of commitment

This section discusses the importance of commitment as it relates to valued outcomes for organizations and individual employees. For ease of presentation, this section is divided into five sub-sections. The first and most extensive sub-section discusses the surprisingly strong finding regarding the relationship between commitment and turnover intention amongst knowledge workers. The second sub-section discusses the evident lack of any explanatory relationship between commitment and in-role work performance. The third section discusses the more encouraging results regarding the relationship between commitment and certain citizenship behaviours. The fourth sub-section discusses the relationship between commitment and personal wellbeing. The fifth, and final, sub-section considers proximity effects in the relationship between commitment and its outcomes.

Turnover Intention

The strong relationship between organizational commitment and turnover intention was an important and surprising finding in this study, not because of the novelty of uncovering this well-established relationship but the context of its existence, amongst knowledge workers. The finding was particularly surprising given prevailing management rhetoric and the mobility of knowledge workers. The value of the follow-up focus groups proved invaluable in understanding this relationship. It became clear that the nature

of the commitment-turnover link might be different amongst knowledge workers than amongst other employees.

None of the follow-up focus group participants expected a lifetime career in their employing organization. They noted that the strong relationship between organizational commitment and turnover intention reflected the lack of temporal detail in the questionnaire items. Two of the three items probing turnover intention were very short-term oriented (i.e. “leave this organization as soon as possible” and “leave this organization within the next 12 months”) and one item was a general query whether the respondent would “like to leave this organization”. This general item queried the respondent’s desire to leave the organization whereas follow-up focus group participants noted that knowledge workers often leave their employing organizations not because they desire to leave but because they have better opportunities elsewhere. The other two items had clear time referents to the immediate future but many participants had not been employed by their current organization for long and therefore leaving “within 12 months” or “as soon as possible” was not something that they planned to do.

The temporal factor in turnover intention seems particularly important for knowledge workers and future research should incorporate this understanding of time to understand better the explanatory power of commitment on turnover intentions. The nature of the time factor may also be related to a host of other factors and will probably be best understood in the context of a knowledge worker’s industry affiliations and demographic profile. This finding also raises a caveat regarding the interpretation of the seemingly

strong link between organizational commitment and turnover intention in other studies and cautions that they be treated with particular circumspection when developing long-term organizational strategies and people management plans.

Next step

Over 70% of respondents expressed an intention to remain in South Africa. Nevertheless, the almost 25% of respondents who expressed an intention to leave the country remains worrisome for two reasons. First, it is a high percentage of highly skilled workers in a country that has been adversely affected by a protracted "brain-drain" since 1976. Second, it represents a significant number of knowledge workers that would leave if opportunity so dictated. As previously mentioned, at the time of the survey there were fewer opportunities overseas for the respondents than there had been for some time and the likelihood that intentions to emigrate could be realised were therefore small. The results of this survey indicate that many knowledge workers may choose to leave South Africa and that the brain-drain phenomenon may not have slowed down as some claim but merely be experiencing a hiatus until global conditions improve. Of course, this emphasises the need for effective retention strategies in organizations and the imperative of national initiatives to ensure that South Africa remains a desirable place to live.

Many to one model of organizational commitment

Hunt and Morgan's (1994) key-mediating construct model (in which cognitively distant foci of commitment such as co-workers and managers

exert their influence on turnover intentions through organizational commitment) suggests that commitment to co-workers and managers will have less direct effect on turnover intentions than organizational commitment and will exert their effect through organizational commitment. The hierarchical regression analyses in this study showed that ACORG did have the greatest impact on turnover intention but the SEM analysis showed that the key mediating model did not fit the data better than the one-to-many model. That is, the best fitting model was one in which each focus of affective commitment had direct paths to turnover intentions and the effect of ACCW and ACMAN on turnover intentions was not mediated through ACORG.

The relationship of ACMAN to turnover intention may be explained by the role that managers can assume as independent sources of support and learning (Rhoades & Eisenberger, 2002). This may imply that low commitment to a manager and the unfulfilled desire to change managers may result in a greater willingness to leave the organization. This suggests the need for flexibility regarding intra-organizational mobility amongst knowledge workers (c.f. McElroy, Morrow, & Mullen, 1996). The effect of ACMAN on turnover intent was not strong but this relationship deserves further consideration because other effects (Vandenberghe et al., 2004) may moderate this relationship. Of course, the employer could simply disengage from the employee-manager relationship but this may not be possible or contrary to organizational prescriptions (set meetings and the like). From the focus group sessions and the survey data it seems that knowledge workers in this study expected their managers to provide a stimulating work

environment and to encourage them in their professional development. The consequences of any failure to meet this expectation is worthy of future research.

Performance

Meta-analyses have consistently indicated a weak relationship between commitment and in-role performance, regardless of the commitment measure used (e.g. Mathieu and Zajac, 1990; Meyer et al., 2002; Riketta, 2002). Echoing Mowday et al. (1982), the weak relationship between organizational commitment and performance measures is the least encouraging finding in the literature. As expected in-role performance was not significantly or substantially explained by commitment. This indicates that for knowledge workers in-role performance is dependent on other work factors. Becker et al. (1996), noting the low relationship between organizational commitment and performance, speculated that more proximal and salient foci of commitment (e.g. commitment to managers or co-workers) might have a greater effect on in-role performance than organizational commitment. The findings of this study failed to confirm this amongst South African knowledge workers. Performance in this study was self-reported and it would be interesting for further research to examine the above relationships with “more objective” measures of performance or at least multiple rater evaluations of an individual employee’s performance.

Citizenship behaviours

Previous meta-analyses have shown an encouraging relationship between citizenship behaviours and commitment (Mathieu & Zajac, 1990,

Meyer et al., 2002; Riketta, 2002). An important finding of this study is that organizational commitment amongst knowledge workers explained a significant and substantial portion of the variance in both their turnover intentions and boosting behaviours and that commitment to their co-workers explained a significant and substantial portion of the variance in their helping behaviours. This sub-section will discuss these findings with particular reference to comments made by follow-up focus group participants.

Helping

Those who participated in this study refuted the stereotype of knowledge workers as highly individualistic and self-interested employees. Comments by focus group participants were supported by the high scores of survey participants on scales measuring affective commitment to co-workers and engagement in helping behaviours. Focus group participants noted that even strong competition between knowledge workers did not reduce the perceived necessity of cooperation as (a) a guarantee for reciprocation of help when needed, (b) as the “right thing” to do, and (c) as the “only way to work through really difficult problems”. The relative strength of the relationship between ACCW and helping behaviours may even be stronger in organizations where team work and peer evaluation play are part of the work process. Future studies should consider these context factors when considering the relationship between indicators of citizenship behaviour and commitment. The statistically and substantively significant relationship between co-worker commitment and helping behaviour is also important because it indicates the systemic benefits of organizational initiatives to

foster relationships amongst employees even if these initiatives do not affect turnover intentions or in-role work performance.

Boosting behaviour

The strong relationship between commitment (specifically, ACORG and NCORG) with *Boosting* is as expected and is not surprising. For focus group participants, “speaking up positively” about the organization to those outside the organization seems like a “natural behaviour” for those committed to the organization through a deep affective attachment. Explaining the relationship between continuance commitment and boosting behaviour is more speculative as focus group participants were not forthcoming on this and it is not discussed in the literature. One possible explanation is that the relationship between CCORG and *Boosting* behaviour reflects the need for knowledge workers to justify their continued membership of any organization that employs them. That is, even though they may be staying because the costs of leaving are high, they may still believe that they are members of a “great organization”. In contrast, it may be important for the incumbent knowledge worker to present the “fact” that they are members of a “great organization” (as an impression management tactic) so that their continued employment within that organization does not reflect poorly on them.

Wellbeing

The results concerning the relationship between commitment and personal wellbeing are notable by the absence of any statistically or substantially significant relationship between commitment and personal wellbeing. However, the results of this study help refute the claim (e.g. Reilly

& Orsak, 1991) that high levels of affective or normative commitment to an organization will have negative consequences for the personal wellbeing of employees. It further extends this refutation to any claim that commitment to co-workers or immediate managers will impact negatively on perceptions of personal wellbeing.

Interaction effects

Examining the interaction of the three components of commitment did not explain substantially more of the variance in the examined outcomes. Despite the statistically significant nature of the interaction effects, the results were not practically significant. Nevertheless, the promising nature of recent research on interaction effects, particularly the moderating effect of NCORG on ACORG (e.g. Chen & Francesco, 2000), raises the caution that the findings of this study should not be used to stop investigating interaction effects.

Proximity thesis

The overall pattern of commitment effects on outcomes supports the proximity thesis (i.e. level effects) of these relationships. That is, organizational level outcomes were best explained by organization level commitment and co-worker level outcomes were best explained by commitment to co-workers. These results are consistent with Lewin's (1943) field theory and Herscovitch and Meyer's (2001) assertion regarding the importance of matched levels of analysis on the commitment-behaviour relationship. That is, the salience of a particular commitment focus is directly related to the level of behaviour to be estimated. For example, the

organization focus is likely to be the most salient when the employee deliberates over their intention to leave the organization or whether to engage in boosting behaviour.

The strong relationship between the organizational commitment focus and turnover intentions is consistent with the proximity thesis. That is, an employee who intends to leave an organization must end the employment relationship with the organization as an entity (or redefine this relationship in some similar manner). Low levels of commitment to a particular manager or set of co-workers need not relate to turnover intention as the employee may have scope within the same organization to change co-workers or managers. Indeed follow-up focus group participants were clear that while co-workers and management relationships were highly valued they were not determinants of either commitment or intent to leave. In the words of one accountant (quoted at length because it encapsulates the sentiments expressed across the follow-up focus groups):

If we leave [this section] we will find other people to work with...it's not a concern really. I love these guys but [such] relationships have no effect on my decision about leaving this place... I will stay friends with my friends and meet other people...

Knowledge workers also mentioned that many of them were accustomed to working in different project teams over time. They expect that the team will eventually dissolve and that they will have the opportunity to team up with others within the same organization. The team may therefore seem more proximal but the organization is more psychologically proximal and therefore more important with respect to the decision to leave the organization (c.f. Bishop et al., 2000).

The veracity of the “proximity thesis” is an important practical finding of this study as it provides managers with an additional diagnostic tool to help determine the focus of interventions. For example, the results of this study indicate that to increase levels of cooperation and helping behaviour between employees, commitment to co-workers should be the focus of interventions rather than commitment to the organization as an entity. This may seem obvious but these findings should be treated cautiously as the relationship may not be invariant and the causal order of the relationship may be questioned (e.g. helping co-workers may lead to greater affective commitment to co-workers). Nevertheless, the strong and expected pattern of relationships between different sources of perceived support and different foci of affective commitment (as suggested by theory) indicates that managers who wish to increase outcomes associated with particular foci of commitment should devise mechanisms that leverage employee support at the appropriate level. By extension, an organization seeking to attract top talent should benefit by fostering affective commitment to the organization that may result in image enhancement through increased levels of boosting behaviour from employees. In the relatively small South African labour market for knowledge workers, this may set up a self-reinforcing process in which boosting behaviour attracts organizational support that results in affective commitment to the organization that will encourage more boosting behaviour.

Hom, Caranika-Walker, Prussia, and Griffeth (1992) noted that turnover is a behaviour that activates cognitive deliberations about the

viability of the employee's continued membership of the organization. In deciding about leaving the organization the employee will deliberate about their current relationship with the organization, commitment to the organizational entity. Consequently, relationships with co-workers and managers will be less powerful in predicting these outcomes but more powerful in predicting other salient outcomes. For example, in this study the strongest relationship with *Helping* others at work was ACCW. That is, in the relationships that were examined in this study, the level captured by the commitment construct did match the level captured by the outcome variable, increasing the strength of the relationship (Herscovitch & Meyer, 2001).

In other words, the practically small (low effect size) relationships between organizational commitment and outcomes such as personal *Wellbeing* and organizational citizenship behaviours indicate that for South African knowledge workers commitment to the organization relates most to organization level outcomes. That is commitment to the organization as an entity explains little about the individual employee's sense of personal wellbeing or their propensity for helping co-workers. In sum, Lewin's (1943) field theory does seem to apply to understanding the effect of commitment on important outcomes. That is, boosting behaviour and turnover intentions were best predicted by organizational commitment (psychologically the most salient focus as these OCBs benefit the organization as an entity). Similarly, helping behaviour towards co-workers was best explained by the co-worker focus of commitment.

Further research is required to examine the citizenship behaviours related to affective commitment to managers (ACMAN). It has been suggested that this will be a form of work performance (Becker et al., 1996; Becker & Kernan, 2003) because managers facilitate the acceptance of performance norms (Siders et al., 2001). Managers have a direct responsibility for managing the performance of most employees (Robbins, 2003) but for knowledge workers, given the ambiguity inherent in knowledge work, this responsibility may include only specific forms of performance that have yet to be specified.

The drivers of organizational commitment

This section discusses the “drivers of commitment” as mentioned by the focus group participants (who preferred this term to “antecedents”) and as evaluated by the survey. As previously discussed, to understand the importance of particular antecedents it is necessary to partial out the effects of specified control variables, the measurement of which can also yield interesting data.

Control variables

As expected, the control variables used in this study were generally not significant in the final models. Nevertheless, the results of this study indicate some interesting relationship and patterns that deserve further comment.

The mean of *Negative Affect* is particularly interesting because it is very low (mean of 1.35 on a 4-point scale, N=517 with casewise deletion).

This indicates that the knowledge workers who responded to the survey are not likely, on average, to experience and express high levels of negative stress (“dystress”) or focus on the negative aspects of their work, lives or general environment (Gibson, Ivancevich, & Donnelly, 1994). If *Negative Affect* had been high amongst respondents it could have been an indicator of sample bias. That is, knowledge workers with high negative affectivity may be more likely to complete the survey questionnaire. It could also be merely a caution that interventions to reduce stress and improve working conditions may not be effective because of the strength of this intrinsic mood state.

The inverse relationship between ACORG and *Negative Affect* in the bivariate correlation analysis and Step 1 of the ACORG Model hierarchical regression analysis may imply that there is an element of ACORG that is related to the Mood State of the employee. Although specifically partialled out of the ACORG Model, the results regarding negative affect may be practically important for managers attempting to boost ACORG amongst knowledge workers because it suggests that they consider the moods states of their employees when designing interventions to boost ACORG.

The substantively low but statistically significant relationship between *Negative Affect* and NCORG suggests that those who view life negatively tend to feel a greater moral obligation to be committed to their employing organization. That is, their ‘more serious’ approach to life extends to their appraisal of personal obligation to entities, such as their employing organization. Again, it must be emphasised that the scale used to measure negative affect in this study was not the widely applied scale developed

Watson and his colleagues and so results from this study are not directly comparable to those of previous studies.

It was surprising that the perceived obligation to be loyal to the employing organization (captured by NCORG) did not have a statistically significant relationship with either *Age* or *Tenure*. The strong suggestion (approaching consensus) in the literature (See Meyer et al., 1997) is that older employees (on the assumption that they hold “old fashioned values”) and those with more tenure (on the assumption that they have “more ties” to the organization) will feel a greater sense of NCORG (based on perceived obligations). The non-significant relationship between NCORG and *Age* in this study suggests that older knowledge workers do not have higher levels of NCORG than younger knowledge workers do. That is, the perceived sense of obligation to the organization is unaffected by life experience or the decade in which the knowledge worker was raised.

Antecedents of affective commitment

Simply put, the results of this study suggest that establishing fair management processes and clear outcome requirements in a workplace characterised by security (job security and a history of meeting employee expectations), challenge, the appreciation of individual employees, and inspiring leadership is the recipe for affective commitment amongst South African knowledge workers. Two surprise findings deserve special mention.

The significance of clear outcome requirements (as measured by the *Job Formalization scale*) is particularly noteworthy as it is rarely mentioned in the literature and is typically aggregated with other job characteristic

variables such as job autonomy and job feedback. Participants in the follow-up focus groups did not seem surprised at the perceived importance of job formalization as an antecedent of affective commitment to the organization. They noted that their work often had a high impact and that while they valued (and expected) autonomy they also valued clear expectations regarding the broad means and ends of their work activities. These were not seen in a restrictive way but as good organizational practice (e.g., clear policies and specific directives). Nearly twenty-five years ago, Grinyear and Yasai-Ardekani (1980) found that formalization in organizations typically results from high-specialization of labour, high delegation of authority, and wide spans of control. These are typical characteristics of the work environments in which knowledge workers work. This finding also points to the importance of considering how organizational practices are perceived by employees rather than assuming a set of objective causal relationships between such practices, their interpretation by employees, and the attitudinal consequences thereof.

The significance of *Job Security* as an antecedent of organizational commitment is often cited in the literature but it was a noteworthy finding because it is rarely mentioned in studies focusing on knowledge workers. As mentioned previously, this study was conducted during a time of considerable uncertainty within both the IT and accounting occupations, from which the sample was drawn. The significance of job security at a time of such uncertainty is not surprising but it is for future research to assess

whether this variable will continue to be salient for knowledge workers in the future.

Antecedents of continuance commitment

The relatively low substantively significant results of this aspect of my investigation can be explained in three ways. First, the model may simply not have specified the most relevant antecedent variables (e.g. share options). Second, the antecedents of continuance commitment for a knowledge worker may not be constant over time and may reflect changing personal and organizational circumstances that may have changed over the duration of this study, from the time the model was developed to the time the survey was distributed. Third, the antecedents of continuance commitment may simply be too idiosyncratic to capture in survey research, which suggests that managers should assess the drivers of continuance commitment amongst their own employees on a personal basis.

An alternative explanation of the failure to explain a satisfactory percentage of the variance in continuance commitment with the specified variables may be that the search for such a set of antecedents is fundamentally misplaced. Perhaps the side-bets experienced by employees cannot be manipulated because they are private, undisclosed and not easy to discern. They are the products of free choice and their effects cannot be easily predicted or manipulated.

The final CCORG model explained 17% of the variance in CCORG, which is rather low relative to the explanatory power of the other models. Nevertheless, this result should be interpreted in the knowledge that many of

the perceived costs antecedent to CCORG are idiosyncratic and personal and that two of the three proposed antecedents of CCORG (*Lack of Job Alternatives* and *Skill Transferability*) were highly significant, both substantively and statistically.

Antecedents of normative commitment

Results concerning the antecedents of NCORG were very notable. The NCORG model was both highly statistically significant and explained 30% of the variance in NCORG. This is an important result given the limitations of survey research to investigate individual socialization experiences and the limited number of propositions regarding the antecedents of NCORG (i.e. *Socialized Loyalty* and *Met Expectations*).

Conceptually, NCORG is deeply rooted in family, culture and only later the organization. The *Socialized Loyalty* variable attempted to tap into the distal antecedents of NCORG and proved to be the most important antecedent of NCORG. Tapping into specific distal antecedents is difficult because many of these may be idiosyncratic to the individual knowledge worker.

The mean value of *Socialized Loyalty* ($M = 3.624$) was much higher than expected as was its effect on NCORG. The strength of this effect may be explained with reference to three features of the South African context of this study. First, South Africa has many traditionalist communities and though knowledge workers may not live in these communities they may have strong links to them to the extent that they influence their decision making. Second, until the early 1990s, South African schools (with few exceptions) promoted a

syllabus of “Christian National Education” that emphasised “traditional values”, such as loyalty and obedience to authority. This system of education affected the socialization of most South Africans, influencing not only their relationship to the state but also their relationship to the organizations that employed them. For older, white South Africans, these effects were augmented by compulsory military service for up to two years. Third, the strong community consciousness amongst South Africans borne of two very different and distinct social forces: *Ubuntu* and *Apartheid*. *Ubuntu* is the belief “that you are who you are through others”, a collectivist sense of the position of the individual within their social group. This orientation may not be unique to Africa but it certainly is a very powerful social force in Africa. *Apartheid*, the racist ideology expressed through a legislated system of unequal “separate development” for black and white South Africans entrenched a heightened sense of “group” consciousness so that group identification and loyalty were deemed to be of paramount importance.

Normative commitment is often simply excluded from commitment studies (Meyer & Allen, 1997). This is a pity because it remains theoretically tenuous to assert, given the research evidence, that it is appropriate to ignore that which reflects a deep-rooted sense of obligation that may moderate other relationships or lead directly to organizational outcomes. It is likely that NCORG is the most stable of all the commitment components. The organizational referent in the normative commitment scale is particularly weak (Mayer & Schoorman, 1998) and normative commitment by its very nature seems to be individual-based and constant for the employee across

different employers. This is theoretically problematic given the stress scholars have placed on retaining the contextual referents in organizational commitment research (Mathieu & Zajac, 1990; Morrow, 1983; Reichers, 1985). Interestingly, the effect of NCORG on *Boosting* behaviour was stronger than that of CCORG. This finding was probably an underestimation of its general importance because the sample in this study consisted of urban, highly educated employees who are arguably less influenced by traditional cultural norms of fidelity and obligation than other employees are.

Propositions

The above discussion has not specifically summarized findings regarding the propositions presented in Chapter 3, although the substance of these propositions has been addressed. Table 6.1 presents a high-level summary of the propositions, the operationalization of the variables, and an indication as to whether the propositions seemed to be confirmed or not. This is consistent with the overall approach to the study, which has led me to avoid engaging with the research questions in a traditional hypothesis testing manner.

Table 6.1 (part 1)***Summary Assessment of Propositions, Operationalizations, and Results***

1. Work overload will be positively related to ACORG

Operationalization: Work Overload

Results: Proposition confirmed

2. Fairness as expressed in perceptions of Distributive Justice and three forms of procedural justice (Interpersonal Procedural Justice, Structural Procedural Justice, and Multicultural Procedural Justice) will be positively related to ACORG

Operationalization: Distributive Justice, Interpersonal Procedural Justice, Structural Procedural Justice, and Multicultural Procedural Justice

Results: Proposition partially confirmed

3. Esteem experienced through organization based self-esteem and perceived organizational prestige will be positively related to ACORG for knowledge workers in knowledge-based organizations

Operationalization: Organization Based Self-Esteem (OBSE), and Perceived Organizational Prestige

Results: Proposition partially confirmed

4. Job characteristics (Job Autonomy, Job Formalization, Job Variety, and Job Feedback) will relate positively to ACORG

Operationalization: Job Autonomy, Job Formalization, Job Variety, and Job Feedback

Results: Proposition partially confirmed

5. Leadership (with the presence of a charismatic leader and a clearly articulated vision) will be positively related to ACORG

Operationalization: Charismatic Leadership, Mgt Vision

Results: Proposition partially confirmed

6. Perceived job security and met expectations will leads to higher levels of ACORG and help explain levels of ACORG amongst knowledge workers

Operationalization: Job Security, and Met Expectations

Results: Proposition confirmed

7. Support experienced as perceived support from the organization as an entity, from managers, and from the creation of an organizational environment that supports learning will be positively related to the level of ACORG amongst knowledge workers employed in that organization

Operationalization: POS, Management Support, Learning Environment

Results: Proposition not confirmed

8. Self-investment will be positively related to CCORG

Operationalization: Self-investment

Results: Proposition not confirmed

9. Perceptions that skills are transferable to other organizations will lead to decreased levels of CCORG, and this relationship will be particularly strong for knowledge workers with over seven years tenure.

Operationalization: Skill Transferability

Results: Proposition confirmed

10. Perceived lack of job alternative will be positively related to CCORG

Operationalization: Job Alternatives

Results: Proposition confirmed

Table 6.1 (part 1)***Summary Assessment of Propositions, Operationalizations, and Results***

11. Socialized loyalty will lead to greater NCORG

Operationalization: Socialised Loyalty

Results: Proposition confirmed

12. There will be a positive relationship between met expectations and NCORG and this relationship will be stronger amongst knowledge workers with less than 2 years tenure

Operationalization: Met Expectations, Tenure

Results: Proposition confirmed

13. Each component of commitment will be related to turnover intentions. ACORG and NCORG will be inversely related to turnover intentions whereas CCORG will be positively related to turnover intentions

Operationalization: Turnover Intentions

Results: Proposition confirmed

14. Knowledge workers will intend to stay in their occupational group if they ever left their current employment

Operationalization: Stay decision

Results: Proposition confirmed

15. ACORG will be positively related to each component of positive OCB and negatively related to each component of counterproductive workplace behaviours

Operationalization: Helping, Encouraging, Improving, Loyalty Boosting, Grumbling, Participating, Contributing, Slacking, Innovating

Results: Proposition partially confirmed

16. ACORG will be positively related to a greater sense of personal wellness amongst knowledge workers and CCORG will be negatively related to personal wellness amongst knowledge workers

Operationalization: Personal Wellness

Results: Proposition not confirmed

17. There will be a weak relationship between commitment and performance amongst knowledge workers

Operationalization: Performance (Performing)

Results: Proposition confirmed

18. Affective commitment to the organization will be lower amongst public sector employees but the general pattern of antecedents will be the same across sectors

Operationalization: Sector (categorical variable)

Results: Proposition not confirmed

Notes: Only core propositions summarized in the table

Underlined variables were deleted for psychometric reasons

Management Support, *Interpersonal Procedural Justice* and *Management Vision* were combined into one scale (Management Relationships). Whenever appropriate, confirmation decisions as presented above were based on regression analyses, not correlation coefficients

Table does not intend to review findings regarding the nature and dimensionality of commitment.

Final discussion notes

This chapter discussed significant features of the reported results using three sources of critical comment. These included (a) my interpretation of the overall pattern of presented results, (b) the relationship of the presented results with results in the wider literature, and (c) comments on the results made by participants in the follow-up focus groups who were presented with the key features of the results. Given the richness of the latter two data sources, only the most pertinent and widely held comments were mentioned. It should also be noted that few if any previous studies have ever examined commitment with the scope that it was examined in this study and it was therefore difficult to determine which studies to relate the results of this study with. Similarly, given the complexity of some of the analytical approaches used in this study there were few points of comparison for some results (e.g. interaction effects).

My intention was that this chapter would not discuss every research finding. Rather I hoped to (a) declare my epistemological stance and how this may have affected this study, (b) present an overview of the research results with a particular focus on disappointing, substantively significant, and surprising results, and (c) highlight the need for caution regarding the interpretation of certain some results.

CHAPTER 7: CONCLUSIONS

This chapter outlines the contribution of this study, presents suggestions for future research, comments on future research opportunities, and reflects on the importance of this study. Traditionally, the final chapter in a dissertation lists limitations and speculates regarding the need for future research to address these limitations. The limitations of different aspects of this study were carefully examined and presented in Chapter 4 and Chapter 5 and will not be repeated here. This chapter will however draw on two sources of suggested opportunity regarding future research possibilities that derive from my delimitation of the scope of this study: (a) issues not covered within the scope of this study and (b) issues that require further examination given the results of this study.

Contribution to knowledge

The specific contribution to knowledge of this dissertation is evidenced over three intertwined areas of contribution: theory, application, and method.

Theory

An extensive literature review, perhaps the most extensive systematization of the large and disparate commitment literature, served as a basis to advance commitment theory via a process of sensemaking and critique. Established commitment theory was “tweaked” in the following three ways:

1. The three-component model of organizational commitment was adopted but each component was redefined and then reoperationalized to reflect the theoretical roots of the component and to exclude conflation with outcome variables or alternative constructs. For example, items reflecting turnover intention (an outcome of commitment) were excluded from the continuance commitment scale after continuance commitment was redefined to focus only on perceived costs of leaving the organization. Similarly, normative commitment was redefined to reflect socialization effects, consistent with its original meaning, and the normative commitment scale was reworked accordingly.
2. A new definition of commitment was developed, which included commitment to multiple foci within the organization (i.e. managers, co-workers, and the organization as an entity) and the duration of commitment relationships. This new definition thus incorporates both recent theoretical developments and an explicit recognition of the variable duration of commitment relationships.

Application

This dissertation makes a specific practical contribution to our understanding of organizational commitment by applying the organizational commitment construct to a unique context, South Africa, and a specific employee sample, knowledge workers. South Africa has become integrated into the global economy and its highly-qualified knowledge workers are part of a global labour market competing for their skills. The South African context adds layers of complexity to the pattern of their commitment relationships

and decisions regarding not only turnover intentions (as an outcome of commitment to an organization) but emigration (commitment to country) and career choice (commitment to career). Moreover, although these highly-mobile knowledge workers are typically thought of as the employee group least likely to display organizational commitment this study demonstrated that they have high levels of commitment whilst employed, that the mechanisms of this commitment can be explained, and that this commitment is important in determining salient organizational outcomes. The results of this study therefore have specific context-rich implications for the development of strategies to retain and motivate South African knowledge workers. These findings may be of wider relevance in considering commitment in countries with high levels of emigration.

Method

The approach to the statistical analyses and the process of developing the explanatory model of organizational commitment make a specific contribution to the commitment literature. At each decision point in the execution of the statistical analyses, recent advances in statistical theory were applied (e.g. higher-order factor analysis, non-centrality fit indices, and modified correlation based structural equation modelling), often for the first time in the commitment literature, in order to better understand the nature and dimensionality of commitment and to demonstrate the value of these techniques in future commitment research.

The multiple method approach (i.e. literature review, survey and focus groups, drawing on both quantitative and qualitative methods) that was

adopted in this study is rare in the commitment literature but proved to be extremely valuable as it resulted in the development, testing, and explanation of what is probably the most comprehensive, clearly specified explanatory model of organizational commitment. For example, seven different, specifically defined aspects of organizational citizenship behaviour were proposed as outcomes of organizational commitment. The multiple-phase integrated approach to developing the explanatory model (with multiple iterations between the extant literature, focus groups data and interview data) is also notable because it yielded a context-rich and clearly specified model of organizational commitment amongst South African knowledge workers.

Issues not reflected in this study

No work is ever complete and there are important issues regarding commitment that were not investigated in this study, primarily because they fell outside the scope and delimitations set for this investigation.

The “hyper-committed”. This study did not focus on what one focus group participant called the “hyper- committed” (i.e. employees that display a very high level of commitment). Despite the mention of this phenomenon within the focus group discussions, this study did not focus on the “hyper-committed” and so the stories related were not explored further.

Nevertheless, I was left with little doubt that some knowledge workers have extraordinary levels of commitment energy. Unfortunately, these employees are “lost” in the aggregation of large survey data and are probably unlikely to respond to survey questionnaires that they perceive not to directly contribute to their work or organization in any obvious manner. These employees

deserve further research attention not only because of their potential contribution to the focus of their commitment energies but because of the negative effects that they may suffer personally (e.g. health and work-life balance issues) or that their organization may eventually have to endure (e.g. their resistance to change during mergers and acquisitions because they have become so personally committed to the organizational entity as a source of personal identity). In short, it is possible that commitment has an inverted U-shape relationship with long term performance, satisfaction and development. "Hyper commitment" is also a worthy area for future studies because it may address issues in organizational control theory, personal identity theory, and stress research.

The money factor. South Africa is witnessing the emergence of a new, relatively young, wealthy elite. Some knowledge workers have become very wealthy very quickly (particularly those involved in "Black Economic Empowerment" investment initiatives) and this has fuelled the dreams of others to "get rich quick", energising some knowledge workers to take risks and perhaps even become mercenary in their pursuits. The media image of the 90-hour a week knowledge worker achieving great success, wealth and fame saturate television and the popular press (e.g. South Africa's "internet billionaire" and recent "guest cosmonaut", Mark Shuttleworth).

There is little about the meaning of money or the relationship between the reward power of money and commitment in this dissertation. This may have been the result of temporal effects or my own perceptual distortions and selective perceptions. Trained in organizational psychology, I may have been

blinded to the power of the “money factor”. Organizational psychology has hybridised with social psychology and sociology with the result that over the past 50 years it has abandoned any focus on the *homo economicus* in favour of the humanistic archetype of the “psychological man” driven by “higher motives”, such as “self-actualization” and “intrinsic satisfaction”. Temporal effects, as previously mentioned, may have arisen because the initial focus groups were conducted at a time of occupational turbulence for the research participants and reward issues may therefore have been less salient for them at that particular time. In any event, the follow-up focus groups (conducted after the apex of the “occupational turbulence”) raised the issue of the possible relationship between reward structures and continuance commitment to the organization.

Share options were mentioned in two of the follow-up focus groups (but not in the focus groups comprising of by public sector or professional service firm employees). Share option plans (often called stock options in the literature) are a mechanism that allows employees to buy shares in their organization at a predetermined price. The value of an employee’s plan typically increases with tenure and the plans are tax efficient rewards (they have no immediate cash value when awarded and organizations can deduct payouts as an expense when they are awarded). They are thought to help retain valuable employees as they serve to tie the employee to the organization through vesting schedules that dictate the value of the share option package over time and which rewards tenure. At the time of the initial focus groups only IT workers in listed private sector organizations were

offered share options and because of the crash in IT stocks employees were “out of the money” (they would have lost money if they exercised their options as the predetermined price of purchase was higher than the traded share price). It was therefore not identified as an antecedent of commitment in this study. For IT workers in the follow-up focus groups, IT shares had already slowly started recovering and share options were again becoming possible significant drivers of continuance commitment (some potential benefits were extremely large). It is therefore suggested that future studies include the size and salience of share option as an antecedent variable in commitment models, whenever appropriate. Another potentially important aspect of share options not examined in this study is how once exercised, they may affect the employee’s sense of ownership (the employee now owns a stake in the organization) and how this, in turn, may affect their organizational commitment. Finally, it should be remembered that the “meaning of money” might be different for knowledge workers but that it seems to have a meaning that is not captured here or in any research at the moment.

Misdirected elitism. Of course, a major delimitation of this study was its focus on knowledge workers and this obviously excludes all those who did not fall within the definition of knowledge workers given in this study. This entailed the exclusion of service workers (who have enjoyed research attention) and the mass of undereducated workers from the sampling frame. This may attract the criticism that the research energies of this study were misdirected and elitist, particularly given the serious unemployment and

underemployment problem in South Africa. For example, the commitment of subsistence workers, those left out by hegemonic capitalism in a “globalising economy” deserves attention. Similarly, the recent location of call-centres in South Africa begs issues regarding the value of “high technology sweat shops” in an economy that is becoming increasingly knowledge-based. Uneasy global tensions between developed countries, developing countries and developing countries with educated populations (e.g. India) are likely to exacerbate global tension.

The implications of the above concerns for commitment research are not clear but it is apparent that the nature of commitment may differ between different people in different contexts. Similarly, does commitment have a different meaning depending on your class or wealth and is it possible to examine this given the confounding factors of culture and the concentration of wealth in particular countries? These questions are worthy of further research attention. Perhaps national wealth and culture interact in determining the meaning of commitment to an organization amongst employees in a particular context.

The genetic factor. The notion of investigating a link between genes and commitment may seem fantastical but neurological research is increasingly uncovering biological determinants of attitudes and behaviours. These findings cut against the grain of deeply held values and the trend to examine increasingly higher levels of analysis (e.g. from individual to group to organization to culture etc) rather than focus inward on the cellular level. For example, dopamine has been labelled as the motivation chemical

(Ridley, 1999, p.163) because it determines activity level but a gene (D4-DR) determines the receptivity of neurons to dopamine. Similarly, greater understanding of the human genome may increase our understanding of commitment relationships, raising the spectre of chemical enhanced commitment. The consideration of genetic factors in commitment was clearly beyond the scope of this study but it is foolhardy for commitment researchers to continue ignoring biological evidence and continue to eschew integrative research that combines genetic research and contextual research. Perhaps the incompleteness of psychological models is partly the result of psychology's failure to incorporate biological research and work towards a more integrated understanding of human behaviour in all its richness and complexity.

The fun factor. In the first focus group I conducted at a small, private-sector IT organization I was struck by the fun that participants reported having at work. Fun was not evoked in other focus groups but I was struck that it is a neglected area of organizational research. All participants in that focus group were young, single, working extremely long hours and loving their work. There is very little academic work on fun at work and yet for some it is an important part of their working life. The effects of fun, what generates fun, the mechanism of creating a fun workplace, and the relationship between fun at work and organizational commitment were not examined in this study. There is no empirical evidence that "fun" is a driver of commitment amongst knowledge workers but it certainly seemed to be an important aspect of the working life of this one group of young knowledge workers (e.g.

“Every day we have great fun...we are all friends working hard and having fun”...). The tendency to dichotomise work and play is unfortunate and has probably led organizational researchers to ignore the significance of the playful “homo ludens”. In the new world of work, this may need to change.

The organization design factor. Organizations are transient structures situated between individuals and their context and effective to the degree that they are adaptive to the forces of concern to these individuals. The influences of globalization, information technology, and new ideologies of people management have resulted in changes to management functions, organizational structures, and people management practices within organizations. It is my contention that organizations will persist as a preferred design principle but new forms of organization will emerge (or continue to emerge) and the relationship between individuals and these organizations will become governed by a wide range of evolving forms of relationship that broker independence and commitment. This presents great opportunities for research and new challenges for scholars especially those concerned with organizational commitment and the effects of context on commitment.

Issues that require further investigation

This study adds valuable insight regarding the comparability of the commitment relationship in different contexts because it was conducted in a context outside North America and Europe. Such research has been sorely lacking in the organizational commitment literature (with the exception of research in Asia, particularly South Korea). The study further allows for future

comparisons between South Africa and other countries in Africa and throughout the world.

Multiple foci of commitment. This study has demonstrated the importance of considering multiple foci of commitment. Future research is needed to refine measures and further explicate the relationship between different foci of commitment (webs of commitment). Alternative methods, such as applications of the repertory grid technique may be particularly useful in such research (See Bagraim & Smithyman, 2001). It is recommended that different foci of commitment be linked to specific outcomes thereby refining the notion of commitment and the specification of explanatory models.

This study demonstrated the relationship between the co-worker focus (i.e. ACCW) with *Helping Behaviours* and the lack of significance of other affective foci of commitment with this form of OCB. Future work could further examine the taxonomy of OCBs to develop a more grounded sense of a comprehensive model of OCB with a clear specification of which dimensions of OCB were most related to organizational commitments, team commitments, and manager commitments. This is consistent with the for context specific approaches to OCB (Organ, 1988).

Antecedents of commitment. Further research is required to help better specify the explanatory model of continuance commitment. It may also be important to develop an understanding of continuance commitment drivers amongst specific groups (e.g. the importance of clients and the fear of losing clients amongst those employed in professional service firms).

The support-commitment relationships should be investigated further. Bishop and Scott (2000) suggested the need for further research on the link between mentoring (a form of management support) and commitment. Similarly, mentoring research can be extended to consider the effects of diversity within teams and the dynamics of the mentor-mentee relationship and how these dynamics affect the support-commitment relationship.

Outcomes of commitment. Further research is necessary to examine the relationship between commitment energy and performance. This study makes an important contribution through its examination of the relationship between commitment and salient organizational outcomes but further studies regarding the relationship between commitment and performance with more context specific measures of performance will likely yield more valuable results than yielded here. That is, help alleviate the gap between what knowledge workers know and what they choose to apply at work (the knowledge-application gap). The discourse concerning the leveraging of tacit knowledge within organizations assumes the capability and willingness of knowledge workers to cooperate in the organizational agenda of knowledge sharing (Zack, 1999). The role of commitment in this process deserves further attention.

As individual level commitment of actors in a given social network influence performance more attention needs to be paid to relating individual, team and organizational levels of analysis. The importance of meaning and sensemaking in the above linkages there is a need to develop a greater theoretical understanding of the constructs to link commitment and

performance. That is a need to consider the social network influences on collective meaning and sensemaking. How do we account for commitment in human performance?

Research concerning levels of commitment and the possible non-linear relationship between commitment and desirable personal and organizational outcomes requires further examination. This may include developing mechanisms to reduce commitment amongst the overzealous and unproductive true believers.

Replication. The results of this study need to be replicated in future studies to validate the results. Of course, such studies should only be conducted after a thorough consideration of the theory, design and analyses used in this study. "Only sound theory, appropriate experimental designs and corroborating statistical results can allow one to make causal inferences (Bishop et al., 2000, p.1129) or at least uncover the primary mechanisms antecedent to organizational commitment.

Development trajectories. Despite the plethora of commitment research, few have investigated developmental issues (Beck & Wilson, 2001). Understanding the meaning of time-graded trajectories in organization commitment amongst knowledge workers (e.g. the nature and causes of shifts in commitment levels over time) is important for both academic and pragmatic reasons. Such research will help develop models that help address some of the gaps in the current literature (e.g. accounting for changes in commitment over time). These models will provide organizations with pragmatic guidelines to enhance the commitment of their employees

over time. Unfortunately, research studies applying traditional longitudinal research designs are logistically difficult, expensive, and subject to confounding influences (See Cook & Campbell, 1979). Fortunately, methods used in developmental psychology that substantively overcome these problems can be applied in commitment research to address the above issues (Beck & Wilson 2000; Beck & Wilson, 2001).

Final notes

No research endeavour is ever fully completed because each finding or discovery begs the development of further questions and every question frames out other possible questions. Nevertheless, this chapter, the final chapter of this dissertation aimed to surface the issues not covered within the scope of this study and raise a number of issues that require further examination given the results of this study, presented in this dissertation.

This dissertation began with an extract from Dante's *Inferno* regarding the desperate fate of the uncommitted in hell. The philosopher, Bertrand Russell (1955/2001, p.31) wrote that hell

...is a place full of all those happenings that are improbable but not impossible....Throughout eternity, surprise continues, but each time at a higher logical level

This dissertation represents my contribution to taking the understanding of commitment one level higher by advancing knowledge regarding the most "improbable but not impossible" set of commitments, the organizational commitments of knowledge workers.

APPENDIX A: DEFINITIONS

<i>...comes into being when a person, by making side-bets, links extraneous interests with a consistent line of activity</i>	Becker (1960)
<i>The nature of the relationship of the member to the system as a whole</i>	Grusky (1966)
<i>The willingness of social actors to give their energy and loyalty to social systems, the attachment of personality systems to social relations which are seen as self-expressive</i>	Kanter (1968)
<i>The process by which the goals of the organization and those of the individual become increasingly integrated or congruent.</i>	Hall et al. (1970)
<i>An attitude or an orientation toward the organization which links or attaches the identity of the person to the organization.</i>	Sheldon (1971)
<i>A structural phenomenon which occurs as a result of individual-organizational transactions and alterations in side bets or investments over time</i>	Hrebiniak & Alutto (1972)
<i>A state of being in which an individual becomes bound by his actions and through these actions to beliefs that sustain the activities and his own involvement.</i>	Salancik (1977)
<i>The committed employee considers it morally right to stay in the company, regardless of how much status enhancement or satisfaction the firm gives him or her over the years.</i>	Marsh & Mannari (1977)
<i>The relative strength of an individual's identification with and involvement in a particular organization</i>	Mowday et al. (1982)
<i>The totality of internalized normative pressures to act in a way which meets organizational goals and interests</i>	Wiener (1982)
<i>A bond or linking of the individual to the organization</i>	Mathieu & Zajac (1990)
<i>One's inclination to act in a given way towards a particular commitment target</i>	Oliver (1990)
<i>An obliging force that requires that the person honor the commitment, even in the face of fluctuating attitudes and whims.... (1) It includes something of the notion of membership; (2) it reflects the current position of the individual; (3) it has a special predictive potential, providing predictions concerning certain aspects of performance, motivation to work, spontaneous contribution, and other related outcomes; and (4) it suggests the differential relevance of motivational factors.</i>	R.B. Brown (1996)
<i>A force that binds an individual to a course of action of relevance to one or more targets</i>	Meyer & Herscovitch (2001)

Note: Selected definitions relate to approaches discussed in Chapter 2

APPENDIX B: SURVEY MATERIALS

B1: Focus Group Questions

The following questions were asked across each of the focus groups in a similar but not identical manner:

1. What could this company do to make you feel more committed to it?
2. Does commitment still exist in the "X" industry?
3. From the three characters described (three employees, each stereotypically high in one component of commitment were named and described, with their name and brief description posted on a whiteboard or flipchart) describe how you think they behave at work.
4. What makes you stay here? What ties you in?
5. Why did you leave your previous job?
6. How has your sense of commitment to this company developed or changed over time? Why?

B2: Example of an email sent to participants prior to receiving the cover letter and survey questionnaire

Hello

Early next week you will receive a survey questionnaire that forms part of an important research project being conducted by the University of Cape Town (SA) and the University of Warwick (UK). We are very interested in learning more about your work experiences and attitudes.

I am writing in advance because we have found many people like to know ahead of time that they will be contacted. This study is important and should have a significant impact on policy makers, senior managers, and agencies. I hope you find it interesting!

Please complete the questionnaire as soon as you receive it (it takes about 20 minutes to complete). Your response is vital to ensure the validity of the research project.

Thank you for your time and consideration. It is only with the generous help of people like you that our research can be successful.

Sincerely

Jeff Bagraim

Project Director

School of Management Studies

University of Cape Town

B3: Example of an email sent to participants prior to receiving the cover letter and survey questionnaire

UNIVERSITY OF CAPE TOWN



School of Management Studies

University of Cape Town • Private Bag • Rondebosch 7701

Telephone: +27 21 650-2311

Fax No.: +27 21 689-7570

[MAILMERGE DETAILS INSERTED HERE]

[DATE INSERTED HERE]

Survey of IT Professionals working in Local Government

I recently e-mailed you about the important national survey that we are conducting. I hope that you will participate by completing the enclosed survey questionnaire. The research project is being conducted under the auspices of the Local Government Centre at the University of Warwick (UK) and the School of Management Studies at the University of Cape Town (SA). It is part of an effort to learn more about the work attitudes and experiences of knowledge workers in local government.

We have only contacted a select sample of South African IT Professionals and your response is therefore vitally important to ensure the validity of this research. With your participation, this research should have a significant impact on policy-makers and local government executives. You can help us very much by taking 15-20 minutes to share your experiences and attitudes.

Your answers are completely **anonymous** and **confidential**. To ensure anonymity, please do not put your name on any part of the questionnaire. In any event, only aggregated results will ever be reported. Please let us know if for some reason you prefer not to respond (by returning a blank questionnaire).

An envelope is enclosed, please place the completed questionnaire in the envelope, and seal it. We will collect it from you or set up a box for you to put it in. If you prefer, you can post the questionnaire back to me at the above address.

If you have any concerns about this survey, I will be very happy to discuss them with you. My telephone number is 021-650-2823 and my e-mail address is jbagraim@commerce.uct.ac.za. You can also write to me at the address on the letterhead.

Thank you very much for helping with this important study.

[SALUTATION AND PERSONAL SIGNATURE IN INK INSERTED HERE]

B4: Example of a follow-up e-mail (3rd contact)

Dear Mr Jones

On Monday last week a survey questionnaire was handed to you. The questionnaire is part of an important research project investigating the work attitudes and experiences of IT professional in South Africa.

If you have already completed and returned the questionnaire to the secure box in Reception (for us to collect), please accept my sincere thanks. If not, please do so today. I am especially grateful for your help because it is only through your participation that this survey will be meaningful and valid.

If you did not receive a questionnaire, or if it was misplaced, please email me on jbagraim@commerce.uct.ac.za and I will get another one to you without delay.

B5: Example of a follow-up Postcard (3rd contact)

15 October 2003

Survey of Chartered Financial Officers in Local Government

Last week a questionnaire about your attitudes and workplace experiences was sent to you.

If you have already completed and returned the questionnaire, please accept my sincere thanks. If not, please do so today. Your response matters, only if you respond will this survey will have any impact.

If you did not receive a questionnaire or if you have misplaced it, please contact me on 021-6502823 or on jbagraim@commerce.uct.ac.za, and I will send another one to you without delay.

Jeff Bagraim
Survey Director

*School of Management Studies
University of Cape Town
Private Bag Rondebosch, 7701*

B6: Example of a cover letter to survey questionnaire (as first contact)**UNIVERSITY OF CAPE TOWN****School of Management Studies**

University of Cape Town • Private Bag • Rondebosch 7701

Telephone: +27 21 650-2311

Fax No.: +27 21 689-7570

[DATE INSERTED HERE]

Survey of IT Professionals

It is high time that more was known about the attitudes and work experiences of IT professionals in South Africa and we therefore feel privileged to be able to invite you to participate in this important research project. The project is being conducted under the auspices of Warwick Business School (UK) and the University of Cape Town (SA).

Your response matters! We are confident that the aggregated results from this survey will be used to help improve management practices in the IT industry and assist educators and policy-makers in their work. Please respond to every question. The questions were developed and selected after 2 years of intensive research but the questionnaire should take only about 15-20 minutes to complete.

Your survey responses are completely anonymous and confidential. To ensure anonymity, please do not put your name on any part of this document. If you prefer not to respond, please return a blank questionnaire. A reply envelope is enclosed.

If you have any concerns about this survey, I will be very happy to discuss them with you. My telephone number is 021-650-2823 and my e-mail address is jbagraim@commerce.uct.ac.za. You can also write to me at the address on the letterhead.

(Salutation and personal signature in ink was inserted here)

Section B7. Survey questionnaire scales

Commitment scales

Affective Commitment to the organization (ACORG)

Adapted from Meyer & Allen 1993, 1996

1. I feel as if this organisation's problems are my own
2. I feel a strong sense of "belonging" to this organisation
3. I feel "emotionally attached" to this organisation
4. I feel like "part of the family" at this organisation
5. This organisation has a great deal of personal meaning for me

Continuance Commitment to the organization (CCORG)

Adapted from Meyer & Allen 1993, 1996

1. Right now, leaving this organisation would involve making many sacrifices
2. It would be very costly for me to leave this organisation right now
3. Too much of my life would be disrupted if I decided that I wanted to leave this organisation now
4. I would not leave this organisation right now because of what I would stand to lose
5. For me personally, the cost of leaving this organisation would be far greater than the benefit

Normative Commitment to the organization (NCORG)

Adapted from Meyer & Allen 1993, 1996

1. I feel a sense of obligation to remain with my current employer
2. Even if it were to my advantage, I do not feel it would be right to leave my organisation now
3. I would feel guilty if I left my organisation now
4. I would not leave this organisation right now because I have a sense of obligation to the people in it
5. I would violate a trust if I quit my job with this organisation now

Affective Commitment to Immediate Manager (ACMAN)

Adapted from Meyer & Allen 1993

1. I really feel as if his/her problems are my own
2. I feel a strong sense of belongingness with him/her
3. I feel an emotional connection with him/her
4. With my immediate manager, I feel like "part of the family"

Continuance Commitment to Immediate Manager (CCMAN)

Adapted from Meyer & Allen 1993

1. Stopping to work with him/her would mean making many sacrifices *
2. I would not stop working with him/her because of what I may lose *
3. For me, the cost of not working with him/her would be far greater than the benefit *

Normative Commitment to Immediate Manager (NCMAN)

Adapted from Meyer & Allen 1993

1. I feel a sense of obligation to continue working with him/her *
2. Even if it were to my advantage, I do not feel it would be right to suddenly stop working with him/her *
3. I would feel guilty if I suddenly stopped working with him/her *

Affective Commitment to Coworkers**Adapted from Meyer & Allen 1993**

1. I really feel as if their problems are my own
2. I feel a strong sense of belongingness with them
3. I feel an emotional attachment to them
4. With them, I feel like "part of the family"

Continuance Commitment to Coworkers**Adapted from Meyer & Allen 1993**

1. Not working with them would require considerable personal sacrifices
2. I would not stop working with my co-workers because of what I may lose
3. For me, the costs of not working with them would be far greater than the benefits

Normative Commitment to Coworkers**Adapted from Meyer & Allen 1993**

1. I feel a sense of obligation to remain working with my co-workers
2. Even if it were to my advantage, I do not feel it would be right to suddenly stop working for my co-workers
3. I would feel guilty if I suddenly stopped working with my co-workers

Antecedents of Affective Commitment to the Organization**Perceived organizational support****Adapted from Hutchinson 1997 and Eisenberger et al 1986**

1. This organisation takes pride in my accomplishments at work*
2. This organisation really cares about my well-being*
3. This organisation strongly considers my goals and values*
4. This organisation values my contribution to its well-being*
5. This organisation is willing to help me when I need a special favour*

Multicultural Procedural Justice**Adapted from Lee & Mowday 1987**

1. Management in this organisation appreciates employee diversity *
2. The cultural needs and sensitivities of different employees are accommodated *
3. There are good relationships between employees of different races *

Perceived Organizational Prestige**New**

1. I get respect and prestige because I work for this organisation*
2. This organisation has a good reputation*
3. It is prestigious to work for this organisation*

Distributive Justice**Price & Mueller, 1986**

1. I am fairly rewarded, given my level of experience
2. I am fairly rewarded, given my level of responsibility
3. I am fairly rewarded, given my work effort
4. I am fairly rewarded, given my level of prior education & training

Structural Procedural Justice**Moorman 1991**

1. Policies and procedures in this organisation are designed so that all parties affected by the decision are considered*
2. Policies and procedures in this organisation provide the opportunity for employees to challenge or appeal against decisions*
3. Policies and procedures in this organisation are designed to ensure that accurate information is used when making decisions*

Role Overload (Work Overload)**New**

1. I do not have enough time to get everything done on my job
2. I have to work very fast in my job (just to keep up with the workload)
3. I have a very heavy workload, perhaps too heavy

Job Formalization (Substitutes of leadership Scale)**Adapted from Podsakoff et al 1996**

1. There are written rules and guidelines to direct my work efforts
2. My job responsibilities are specified in writing
3. My duties, authority, and accountability are documented in policies, procedures, or job descriptions

Job Autonomy**New**

1. I influence the things that affect me on the job *
2. I have input in deciding what tasks or parts of tasks I will do *
3. I control the scheduling of my own work *

Job Feedback**Adapted from Podsakoff et al 1996**

1. My job provides me with feedback on how well I am doing
2. My job provides me with a sense of how well I am performing
3. My job gives me the opportunity to know how well I am performing

Learning environment: Perceived Learning Opportunities**Adapted from AON Survey**

1. There are excellent learning opportunities for me at this organisation *
2. This organisation employs smart people that I can learn from *
3. I regard this organisation as one of the best places to work in my field *

Charismatic Leadership (Articulating Vision)**Adapted from Podsakoff et al 1996**

1. Our Chief Executive is a model for me to follow
2. Our Chief Executive is a symbol of success and accomplishment
3. Our Chief executive is an inspiration to us
4. It makes me proud to be associated with him/her

Management Support**Adapted from House 1981; Caplan et al 1975; Price & Mueller, 1986**

1. My immediate manager is willing to listen to my job related problems
2. Shows a lot of concern for me on my job
3. Can be relied on when things get tough on my job

Interpersonal Procedural Justice**Moorman 1991**

1. Shows consideration for my rights as an employee
2. Is able to suppress personal biases when making a decision
3. Gives me feedback about decisions and their implications

Management Vision (Articulating Vision, Transformational Leadership Scale)**Adapted from Podsakoff et al 1993**

1. He/she always seeks new opportunities for us
2. He/she inspires us with his/her plans for the future
3. He/she is able to get others committed to his/her plans

Job Security**Adapted from Oldham et al 1986**

1. I will be able to keep my present job as long as I want it
2. I have job security over the next months
3. If my present job tasks were eliminated I would be offered another job in this organisation

Organization-based Self-esteem (OBSE)**Adapted from Pierce et al 1989 and Chattopadhyay 1999**

1. I count at work
2. I am regarded as important in my workplace
3. I am trusted at work
4. I am taken seriously at work

Antecedents of Continuance Commitment to the Organization**Self Investment (Effort)****Developed from Ritzer & Trice 1969**

1. I have put a lot of effort into this organisation
2. I have worked hard for my organisation since I joined it
3. I have done my best for the development of this organisation

Job Alternatives**Based on items in Meyer & Allen's (1990) continuance commitment scale**

1. One of the few negative consequences of leaving this organisation is the scarcity of available alternatives
2. I feel that I have too few options to consider leaving this organisation
3. There are not many attractive job alternatives to my present job

Skill Transferability**New**

1. My skills and experiences would be useful to another organisation
2. I would have little difficulty obtaining a comparable or better job elsewhere *
3. My training and education would be useful to another organisation

Antecedents of Normative Commitment to the Organization**Socialization (Socialized Loyalty)****Adapted from Meyer & Allen 1990**

1. I was taught to believe in the value of being loyal to your employer
2. I have an obligation to be loyal to the organisation that employed and trained me
3. These days people move from organisation to organisation too often

Met Expectations**Adapted from Kim 1995**

1. My experiences in this organisation have been as I originally expected
2. This organisation has lived up to the expectations I had when I joined it
3. Generally, this organisation has been as I expected it to be
4. In general, this organisation has not disappointed me *

Outcomes of Organizational Commitment**OCB Helping (Combined Altruism and Courtesy scales)****Smith et al 1983**

1. I help my co-workers when they have heavy workloads
2. I help my co-workers if they have been absent
3. I willingly help my co-workers with work problems
4. I check with co-workers before doing something that affects them
5. I try to avoid creating problems for my co-workers
6. I care about how my behaviour affects my co-workers

OCB Encouraging (Advocacy Participation)**Adapted from Van Dyne et al 1994**

1. I make creative suggestions to my co-workers
2. I encourage my co-workers to speak up at meetings
3. I help co-workers think for themselves

OCB Boosting Behaviour (Loyalty Boosterism)**Adapted from Van Dyne et al 1994 and Graham 1991**

1. I represent my organisation favourably to outsiders
2. I defend the organisation when outsiders criticise it
3. I defend the organisation when other employees criticise it

CWB Grumbling (similar to OCB Sportsmanship)**Adapted from Van Dyne et al 1994**

1. I am critical about what the organisation is doing
2. I express resentment to any changes in the organisation
3. I focus on what is going wrong in this organisation

OCB Contributing (Civic Virtue)**Adapted from Podsakoff 1996 and Organ 1990**

1. I attend meetings about this organisation
2. I keep informed of changes that might affect this organisation
3. I read general announcements or memos about this organisation.

OCB Participating (Functional Participation)**Adapted from Van Dyne 1994**

1. I take on extra responsibilities at work
2. I work beyond what is required of me
3. I work extra hours (even if I am not rewarded extra for it)

CWB Slacking (similar to Conscientiousness)**Adapted from Van Dyne 1994**

1. I take "sick days" even when I am not sick
2. I take unauthorised "long lunches" or breaks
3. I spend work time on personal matters

OCB Innovating**Jannsen 2000**

1. I create new ideas to handle difficult issues
2. I search out new working methods, techniques or tools
3. I create new solutions to handle work problems

Turnover Intentions**Adapted from Kim 1995**

1. I would like to leave this organisation
2. I plan to leave this organisation as soon as possible
3. Within the next months, I hope to have left this organisation

Job Performance (original scale)**New**

1. I adequately complete assigned duties
2. I meet the formal requirements of my job
3. I perform tasks that are expected of me

Personal Wellbeing**New**

1. Physically healthy
2. Psychologically healthy
3. Spiritually healthy

Continuous Control Variables**Negative Affect Depression****Adapted from University of Illinois study**

Frequency that you felt the following over the past 6 months
(Never Infrequently Sometimes Frequently Very frequently)

1. Feeling no interest in things
2. Feeling hopeless about the future
3. Feeling worthless

Demographic questions

Exact status/number asked for the following:

1. Gender
2. Marital status
3. Race (including option of "prefer not to answer")
4. Number of children
5. Dependants financial support
6. Dependants living with you
7. Highest qualifications
8. Age
9. Hours per week
10. Years in current position
11. Tenure
12. Experience in industry
13. Years in previous job
14. Residence in same city (Community involvement)
15. Organizational level
16. Area of specialization

Other scales**Co-worker Support****Adapted from University of Illinois study**

1. My co-workers are willing to listen to my job related problems
2. My co-workers can be relied on when my job gets tough
3. My co-workers are helpful in me getting my job done

Job Satisfaction**Adapted from Podsakoff et al 1996**

1. I get a great deal of personal satisfaction from the work that I do
2. I like the tasks that I perform at work
3. My job is personally very rewarding
4. The work I do on my job is meaningful to me

Job Involvement/Work Motivation

Adapted from Kanungo 1982

1. My job is something I feel very involved in
2. My job is an important part of my life
3. My job is important to me

Occupational Commitment

Adapted from Wallace 1996 and Porter et al 1974

1. I care about the future of the IT profession
 2. I am proud to tell others that I am part of the IT profession
 3. I am dedicated to the IT profession
 4. Being an IT professional has a great deal of personal meaning for me
 5. I feel a strong sense of "belonging" to the IT profession
-

APPENDIX C: STATISTICAL TABLES

Table C.1

Stepwise Factor Analysis: ACORG Antecedents (final model)

	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	F 9	F 10
METEX1	.200	.037	.085	.115	.098	.043	.091	.103	.751	.099
METEX2	.265	.043	.159	.131	.127	.022	.152	.134	.768	.112
METEX3	.227	.038	.116	.157	.111	.016	.076	.086	.805	.155
DJ1	.129	.056	.846	.147	.062	.053	-.014	.020	.120	.090
DJ2	.144	.044	.855	.086	.041	.099	-.008	.071	.087	.079
DJ3	.149	.061	.813	.077	.063	.168	-.002	.049	.066	.074
DJ4	.152	.050	.829	.101	.058	.031	-.013	.102	.054	.025
WLOAD1	-.073	.053	-.084	-.036	-.055	-.830	.006	-.038	-.040	-.049
WLOAD2	-.066	-.020	-.112	-.060	-.012	-.859	.041	.043	-.004	-.012
WLOAD3	-.087	.067	-.103	-.042	-.031	-.868	-.032	.062	-.022	-.037
JVAR1	.035	.772	.085	.013	.018	.005	.056	.126	.008	-.037
JVAR2	.031	.883	.057	-.008	.052	-.020	.055	.107	.022	-.025
JVAR3	.040	.819	.034	-.013	.040	-.084	.005	.133	.064	-.032
FORM1	.102	-.140	.028	.098	.136	-.017	-.010	.004	.126	.645
FORM2	.216	.026	.132	.117	.107	.047	.048	.051	.079	.804
FORM3	.181	.020	.097	.100	.170	.088	-.043	.050	.105	.802
JFBK1	.257	.021	.092	.149	.811	.032	.078	.116	.098	.200
JFBK2	.252	.051	.085	.126	.859	.042	.043	.143	.137	.159
JFBK3	.238	.078	.076	.142	.853	.060	.066	.162	.124	.159
CHLEAD1	.208	.014	.095	.864	.095	.038	.038	.078	.130	.082
CHLEAD2	.192	-.031	.105	.801	.092	.045	.044	.095	.086	.085
CHLEAD3	.223	.021	.124	.880	.099	.042	.044	.120	.094	.124
CHLEAD4	.220	-.010	.131	.880	.112	.052	.052	.120	.103	.083
MANSUP1	.707	-.058	.107	-.019	.063	.044	-.041	.136	.088	.065
MANSUP2	.850	-.002	.063	.060	.078	.050	-.042	.073	.081	.066
MANSUP3	.833	-.006	.098	.102	.067	.045	-.001	.162	.092	.070
IPJ1	.777	-.023	.095	.091	.044	.069	.056	.192	.081	.047
IPJ2	.711	.011	.095	.115	.083	.056	.014	.189	.113	.020
IPJ3	.707	.030	.072	.142	.135	.041	.057	.088	.111	.130
MANVIS1	.712	.095	.054	.185	.150	.027	.052	.027	.115	.091
MANVIS2	.744	.070	.078	.180	.111	.008	.043	.015	.063	.127
MANVIS3	.654	.082	.111	.195	.126	.012	.012	.054	.089	.095
JSEC1	.032	.027	-.000	-.001	.005	.095	.753	.063	.014	-.035
JSEC2	.014	.027	-.029	.099	.055	-.058	.804	.047	.085	.052
JSEC3	.016	.060	-.005	.034	.073	-.065	.628	.222	.146	-.018
OBSE1	.173	.104	.092	.107	.119	-.056	.078	.727	.079	.022
OBSE2	.178	.146	.080	.107	.110	-.071	.094	.760	.125	.027
OBSE3	.175	.055	.008	.054	.021	.023	.075	.644	.018	.015
OBSE4	.133	.118	.063	.088	.105	.020	.107	.721	.074	.044

Note: Extraction method: Principal Axis; Rotation: Varimax normalized;
loadings > .6 in bold

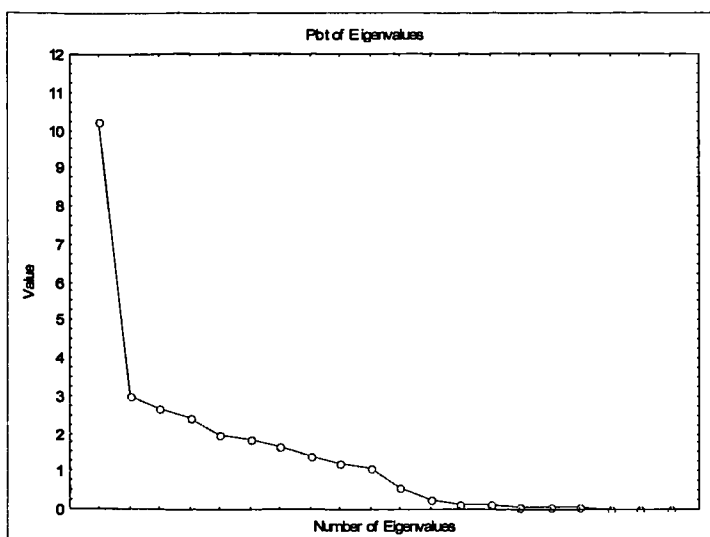
Table C.2

Statistics of Stepwise Factor Analysis: ACORG Antecedents (Final Model)

Factor	Description	Explained var.	Prop. total	Eigenvalue	% total var.	Cum. %
1	<i>Distributive Justice</i>	5.844	.150	10.217	26.199	26.199
2	<i>Work Overload</i>	2.181	.056	2.974	7.627	33.825
3	<i>Job Variety</i>	3.073	.079	2.667	6.839	40.664
4	<i>Job Formalization</i>	3.340	.086	2.409	6.176	46.840
5	<i>Job Feedback</i>	2.419	.062	1.981	5.080	51.920
6	<i>Charismatic Leadership</i>	2.300	.059	1.850	4.744	56.664
7	<i>Job Security</i>	1.725	.044	1.622	4.158	60.823
8	<i>OBSE</i>	2.446	.063	1.400	3.589	64.412
9	<i>Mgt Relationships</i>	2.094	.054	1.189	3.049	67.461
10	<i>Met Expectations</i>	1.982	.051	1.095	2.808	70.269

Notes: Prop. total: Proportional total; % total var: percentage total variance; Cum %: cumulative explained variance

Figure C.1

Scree plot: of antecedents of ACORG

Notes: Scree plot shows "elbow" at tenth factor

Table C.3

Stepwise Factor Analysis: CCORG Antecedents (Penultimate Structure)

	Factor 1	Factor 2	Factor 3
<i>Self Investment 1</i>	.012	.823	.075
<i>Self Investment 2</i>	.013	.882	.090
<i>Self Investment 3</i>	-.048	.750	.064
<i>Job Alternatives 1</i>	-.839	.041	-.000
<i>Job Alternatives 2</i>	-.873	.025	-.089
<i>Job Alternatives 3</i>	-.858	.000	-.041
<i>Skill Transferability 1</i>	-.017	.106	.763
<i>Skill Transferability 2*</i>	.306	.044	.276
<i>Skill Transferability 3</i>	.103	.060	.776

Notes: Extraction method: Principal Axis; Rotation: Varimax normalized; * = item deleted

Table C.4
Statistics of Stepwise Factor Analysis: CCORG Antecedents

Factor	Description	Explained var.	Prop. total	Eigenvalue	% total var.	Cum. %
1	<i>Self Investment</i>	2.310	0.257	2.376	26.404	26.404
2	<i>Job Alternatives</i>	2.038	0.226	2.152	23.910	50.314
3	<i>Skill Transferability</i>	1.288	0.143	1.107	12.300	62.614

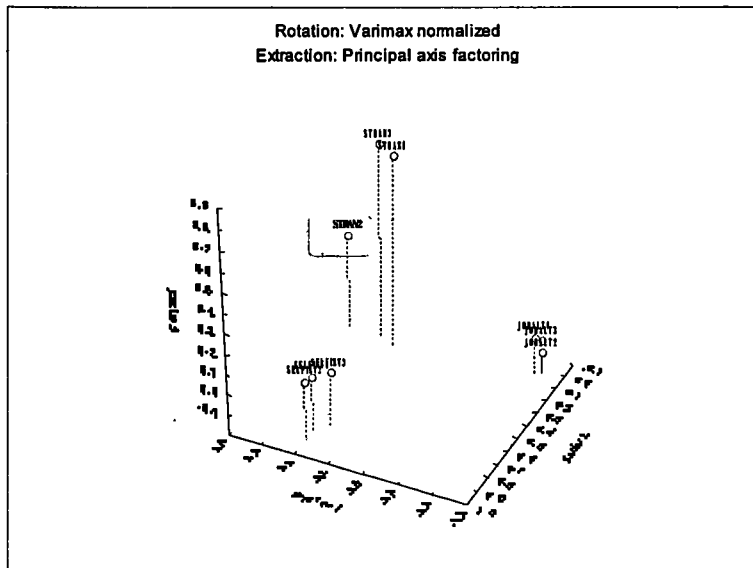
Notes: Prop. total: Proportional total; % total var: percentage total variance; Cum %: cumulative explained variance

Table C.5
Communalities of Final Factor Structure: CCORG Antecedents

	From 1 factor	From 2 factors	From 3 factors	Multiple R ²
<i>Self Investment</i>	.000	.678	.684	.574
<i>Self Investment</i>	.000	.778	.786	.621
<i>Self Investment</i>	.002	.565	.569	.488
<i>Job Alternatives</i>	.704	.706	.706	.614
<i>Job Alternatives</i>	.762	.763	.771	.654
<i>Job Alternatives</i>	.736	.736	.738	.629
<i>Skill Transferability</i>	.000	.012	.594	.385
<i>Skill Transferability</i>	.094	.096	.172	.148*
<i>Skill Transferability</i>	.011	.014	.616	.393

Note: * Low relative R². The communality of a variable is the portion that can be reproduced from the number of factors. Low R² for STRANS2 indicates that this variable is not well accounted for by the given factor model

Figure C.2
Factor loadings: Factor 1 vs. Factor 2 Vs. Factor 3



Note: Enclosed item indicates that STRANS2 does not group together well with other skill transferability items

Table C.6

Stepwise Factor Analysis: NCORG Antecedents (final structure)

	Factor 1	Factor 2
<i>Met Expectations 1</i>	.788	.036
<i>Met Expectations 2</i>	.904	.061
<i>Met Expectations 3</i>	.877	.037
<i>Met Expectations 4</i>	.678	.100
<i>Socialized Loyalty 1</i>	.010	.675
<i>Socialized Loyalty 2</i>	.133	.810
<i>Socialized Loyalty 3</i>	.026	.523

Notes: Extraction method: Principal Axis; Rotation: Varimax normalized;
Marked loadings are >.6

Table C.7

Statistics of Stepwise Factor Analysis: NCORG Antecedents

Factor	Description	Explained var.	Prop. total	Eigenvalue	% Total var.	Cum. %
1	Met Expectations	2.685	0.384	2.757	39.384	39.384
2	Socialized Loyalty	1.401	0.200	1.329	18.988	58.372

Notes: Prop. total: Proportional total; % total var: percentage total variance;
Cum %: cumulative explained variance

Table C.8

Stepwise Factor Analysis: Outcome items (final structure)

	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8
<i>Helping 1 (altruism)</i>	.735	.022	.170	.010	.044	.079	.042	.019
<i>Helping 2 (altruism)</i>	.702	.043	.158	-.006	-.016	.073	.067	-.038
<i>Helping 3 (altruism)</i>	.726	.048	.154	.008	.124	-.016	-.010	-.000
<i>Helping 4 (courtesy)</i>	.597	.075	-.006	.065	.142	.044	.032	.059
<i>Helping 5 (courtesy)</i>	.660	-.024	-.103	.007	.189	-.037	.063	.085
<i>Helping 6 (courtesy)</i>	.619	.014	-.064	-.031	.129	.046	.112	.119
<i>Boosting 1</i>	.067	.125	.072	.057	.109	.052	.670	.225
<i>Boosting 2</i>	.133	.157	.072	.062	.017	.064	.841	.219
<i>Boosting 3</i>	.096	.236	.144	.027	.009	.145	.748	.092
<i>Participating 1</i>	.092	.041	.071	.017	.005	.019	.165	.592
<i>Participating 2</i>	.037	.055	.217	.051	.004	.098	.135	.809
<i>Participating 3</i>	.058	.086	.218	.065	-.003	.108	.150	.672
<i>Slacking 1</i>	-.019	-.119	-.086	-.052	-.054	-.565	-.028	-.102
<i>Slacking 2</i>	-.078	-.049	-.032	-.023	-.028	-.816	-.064	-.067
<i>Slacking 3</i>	-.048	-.069	-.054	.047	-.026	-.702	-.104	-.011
<i>Innovating 1</i>	.092	-.027	.767	.067	.111	.013	.120	.230
<i>Innovating 2</i>	.075	-.043	.861	.042	.057	.102	.092	.161
<i>Innovating 3</i>	.104	-.045	.877	.025	.124	.115	.066	.148
<i>Turnover intention 1</i>	-.044	-.836	.036	-.034	.060	-.107	-.196	-.040
<i>Turnover Intention 2</i>	-.061	-.892	.025	-.026	.010	-.098	-.157	-.105
<i>Turnover Intention 3</i>	-.066	-.908	.049	-.023	.020	-.100	-.127	-.052
<i>Performance 1</i>	.184	-.033	.071	.032	.832	.066	.065	.003
<i>Performance 2</i>	.168	-.044	.077	.043	.853	.065	.050	-.008
<i>Performance 3</i>	.236	-.009	.134	-.019	.838	.005	.012	.018
<i>Personal Wellness 1</i>	-.006	-.017	-.009	.748	.001	.002	-.011	.055
<i>Personal Wellness 2</i>	.017	.067	.060	.905	.018	-.004	.074	.040
<i>Personal Wellness 3</i>	.035	.031	.069	.821	.035	.036	.068	.024

Notes: Extraction method: Principal Axis; Rotation: Varimax normalized; N = 558
Marked loadings are >.6

Table C.9

Statistics of Stepwise Factor Analysis: Outcome items (final structure)

Factor	Description	Explained var.	Prop. total	Eigenvalue	% total var.	Cum. %
1	<i>Helping</i>	2.942	0.109	5.092	18.861	18.861
2	<i>Turnover Intention</i>	2.474	0.092	3.076	11.394	30.255
3	<i>Innovating</i>	2.375	0.088	2.450	9.074	39.329
4	<i>Personal Wellness</i>	2.092	0.077	2.011	7.448	46.777
5	<i>Performance</i>	2.266	0.084	1.577	5.840	52.618
6	<i>Slacking</i>	1.609	0.060	1.383	5.124	57.742
7	<i>Boosting</i>	1.946	0.072	1.201	4.446	62.188
8	<i>Participating</i>	1.726	0.064	0.946	3.504	65.692

Notes: Prop. total: Proportional total; % total var.: percentage total variance; Cum %: cumulative explained variance; Helping 1-3 were originally labelled Altruism; Helping 4-6 were originally labeled Courtesy; N=588 with casewise deletion; Total of 8 factors from original 14 proposed outcomes emerged, two were combined and 4 were eliminated due to cross loadings or insufficient loading,

Table C.10

Factor Analysis: Foci of Commitment (original structure)

	F1	F2	F3
ACORG1	.503	.065	.125
ACORG2	.805	.041	.191
ACORG3	.813	.139	.115
ACORG4	.792	.111	.211
ACORG5	.794	.183	.152
ACMAN1	.190	.148	.663
ACMAN2	.205	.075	.900
ACMAN3	.175	.173	.800
ACMAN4	.175	.166	.825
ACCW1	.090	.699	.092
ACCW2	.113	.861	.109
ACCW3	.095	.865	.122
ACCW4	.179	.778	.235
Explained Variance	3.022	2.739	2.791
Proportion of Total	0.232	0.211	0.215
Eigenvalue	4.960	1.985	1.607
% Total Variance	38.152	15.268	12.365
Cum. % of Total Variance	38.152	53.420	65.785

Note: N = 612

Extraction method: Principal Axis

Rotation: Varimax normalized

Table C.11

Communalities: Foci of Commitment (original structure)

	From 1 factor	From 2 factors	From 3 factors	Multiple R-square
ACORG1	.253	.257	.273	.301*
ACORG2	.648	.649	.686	.634
ACORG3	.661	.680	.693	.617
ACORG4	.628	.640	.685	.656
ACORG5	.631	.665	.688	.612
ACMAN1	.036	.058	.497	.543
ACMAN2	.042	.048	.857	.764
ACMAN3	.030	.060	.700	.674
ACMAN4	.031	.058	.738	.706
ACCW1	.008	.496	.505	.534
ACCW2	.013	.754	.766	.693
ACCW3	.009	.758	.772	.710
ACCW4	.032	.637	.692	.701

Note: * Low relative R².

The communality of a variable is the portion that can be reproduced from the number of factors. Moderate R² for ACORG1 indicates that this variable is only moderately accounted for by the given factor model compared to the other items.

Table C.12

Hierarchical factor analysis of commitment foci (original structure)

	Primary 1	Primary 2	Primary 3	Higher Order
ACORG1	.399	-.021	.016	.336
ACORG2	.647	-.089	.026	.509
ACORG3	.655	.008	-.050	.512
ACORG4	.625	-.027	.036	.540
ACORG5	.628	.045	-.022	.539
ACMAN1	.036	.021	.502	.493
ACMAN2	.019	-.079	.705	.594
ACMAN3	-.002	.027	.615	.566
ACMAN4	-.005	.017	.637	.577
ACCW1	-.019	.608	-.022	.366
ACCW2	-.021	.750	-.031	.450
ACCW3	-.039	.754	-.018	.449
ACCW4	.024	.649	.073	.514

Note : High affective base of all three factors

Loadings > .6 in bold

Table C.13

Factor Analysis: Revised Commitment Foci Scales

	F1	F2	F3
ACORG2	.807	.055	.202
ACORG3	.762	.149	.118
ACORG4	.836	.133	.205
ACMAN2	.199	.097	.866
ACMAN3	.171	.174	.803
ACMAN4	.184	.180	.844
ACCW2	.103	.827	.101
ACCW3	.075	.865	.117
ACCW4	.176	.828	.229
Explained Variance	2.080	2.234	2.280
Proportion of Total	0.231	0.248	0.253
Eigenvalue	3.810	1.566	1.218
% Total	42.334	17.401	13.535
Cum. % Total Variance	42.334	59.736	73.271

Note: This structure used in analyses; loadings > .6 in bold

Table C.14

Communalities: Revised Commitment Foci Scales

	From 1 factor	From 2 factor	From 3 factor	Multiple R-square
ACORG2	.650	.654	.694	.594
ACORG3	.581	.603	.617	.540
ACORG4	.698	.716	.758	.633
ACMAN2	.040	.049	.799	.712
ACMAN3	.029	.060	.704	.669
ACMAN4	.034	.066	.779	.703
ACCW2	.011	.695	.705	.640
ACCW3	.006	.754	.768	.694
ACCW4	.031	.717	.769	.701

Note: No problems detected in this analysis

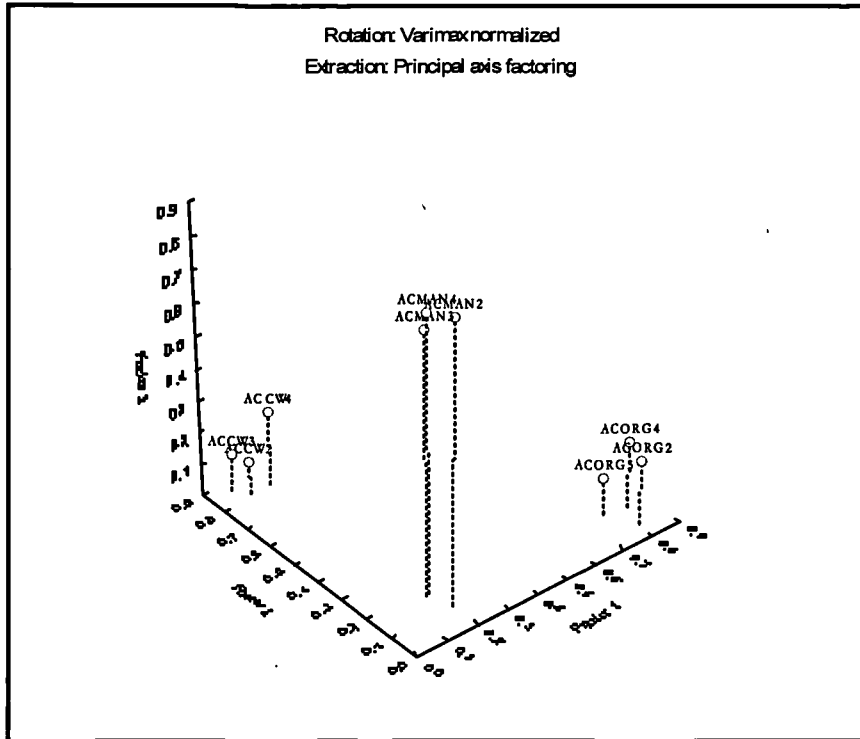
Table C.15

Hierarchical Factor Analysis: Revised Commitment Foci Scales

	Primary 1	Primary 2	Primary 3	Higher Order
ACORG2	.650	-.077	.036	.514
ACORG3	.615	.024	-.038	.487
ACORG4	.666	-.011	.025	.560
ACMAN2	.020	-.054	.676	.581
ACMAN3	-.002	.028	.619	.566
ACMAN4	.001	.026	.651	.596
ACCW2	-.023	.721	-.033	.429
ACCW3	-.054	.756	-.020	.439
ACCW4	.019	.695	.062	.531

Note: High affective base of all three primary factors

Figure C.3

Factor Loadings ACORG vs. ACMAN Vs. ACCW

Note: Plot of items (original scales) suggests that the elimination of items will clarify the dimensionality of the three affective commitment foci

Table C.16

Non-centrality Fit Indices: 3-Factor Oblique Model Per Focus

AFFECTIVE	Lower 90%	Point	Upper 90%
Population Noncentrality Parameter	0.048	0.083	0.130
Steiger-Lind RMSEA Index	0.057	0.074	0.093
McDonald Noncentrality Index	0.937	0.959	0.976
Population Gamma Index	0.972	0.982	0.989
Adjusted Population Gamma Index	0.915	0.946	0.968
CONTINUANCE	Lower 90%	Point	Upper 90%
Population Noncentrality Parameter	0.008	0.028	0.062
Steiger-Lind RMSEA Index	0.023	0.044	0.064
McDonald Noncentrality Index	0.970	0.986	0.996
Population Gamma Index	0.986	0.994	0.998
Adjusted Population Gamma Index	0.959	0.981	0.995
NORMATIVE	Lower 90%	Point	Upper 90%
Population Noncentrality Parameter	0.032	0.062	0.104
Steiger-Lind RMSEA Index	0.046	0.064	0.083
McDonald Noncentrality Index	0.949	0.970	0.984
Population Gamma Index	0.977	0.986	0.993
Adjusted Population Gamma Index	0.932	0.959	0.979

Note: Goodness of fit indices explained in the text; Lower 90% = Lower 90% confidence boundary; Point = Point estimate; Upper 90% = Upper 90% confidence boundary

Table C.17

Fit Indices: Three Affective Foci (revised scales)

Model	χ^2	DF	GFI	AGFI	NFI	NNFI	CFI	PFI
MAFF0: Null	3578.16	36						
MAFF1: 1 factor	1894.98	27	.59	.32	.47	.30	.47	.35
<u>Two factor</u>								
MAFF3: ACORG+ACMAN&ACCW last separate	913.53	23	.75	.51	.75	.61	.75	.48
MAFF4: ACORG+ACCW&ACMAN	937.91	20	.74	.41	.74	.53	.74	.41
MAFF5: ACCW+ACMAN&ACORG	1120.16	16	.73	.38	.69	.44	.69	.38
<u>Three-factor</u>								
MAFF6: 3-factor	65.68	15	.98	.93	.98	.97	.99	.41

Note: Goodness of fit indices explained in the text; Lower 90% = Lower 90% confidence boundary; Point = Point estimate; Upper 890% = Upper 90% confidence boundary

Table C.18

Noncentrality fit indices: Three Affective Foci (revised scales)

Noncentrality fit index	Lower 90%	Point	Upper 90%
Population Noncentrality Parameter	0.048	0.083	0.130
Steiger-Lind RMSEA Index	0.057	0.074	0.093
McDonald Noncentrality Index	0.937	0.959	0.976
Population Gamma Index	0.972	0.982	0.989
Adjusted Population Gamma Index	0.915	0.946	0.968

Note: Goodness of fit indices explained in the text; Lower 90% = Lower 90% confidence boundary; Point = Point estimate; Upper 890% = Upper 90% confidence boundary

Table C.19

Summary Regression Analysis: Commitment with Excluded Outcomes

	<i>Participating</i>	<i>Innovating</i>	<i>Helping</i>	<i>Slacking</i>	<i>Wellbeing</i>
<i>ACORG</i>	.298***	.186***	.156**	-.186***	-.292***
<i>CCORG</i>	-.049	-.117*	.064	.031	.095
<i>NCORG</i>	.036	.045	.011	-.127*	-.052
R²	.10***	.05***	.04***	.07***	.10***

Note: Standardized betas are reported; N>580 in all analyses; *p < .01; **p < .001; ***p < .0001

Table C.20

Distribution Statistics: Independent Variables Included In the Commitment Models

	Skewness	SE of skewness	Kurtosis	SE of kurtosis
<i>ACORG</i>	-0.396	0.098	-0.214	0.195
<i>CCORG</i>	-0.199	0.097	-0.684	0.194
<i>NCORG</i>	0.192	0.097	-0.472	0.194
<i>ACORG (3 item)</i>	-0.419	0.098	-0.316	0.195
<i>ACMAN (3 item)</i>	-0.043	0.098	-0.650	0.196
<i>ACCW (3 item)</i>	-0.390	0.098	-0.347	0.195
<i>Age</i>	0.623	0.107	-0.603	0.214
<i>Tenure</i>	1.519	0.107	1.751	0.214
<i>Negative Affect</i>	0.598	0.107	-0.093	0.214
<i>Distributive Justice</i>	-0.321	0.098	-0.74	0.195
<i>Work Overload</i>	0.059	0.098	-1.14	0.196
<i>Job Variety</i>	-0.278	0.098	-0.93	0.196
<i>Job Formalization</i>	-0.176	0.098	-0.85	0.196
<i>Job Feedback</i>	-0.704	0.098	-0.35	0.196
<i>Charismatic Leadership</i>	-0.466	0.098	0.00	0.195
<i>Job Security</i>	-0.450	0.098	0.28	0.196
<i>OBSE</i>	-0.721	0.098	1.79	0.196
<i>Mgt. Relationships</i>	-0.684	0.098	0.28	0.196
<i>Met Expectations (3 items)</i>	-0.480	0.098	-0.84	0.195
<i>Self Investment</i>	-0.466	0.098	0.657	0.195
<i>Job Alternatives</i>	-0.301	0.098	-0.716	0.197
<i>Skill Transferability (2 items)</i>	-0.417	0.098	0.825	0.196
<i>Socialized Loyalty</i>	-0.464	0.098	-0.066	0.196

Notes: N > 550 for all estimations

Table C.21

Normality Tests: Independent Variables Used in the Final Regression Models

Variable	K-S d	Lilliefors L	Shapiro-Wilk W	p
<i>ACORG</i>	.091	p< .01	.975	p< .0001
<i>CCORG</i>	.102	p< .01	.974	p< .0001
<i>NCORG</i>	.074	p< .01	.982	p< .0001
<i>ACORG (3 item)</i>	.118	p< .01	.959	p< .0001
<i>ACCW (3 item)</i>	.120	p< .01	.958	p< .0001
<i>ACMAN (3 item)</i>	.095	p< .01	.973	p< .0001
<i>Age</i>	.117	p< .01	.941	p< .0001
<i>Tenure</i>	.194	p< .01	.818	p< .0001
<i>Negative Affect</i>	.127	p< .01	.950	p< .0001
<i>Distributive Justice</i>	.162	p< .01	.935	p< .0001
<i>Workload</i>	.143	p< .01	.932	p< .0001
<i>Job Variety</i>	.191	p< .01	.921	p< .0001
<i>Formalization</i>	.132	p< .01	.947	p< .0001
<i>Job Feedback</i>	.249	p< .01	.874	p< .0001
<i>Charismatic Leadership</i>	.155	p< .01	.945	p< .0001
<i>Job Security</i>	.125	p< .01	.960	p< .0001
<i>OBSE</i>	.217	p< .01	.901	p< .0001
<i>Management Relationships</i>	.119	p< .01	.957	p< .0001
<i>Met Expectations (3 item)</i>	.172	p< .01	.912	p< .0001
<i>Self Investment</i>	.241	p< .01	.870	p< .0001
<i>Skill Transferability (2 item))</i>	.270	p< .01	.852	p< .0001
<i>Job Alternatives</i>	.139	p< .01	.952	p< .0001
<i>Socialized Loyalty</i>	.150	p< .01	.956	p< .0001

Notes:

Parametric statistical techniques assume the normal distribution of data, a requirement that has been proven mathematically but typically has no theoretical proofs (Steiger, 1995). The above table includes a comprehensive assessment of the normality of the data used in this study and shows that none of the scales was normally distributed.

Statistical tests provide the most rigorous basis for assessing normality as the interpretation of score plots is very subjective. Two tests of normality are reported: (1) the Kolmogorov-Smirnov one-sample test and (2) the Schapiro-Wilks W test: The Kolmogorov-Smirnov one-sample test for normality is based on the maximum difference between the sample cumulative distribution and the hypothesized cumulative distribution. If the D statistic is significant, then the hypothesis that the respective distribution is normal should be rejected. The probability values typically reported for the D statistic are valid when the mean and standard deviation of the normal distribution are known (Statsoft, 2003), which these parameters rarely are. In a Kolmogorov-Smirnov test for normality when the mean and standard deviation of the hypothesized normal distribution are not known a-priori (i.e., they are estimated from the sample data) the probability values associated with this test are not valid and the Lilliefors probabilities are used to determine whether the KS difference statistic is significant. A more recent test, the Shapiro-Wilk's W test is currently the preferred test of normality because of its good power properties (Statsoft, 2003). If the W statistic is significant, then the hypothesis that the respective distribution is normal should be rejected. The Statistica 6.0 programme implements an extension to this test, which allows it to be applied to large samples (Statsoft, 2003).

Non-normal distributions are common in attitudinal research but signal the need for caution when choosing specific statistical techniques and specifying the parameters applied within these techniques. Fortunately, the assumption of a normal distribution was not a serious problem in this study for three reasons: (1) Monte Carlo experiments (which analyze multiple computer generated samples with pre-designed specifications using a variety of tests) have empirically evaluate the sensitivity of parametric tests to violations of the assumption of normal distribution and have demonstrated the robustness of chosen techniques, such as multiple regression analysis (Steiger, 1995); (2) the availability and application of parameter options to reduce the effects of non-normality, especially in confirmatory factor analysis and structural equation modeling; and (3) the large sample size in this study. As sample size increases the shape of the sampling distribution (i.e., distribution of a statistic from the sample) approaches normal shape, even if the distribution of the variable in question is not normal (Statsoft, 2003), a principle called the central limit theorem (Statsoft, 2003).

APPENDIX D: STATISTICS BY SECTOR

Table D.1

Mann-Whitney U-Test: Sector Differences (control variables and antecedents)

	Rank Sum 1	Rank Sum 2	U	Z	p	n 1	n 2
Age*	90877.50	104122.5	25516.50	9.051	***	228	396
<i>Hours worked</i>	61601.50	119901.5	38596.50	-1.429	.153	214	388
Position tenure*	91886.50	104991.5	26385.50	8.845	***	231	396
Org. Tenure*	92855.00	105280.0	25879.00	9.144	***	231	398
Prof. Tenure*	55963.50	86347.5	9319.50	11.679	***	141	392
<i>Yrs Previous Job*</i>	75613.00	112578.0	36333.00	3.390	.001	223	390
Community*	88797.00	104956.0	26350.00	8.535	***	226	396
<i>Distributive Justice</i>	70322.00	126556.0	43757.00	-0.868	.385	230	397
<i>Workload</i>	74012.00	119119.0	42874.00	1.005	.315	231	390
<i>Job Variety</i>	69789.50	122100.5	43683.50	-0.415	.678	228	391
Job Formalization	63856.50	128653.5	37291.50	-3.508	***	230	390
Job Feedback	63191.50	129318.5	36395.50	-3.957	***	231	389
Charismatic Leadership	59147.50	136477.5	33041.50	-5.622	***	228	397
<i>Job Security</i>	67134.50	123518.5	41256.50	-1.409	.159	227	390
<i>OBSE</i>	75422.50	115848.5	39993.50	2.121	.034	229	389
Mgt. Relationships	62271.00	130239.0	37071.00	-3.398	.001	224	396
<i>Met Expectations*</i>	66853.50	130024.5	40288.50	-2.45495	.014	230	397
Self Investment	80915.50	115335.5	36332.50	4.186	***	229	397
Job Alternatives	80023.50	110012.5	34157.50	4.690	***	227	389
<i>Skill Transferability*</i>	68409.00	122862.0	42303.00	-1.007	.314	228	390
Socialized Loyalty	85103.00	108028.0	31783.00	6.137	***	231	390
<i>Boosting</i>	70328	125297.5	43762.5	-0.764	.445	230	395
<i>Turnover Intention</i>	72184	117852.0	42386.0	0.866	.387	228	388
<i>Helping</i>	75860	118516.5	40306.5	2.183	.029	228	395

Notes: n 1: public sector; n 2: private sector; * = variable not in final model

With samples larger than 20, the sampling distribution of the U statistic approaches the normal distribution so the U statistic (adjusted for ties) is accompanied by a z value (normal distribution variate value), and the respective p-value.

The U test is the most powerful (or sensitive) nonparametric alternative to the *t*-test for independent samples. Steiger (1995) claimed that the U-test was often more powerful to reject the null hypothesis than the *t*-test. Significant differences in bold. *** = $P < .0001$

Table D.2
Mann-Whitney U-Test: Sector Differences (commitment)

	Rank Sum 1	Rank Sum 2	U	Z	p	n 1	N 2
ACORG	74794.50	121456.5	42453.50	1.37784	.168	229	397
CCORG	82898.50	115866.5	35666.50	4.69818	***	230	400
NCORG	74510.00	125518.0	44515.00	0.77656	.437	230	402
ACORGREV	74424.50	123081.5	43281.50	1.09849	.272	229	399
ACMANREV	67186.50	126566.5	41535.50	-1.49035	.136	226	396
ACCWREV	79901.00	116350.0	38140.00	3.42688	.001	231	395
CCORGREV	82558.50	117469.5	36466.50	4.42097	***	230	402
CCMANREV	75442.00	118311.0	40101.00	2.19298	.028	227	395
CCCWREV	80610.50	115014.5	36804.50	3.95980	***	230	395
NCORGREV	73576.00	126452.0	45449.00	0.35364	.724	230	402
NCMANREV	74237.00	120139.0	41533.00	1.57861	.114	227	396
NCCWREV	80689.50	114310.5	36495.50	4.05729	***	230	394

Notes: n 1 = public sector, n 2 = private sector; *** = $p < .0001$

Table D.3
Regression Analysis: DV = ACORG (revised scale)

	Beta	SE	B	SE	t(605)	P
<i>Perceived Org Support</i>	0.537	0.038	0.577	0.041	14.045	***
<i>Management Support</i>	0.032	0.039	0.033	0.040	0.834	.404
<i>Co-worker Support</i>	0.066	0.035	0.092	0.049	1.886	.060

Notes: N = 609; R = .573; R² = .328; F(3,605) = 98.557, $p < .0001$; *** = $p < .0001$

Table D.4
Regression Analysis: DV = ACMAN (revised scale)

	Beta	SE	B	SE	t(608)	P
<i>Perceived Org. Support</i>	0.172	0.035	0.192	0.039	4.915	***
<i>Management Support</i>	0.563	0.035	0.599	0.038	15.864	***
<i>Co-worker Support</i>	-0.018	0.032	-0.026	0.046	-0.550	.582

Notes: N = 612; R = .658; R² = .433; Adjusted R² = .431; F(3,608) = 154.75, $p < .0001$; *** = $p < .0001$

Table D.5
Regression Analysis: DV = ACCW (revised scale)

	Beta	SE	B	SE	t(609)	p
<i>Perceived org Support</i>	0.039	0.042	0.039	0.041	0.943	.346
<i>Management Support</i>	-0.015	0.042	-0.014	0.040	-0.357	.721
<i>Co-worker Support</i>	0.435	0.038	0.561	0.049	11.374	***

Notes : N = 613; R= .441; R²= .194; F(3,609) = 48.994, p < .0001; *** = p < .0001

Table D.6
Descriptive Statistics: Public and Private Sector Knowledge Workers

	M 1 (Public Sector)	M 2 (Private Sector)	SD 1	SD 2	n 1	n 2
<i>ACORG</i>	3.157	3.087	0.922	0.824	229	397
<i>CCORG</i>	3.374	3.020	0.920	0.937	230	400
<i>NCORG</i>	2.669	2.596	0.932	0.859	230	402
<i>ACORG (3 item)</i>	3.160	3.101	1.003	0.891	229	399
<i>ACMAN (3 item)</i>	2.746	2.836	0.980	0.956	226	396
<i>ACCW (3 item)</i>	3.479	3.234	0.902	0.834	231	395
<i>CCORG (3 item)</i>	3.367	3.009	0.977	1.004	230	402
<i>NCORG (3 item)</i>	2.604	2.559	0.986	0.904	230	402
<i>Distributive Justice</i>	3.029	3.116	1.016	0.926	230	397
<i>Workload</i>	3.293	3.216	1.072	1.033	231	390
<i>Job Variety</i>	3.155	3.182	0.987	0.974	228	391
<i>Job formalization</i>	2.741	3.004	0.910	0.956	230	390
<i>Job Feedback</i>	3.102	3.447	1.078	0.903	231	389
<i>Charismatic Leadership</i>	2.902	3.361	1.040	0.857	228	397
<i>Job Security</i>	3.333	3.397	0.833	0.834	227	390
<i>OBSE</i>	3.926	3.820	0.694	0.580	229	389
<i>Mgt relationships</i>	3.224	3.509	0.899	0.738	221	396
<i>Met Expectations</i>	2.988	3.162	0.962	0.945	230	397
<i>Self Investment</i>	4.383	4.163	0.501	0.590	229	397
<i>Job Alternatives</i>	3.545	3.117	0.946	1.105	227	389
<i>Skill Transferability</i>	3.796	3.908	0.590	0.535	227	390
<i>Socialized Loyalty</i>	3.867	3.480	0.759	0.773	231	390
<i>Boosting</i>	3.938	4.054	1.013	0.868	230	395
<i>Turnover Intention</i>	2.667	2.588	1.129	1.152	228	388
<i>Helping</i>	4.111	4.043	0.492	0.397	228	395

Note: Final revised scales reported

Table D.7

Hierarchical Regression Analysis: ACORG Model for Public Sector

	Beta	SE	B	SE	t(182)	p
<i>Gender</i>	-0.015	0.062	-0.031	0.129	-0.24	.811
<i>Marital status</i>	-0.122	0.072	-0.079	0.047	-1.70	.090
<i>Race</i>	0.023	0.060	0.016	0.041	0.38	.702
<i>Education</i>	0.061	0.059	0.071	0.069	1.04	.299
<i>Age</i>	0.097	0.077	0.008	0.006	1.26	.211
<i>Tenure</i>	0.019	0.070	0.002	0.007	0.27	.789
<i>Negative Affect</i>	-0.060	0.070	-0.051	0.060	-0.86	.393
<i>Distributive Justice</i>	0.082	0.061	0.074	0.054	1.35	.178
<i>Workload</i>	0.052	0.061	0.044	0.052	0.85	.394
<i>Job Variety</i>	-0.004	0.064	-0.004	0.059	-0.06	.952
<i>Job Formalization</i>	0.100	0.063	0.098	0.062	1.59	.113
<i>Job Feedback</i>	0.180	0.070	0.152	0.059	2.56	.011
<i>Charismatic Leadership</i>	0.173	0.067	0.152	0.058	2.59	.010
<i>Job Security</i>	-0.031	0.060	-0.033	0.064	-0.52	.605
<i>OBSE</i>	0.192	0.068	0.246	0.087	2.83	.005
<i>Met Expectations</i>	0.166	0.068	0.159	0.065	2.46	.015
<i>Mgt relationships</i>	0.061	0.067	0.061	0.066	0.92	.358

Notes: N = 200; R = .687 R² = .473 Adjusted R² = .423

F(17,182) = 9.5918, p < .0001, SE of estimate = .685; Significant Betas in bold

Change R² = .259, p = .0001 after including further 10 variables

Table D.8

Hierarchical Regression Analysis: ACORG Model for Private Sector

	Beta	SE	B	SE	t(338)	p
<i>Gender</i>	0.049	0.039	0.08	0.064	1.27	.204
<i>Marital status</i>	0.099	0.044	0.06	0.025	2.27	.024
<i>Race</i>	0.028	0.042	0.02	0.028	0.66	.508
<i>Education</i>	0.017	0.042	0.02	0.040	0.40	.689
<i>Age</i>	0.088	0.052	0.01	0.005	1.71	.089
<i>Tenure</i>	0.093	0.047	0.01	0.007	1.99	.048
<i>Negative Affect</i>	-0.079	0.045	-0.07	0.040	-1.77	.077
<i>Distributive Justice</i>	0.181	0.044	0.16	0.038	4.11	< .0001
<i>Workload</i>	0.094	0.040	0.07	0.031	2.37	.018
<i>Job Variety</i>	0.048	0.041	0.04	0.034	1.16	.248
<i>Job Formalization</i>	0.142	0.044	0.12	0.037	3.26	.001
<i>Job Feedback</i>	-0.037	0.046	-0.03	0.040	-0.81	.416
<i>Charismatic Leadership</i>	0.261	0.042	0.25	0.040	6.20	< .0001
<i>Job Security</i>	0.186	0.041	0.18	0.039	4.56	< .0001
<i>OBSE</i>	0.087	0.049	0.12	0.068	1.80	.072
<i>Met Expectations</i>	0.216	0.046	0.18	0.039	4.66	< .0001
<i>Mgt relationships</i>	0.018	0.049	0.02	0.054	0.36	.718

Notes: N = 356; R = .734; R² = .538; Adjusted R² = .515;

F(17,338) = 23.191 p < 0.0000 SE of estimate: .55619

Change in R² = .399, p < .0001

Table D.9***Hierarchical Regression Analysis: CCORG Model for Public Sector***

	Beta	SE	B	SE	t(202)	p
<i>Gender</i>	-0.059	0.068	-0.125	0.143	-0.87	.384
<i>Marital status</i>	-0.196	0.071	-0.129	0.047	-2.76	.006
<i>Race</i>	-0.026	0.065	-0.018	0.046	-0.40	.688
<i>Education</i>	-0.071	0.062	-0.083	0.072	-1.15	.253
<i>Age</i>	0.080	0.082	0.007	0.007	0.98	.330
<i>Tenure</i>	0.044	0.074	0.004	0.007	0.59	.553
<i>Negative Affect</i>	-0.091	0.063	-0.079	0.055	-1.43	.153
Self Investment	0.143	0.063	0.264	0.115	2.29	.023
Skill Transferability	-0.289	0.062	-0.411	0.089	-4.63	<.0001
Job Alternatives	0.332	0.063	0.321	0.061	5.28	<.0001

Notes: N = 213; R = .541; R² = .293; Adjusted R² = .258

F(10,202) = 8.3681, p < .0001, SE of estimate = .790

Change in R² = .174, p < .0001

Table D.10***Hierarchical Regression Analysis: CCORG Model for Private Sector***

	Beta	SE	B	SE	t(361)	p-level
<i>Gender</i>	0.094	0.051	0.181	0.099	1.83	.068
<i>Marital status</i>	0.073	0.056	0.049	0.038	1.29	.199
<i>Race</i>	-0.043	0.053	-0.034	0.042	-0.81	.417
<i>Education</i>	-0.031	0.054	-0.036	0.061	-0.58	.561
<i>Age</i>	0.014	0.067	0.001	0.007	0.20	.839
<i>Tenure</i>	0.077	0.061	0.013	0.010	1.27	.206
<i>Negative Affect</i>	-0.027	0.053	-0.028	0.056	-0.51	.613
Self Investment	0.030	0.051	0.047	0.081	0.58	.561
Skill Transferability	-0.152	0.053	-0.269	0.094	-2.87	.004
Job Alternatives	0.259	0.053	0.223	0.046	4.86	<.0001

Notes: N = 372; R = .352; R² = .124; Adjusted R² = .099;

F(10,361) = 5.0942, p < .0001, SE of estimate = .892

Change in R² = .088, p < .00

Table D.11***Hierarchical Regression Analysis: NCORG Model for Private Sector***

	Beta	SE	B	SE	t(366)	p
<i>Gender</i>	-0.076	0.047	-0.130	0.081	-1.60	.110
<i>Marital</i>	0.012	0.052	0.007	0.032	0.22	.824
<i>Race</i>	0.016	0.049	0.011	0.034	0.33	.739
<i>Education</i>	0.014	0.049	0.014	0.050	0.29	.772
<i>Age</i>	-0.022	0.062	-0.002	0.006	-0.36	.722
<i>Tenure</i>	-0.078	0.057	-0.012	0.008	-1.36	.175
<i>Negative Affect</i>	-0.106	0.050	-0.100	0.047	-2.11	.035
Socialized Loyalty	0.378	0.048	0.409	0.051	7.96	<.0001
Met Expectations	0.223	0.051	0.197	0.045	4.34	<.0001

Notes: N = 376; R = .490; R² = .241; Adjusted R² = .222

F(9,366) = 12.879; p < .0001, SE of estimate = .741

Change in R² = .208, p < .0001

Table D.12

Hierarchical Regression Analysis: NCORG Model for Public Sector

	Beta	SE	B	SE	t(210)	p
<i>Gender</i>	0.038	0.060	0.082	0.131	0.63	.531
<i>Marital</i>	-0.084	0.065	-0.057	0.044	-1.30	.196
<i>Race</i>	0.051	0.058	0.037	0.042	0.88	.381
<i>Education</i>	0.045	0.057	0.055	0.069	0.79	.429
<i>Age</i>	0.021	0.075	0.002	0.006	0.28	.777
<i>Tenure</i>	-0.033	0.069	-0.003	0.006	-0.48	.633
<i>Negative Affect</i>	-0.101	0.059	-0.091	0.053	-1.70	.090
<i>Socialized Loyalty</i>	0.461	0.058	0.563	0.071	7.95	< .0001
<i>Met Expectations</i>	0.309	0.059	0.305	0.058	5.24	< .0001

Notes: N = 220; R = .621, R² = .385, Adjusted R² = .359

F(9,210) = 14.634; p < .0001, SE of estimate = .749

Change in R² = .285, p < .0001

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