THE EFFECT OF RETENTION FACTORS ON ORGANISATIONAL COMMITMENT: AN INVESTIGATION OF HIGH TECHNOLOGY EMPLOYEES

by

ANDREAS DÖCKEL

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SUMMARY

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ANDREAS DÖCKEL

LEADER	:	PROF. J. S. BASSON
DEPARTMENT	:	HUMAN RESOURCES MANAGEMENT
DEGREE	:	M.COM. (HUMAN RESOURCES MANAGEMENT)

There is a revolutionary change in the world of work that impacts on the individual,
work and society. The future of work suggests flexibility, boundary less communities
and change in work, as we know it today. As the world of work changes from a
worker intensive industrial society towards an automated information society, the
retention of technological advantages e.g., human, intellect and knowledge capital is
no longer assured. Employers struggle to retain their valuable high technology
employees due to a general shortage of experienced candidates and aggressive
recruitment tactics by others in the high technology arena. The purpose of this study
is to investigate specific retention factors that induce organisational commitment and
can thus increase the retention of high technology employees.

High technology industries operate in volatile market and experience accelerating
growth and rates of change. High technology employees are educated, have a strong
preference for independence and hold a large portion of the organisation's
intellectual capital.

A core belief in human resources is to retain and develop employees to obtain a competitive advantage. In order to retain these valuable employees it has become necessary for organisations to transform from using an employee controlling to a more employee commitment driven strategy. To gain employees' commitment to the organisation and increase retention, the employer needs to identify which retention factors induce organisational commitment.

Compensation, job characteristics, training and development opportunities, supervisor support, career opportunities and work/life policies were identified as the top six retention factors in the content analysis done on high technology literature.

Organisational commitment has been defined as a mindset, which ties the individual to the organisation. Different forms and foci of organisational commitment are discussed with the approach developed by Meyer and Allen's three component model (1991). The consequences of organisational commitment benefit the organisation in terms of increased job performance, intention to stay, increase in attendance, loyalty, decrease in turnover, greater creativity, more co-operation (particularly across discipline specialities), more volunteerism and more time devoted to productive work on behalf of the organisation.

This study focused on a 100% South African owned telecommunications company based in the Gauteng province. A questionnaire was developed and a population of 94 telecommunications professionals, technicians and associated professionals were selected to investigate the influence of various identified retention factors on organisational commitment. The statistical analysis of the data culminated in a regression analysis that measured the significance and the strength of the relationship between the identified retention factors and organisational commitment. The main conclusions were that compensation, job characteristics, supervisor support and work/life policies were significantly related to organisational commitment. On the other hand, in this study training, development and career opportunities were not related.

High technology organisations are not just interested in the retention of employees but also creating a mutually beneficial interdependence with employees. The identified retention factors might serve as a means to demonstrate the organisation's

support for, or commitment to, their employees and in turn cultivate a reciprocal attachment by employees. Employees' organisational commitment is related to their belief that the identified retention factors are motivated by the desire to retain good employees and to be fair in the treatment of employees. Future research needs are discussed.

OPSOMMING

DIE EFFEK VAN RETENSIEFAKTORE OP ORGANISASIEVERBONDENHEID: 'N
ONDERSOEK VAN HOË TEGNOLOGIE WERKNEMERS

deur

ANDREAS DÖCKEL

STUDIELEIER   :   PROF. J. S. BASSON
DEPARTEMENT   :   MENSLIKE HULPBRONBESTUUR
GRAAD   :   M. COMM. (MENSLIKE HULPBRONBESTUUR)

Die werksomgewing ondervind tans 'n rewolusie wat 'n impak het op individue, hul werk en die gemeenskap. Die toekoms sal gekenmerk word deur 'n beweging na groter buigsaamheid en die afbreek van die tradisionele grense van die werksomgewing. Soos die werksomgewing verander vanaf 'n werker intensiewe industriële gemeenskap na 'n geautomotiseerde inligtingsgemeenskap, is die retensie van tegnologiese hulpmiddele in die vorm van werknemer en kenniskapitaal nie meer verseker nie. Werkgewers vind dit moeilik om waardevolle hoë tegnologie werknemers te behou as gevolg van 'n algemene tekort aan vereiste vaardighede en aggressiewe werwingstaktieke wat deur ander hoë tegnologie organisasies gebruik word. Die doel van die studie is die ondersoek van spesifieke retensiefaktore wat organisasieverbondenheid laat ontstaan en sodoende die retensie van hoë tegnologie werknemers verhoog.

Hoë tegnologie industrieë funksioneer in markte wat deur versnellende groei en voortdurende verandering in die aanwending van hulpbronne gekenmerk word. Hoë

tegnologie werknemers maak 'n groot persentasie van die organisasie se intellektuele kapitaal uit, en hulle word gekenmerk deur 'n sterk voorkeur vir onafhanklikheid.

Die kern van menslike hulpbronbestuur is om werknemers te behou en te ontwikkel om sodoende 'n kompeterende voordeel te verseker. Die behoud van hierdie waardevolle werknemers noodsaak organisasies om te transformeer van 'n werknemerbeheerde strategie na een wat meer op werknemerverbondheid gefokus is. Om werknemerverbondendheid te verhoog, moet die werkgewer die retensiefaktore wat organisasieverbondenheid tot gevolg het, identifiseer.

Die ses hoof retensiefaktore soos blyk uit 'n inhoudsanalise van hoë tegnologie literatuur is: besoldiging, werkseienskappe, opleiding en ontwikkelingsgeleenthede, toesighouerondersteuning, loopbaangeleenthede en integrering van die werk/lewe verband.

Organisasieverbondenheid word gedefiniëer as 'n denkwyse, wat die individue aan die organisasie bind. Verskillende uitgangspunte tot organisasieverbondenheid word bespreek deur middel van die model wat ontwikkel is deur Meyer en Allen (1991). Die gevolge van organisasieverbondenheid bevoordeel die organisasie deur verhoogde prestasie, verlaagde arbeidsomset, verhoogde bywoning, lojaliteit, groter kreatiwiteit, groter samewerking (veral oor verskillende werksdissiplines), meer vrywillige deelname en tyd word aan produktiewe werk bestee tot voordeel van die organisasie.

Die studie konsentreer op 'n Suid-Afrikaanse telekommunikasiemaatskappy, in Gauteng. 'n Vraelys is ontwikkel en 'n populasie van 94 telekommunikasie professionele werknemers, tegnici en geassosiëerde professionele werknemers is geselekteer om die invloed van die geïdentifiseerde retensiefaktore op organisasieverbondenheid te ondersoek. 'n Statistiese analise van die data en die gebruik van 'n regressie analise wat die betekenisvolheid en sterkte van die verhouding tussen die geïdentifiseerde retensiefaktore en organisasieverbondenheid meet, is gebruik. Die gevolgtrekking was dat besoldiging, werkseienskappe, toesighouerondersteuning en werk/lewe verband betekenisvol bydra tot organisasieverbondenheid. Daarenteen is opleiding-, ontwikkelings- en loopbaan geleenthede nie betekenisvol nie.

Hoë tegnologie organisasies is nie net geïnteresteerd in die retensie van werknemers nie, maar ook in die skepping van 'n gemeenskaplike, voordelige interafhanklike verhouding met hulle werknemers. Die geïdentifiseerde retensiefaktore het ten doel om die organisasie se ondersteuning en verbondenheid aan hulle werknemers te demonstreer. Sodoende word 'n wedersydse verbondenheid met werknemers geskep. Werknemers se organisasieverbondenheid hou verband met hulle vertroue dat die geïdentifiseerde retensiefaktore gebaseer is op die werkgewer se gretigheid om goeie werknemers te behou deur die regverdige hantering van hul personeel. Toekomstige navorsingsmoontlikhede word ook bespreek.

CHAPTER 1 – INTRODUCTION

1.1   BACKGROUND

Modern living is characterised by the technology revolution. Technology has changed the way people work, from doing jobs manually with low outputs to working faster and achieving greater output.

Digital technology plays a major role. The designers use digital technology to simplify the use of computers. These designers are called high technology employees. They are responsible for creating unique solutions for their organisations' customers.

Companies try to keep these valuable employees with their cutting edge knowledge and skills, but the demand for high technology employees with skills has increased substantially, e.g. for ten positions only eight candidates with the required skills qualify (McNee et al., 1998; Murphy, 2000). To add to this, competitors use aggressive recruitment tactics to try and woo away these valuable employees. The opposition uses an abundance of rewards to attract the best and brightest in the high technology industry. Because of this shortage, it has become critical to retain a high technology organisation's most valuable technical employees.

1.2   PROBLEM AREA

The lack of competent employees has forced companies to be creative in devising ways of keeping their valuable employees. Companies, thinking that better and bigger salaries would keep their employees, paid premium compensation. Since the mid 1990's, contrary to expectations, this practice has created high turnover rates and job hopping by the high technology workers.

Turnover among high technology employees can result in interruptions in normal operations, increased replacement and recruitment costs, loss of efficiency, incomplete projects, customer dissatisfaction, scheduling difficulties and the depletion of the company's intellectual capital. The most critical problem occurs when a valuable and competent high technology

employee leaves to join a competitor, or worse still, leaves to start his or her own firm which will compete with the former employer for commercial business contracts.

As businesses face increasing competitive challenges, a strategy that will develop committed and loyal employees holds the promise of exceptional financial returns (Chambers, 1998; Huselid, 1995). A people-centred strategy is an important source of competitive advantage because, unlike technology, cost or new product development, people are difficult to imitate.

Loyal, engaged employees tend to generate high performance business outcomes as measured by increased sales, improved productivity, profitability and enhanced employee retention (Rogers, 2001; Tsui et al., 1995). These employees commit themselves to the organisation's vision and mission. Commitment to the organisation has evolved as a key indicator of an employee's attitude to the organisation. The concept of organisational commitment has been identified in employee behaviour and has been studied extensively.

1.3   PURPOSE OF THE STUDY

The purpose of this study is to investigate specific retention factors that induce organisational commitment and can thus increase the retention of high technology employees.

1.3.1. Conceptual model of the study
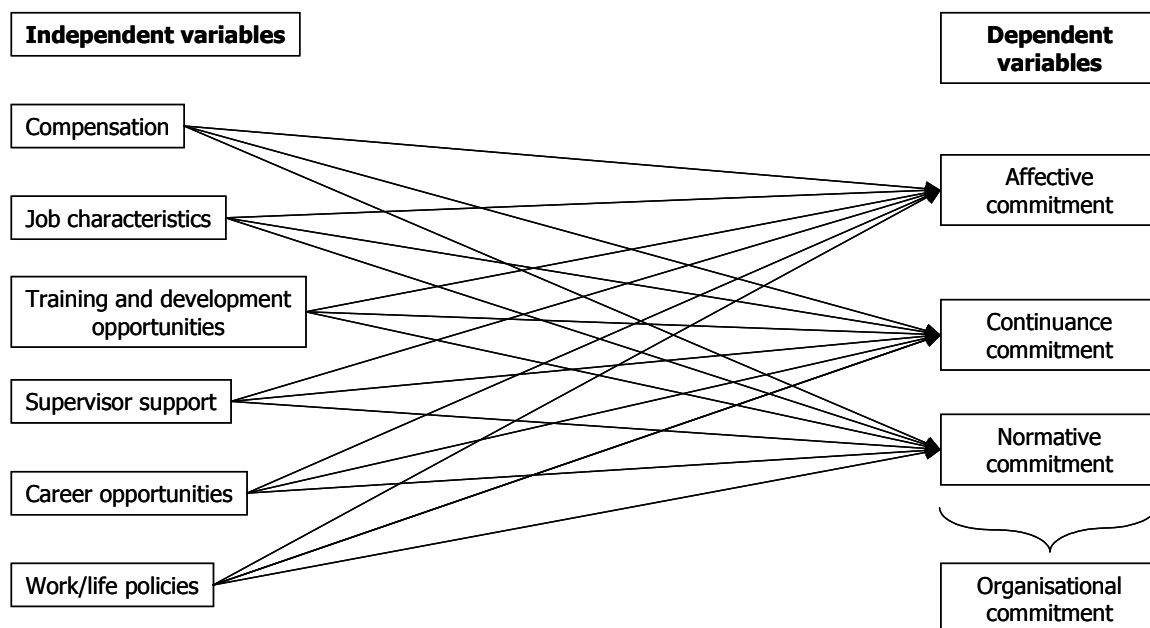
Figure 1-1 Conceptual model of the study

1.4 OVERVIEW OF THE STUDY

1.4.1. Literature study

The changing world of work and the rise of high technology employees and their importance will be discussed in chapter 2. Global and South African employment trends and the high technology industry will also be discussed in chapter 2.

In chapter 3 the various retention factors, as identified in the content analysis of high technology literature, will be discussed.

Chapter 4 will address organisational commitment in terms of its meaning, conceptualisation, employee's development and the relevance of organisational commitment. A graphic summary will illustrate all the relevant concepts.

1.4.2. Empirical Study

In Chapter 5 the qualitative research methods address the process of the content analysis used in the study. The quantitative research methods

address the population size, the questionnaire as measurement instrument and the statistical methods used in the study.

The statistical analysis, results, conclusions and recommendations will be discussed in chapter 6.

1.5   SUMMARY

In this chapter the rise of digital technology was emphasised. High technology employers struggle to retain their valuable technical employees due to a general shortage of experienced candidates and the aggressive recruitment tactics of others in the high technology arena. Organisational commitment was introduced as a key indicator of an employee's attitude toward the organisation. The purpose of the study was stated and a conceptual model was presented. The content of the study was discussed in the overview.

CHAPTER 2 – CHANGING WORLD OF WORK

"…in an information age economy, the fundamental sources of wealth are knowledge and communication rather than natural resources and physical labour"

(Stewart, 1997)

2.1 INTRODUCTION

The world's economy is going through a massive change. There is a shift from manufacturing to services, globalisation of industries and worldwide dissemination of advanced computer and information technologies. Burack and colleagues (1994) propose that the change is motivating managers to fit their organisation's structure, culture and management processes to the demands of the external environment. Internally the change is viewed as motivating the implementation of participative management and employee involvement processes, which lead to high employee commitment to the organisation and higher performance. Through these processes, management and employees are said to enter a new psychological construct that extend far beyond the traditional exchange of labour theory.

2.1.1. Changes in the world of work

The world of work is currently undergoing a complete transformation. Organisations are reshaping themselves into total new forms. Information technology is underpinning this transformation by providing the backbone for new organisational structures and new ways of working.

Futurist, Alvin Toffler (1980), proposed three waves in the development of mankind. The first wave was a move from pastoral to sedentary agricultural; the second a move from agricultural to industrial society; the third wave from the industrial society to the information society. High technology, robotics, fibre optics, telecommunications, super conductors, biotechnology and electronics form the information society. The shift will bring the development of new values, new relationships, new ways of living life, new sources of identity and esteem, new meaning of work and career structures.

Toffler argues that great social upheavals and insecurity always accompany the transition from one wave to the next. All the signs are present in our global society that we are in such an in between stage. The accepted values and ways of living no longer seem appropriate and the massive institutions of industrialism are grinding down slowly (Guevara & Ord, 1996). Changes in the world of work are posing major challenges to workers, institutions and society.

2.1.2. Individual changes

In the 1980's the prevailing values were concerned with wealth creation at any cost (Pym, 1986). The 1990's have seen a re-emergence of values connected with quality of life, community and spirituality.

Increase in wealth and leisure is associated with a decline in the importance of work as an intrinsic value, as well as in the value placed on material security. Instead, more importance will be placed on the quality of life, enjoyment of work and work that is meaningful (Guevara & Ord, 1996).

An increasing number of employees are learning to adjust to workplaces with no lifetime employment guarantee. The erosion of the implied good faith contract between employer and employee is called "the most significant single issue in workforce management and development" (McMorrow, 1999:7).

Workers, who are both entrepreneurial and want to invest their personal human capital, represent the future competitiveness and profitability of a firm. These workers are most likely to understand their worth to the employer. They recognise the asset they represent. (Evans et al., 2000).

2.1.3. Work changes

In addition the changing nature of business and the end of the so-called "psychological relationship" between employer and employee has created a vacuum in the lives of many people (McMorrow, 1999:10).

New social and economic organisations aim at a decentralised management, individualised work and customised markets. Information technology facilitates the decentralisation of work tasks and their co-ordination in an interactive network of communication real time.

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Technology will challenge the presence and belonging, which is crucial to an individual's search for meaning in the realm of work. What emerges is a "virtual corporation" existing in "virtual time" known as cyberspace. The move to "virtual corporations" will require new approaches to managing people. For example, a focus on commitment rather than control is likely as modern business processes require individuals to be responsible for their own decisions (Guevara & Ord, 1996).

The distinguishing feature of work in the information age, is the "transportable" general knowledge, which is not specific to a single job or firm. The best jobs are those that require a high level of education and provide opportunities to accumulate more knowledge. The best firms are those who create the best environment for teaching, learning and exchanging information. It is knowledge and information that create the capacity of workers to learn new processes allowing them to shift jobs several times in the course of work life, to move geographically and, if necessary, learn entirely new vocations (Carnoy, 1998).

The emergence of lean production methods goes hand in hand with widespread business practices of subcontracting, outsourcing, offshoring, consulting and, accordingly, downsizing and customising. Part-time jobs, temporary work, flexible working time and self-employment are on the rise in all countries. This trend points towards a transformation of the work arrangement (Harrison, 1994). Table 2-1 summarised the trends driving changes in organisational work (Guevara & Ord, 1996:714).

Table 2-1 Trends driving changes in organisational work

Environment	Trend
Economic	Permanent unemployment
	Permanent under employment
	Decline of middle class into poverty
Business	Shift from product to services
	Shift from human-based services to automated machine services
	Focus on core business
	Cost reduction
	Customer focus
Demographic	Female dominated work force
	Ageing workforce
	Decline in youth population
Organisation	Globalisation
	Minimalist organisation
	End of permanent employment
	Demise of traditional organisation
	End of traditional management
Social	Increased affluence
	Post-materialistic values
	Emerging leisure society
Technology	Invisible collaboration

	Virtual companies/teams
	Global interaction/communications
	Personal corporate infrastructure
	Mobility and opaque work domain

2.1.4. Societal changes

Not only has the nature of work been affected by the changing work environment, increased global competition, and technological revolutions, but also the characteristics of the workforce. Societal forces in turn have resulted in the "changing complexion of the workforce", the "feminisation of the workforce'" and the "greying of the workforce". The collision of these structural and demographic forces has resulted in major upheaval in society and in the world of work (Sue et al., 1998).

2.1.5. South African brain drain

Low birth rates and the technology explosion have contributed to a situation in developed countries where there is a shortage of skilled people. However the area of greatest demand is in the information technology and computer-networking field. All these pressures have pushed up salaries and the value of other benefits, to extraordinary heights, and made it very difficult to retain skilled employees. In this climate of extraordinary demand, South Africa is proving to be a poachers' paradise. Overseas companies are luring away this country's best brain power with hard to beat offers (Oberholzer, 2001:35)

Many South Africans are planning to emigrate from their country for other reasons. In a survey done by the Institute for Democracy in South Africa, 13 % of South African professionals surveyed said they are very likely to leave South Africa in the next five years. The principal motivation is no longer economic – instead the people surveyed cited the concern for their personal safety because of rising crime (Jovanovic, 2002). These departures are harming all industries.

Key findings on the South Africa brain drain done by Kaplan and associates (2000) are:

- A significant brain drain is underway. A total of 24 196 professionals emigrated from South Africa in the period 1994–1997.

- The brain drain is increasing. Post-1994, the annual emigration of professionals was 56% higher than during the 1989–1994 period.

- It is estimated that between 13% and 20% of South Africans with tertiary education now reside abroad.

- The major cost to the country is the lost production and the export of human capital in the form of education, training and experience. A recent study estimates that emigration of graduates is currently lowering GDP by 0,37% per annum and that R 67.8 billion of investment in human capital left South Africa in 1997.

- Another further cost to the country is in terms of the increased compensation for skilled and professional labour as a result of a decrease in supply caused by increased emigration. This is particularly true for internationally mobile occupations, e.g. information technology, where high rates of emigration are a significant factor in keeping the labour markets tight and wages high. Emigration has become a significant factor in the high turnover of skilled, professional and managerial occupations. According to a recent study, emigration now accounts for 15% of turnover, as opposed to traditionally less than 5%. With the cost of replacing an executive or other skilled employees at some 30–35% of annual employment costs, staff turnover consequent upon emigration is calculated to cost the economy a further R 2.5 billion per annum.

2.1.6. Organisational commitment and the changing world of work

According to Baugh and Roberts (1994) it is apparent that the nature of the workforce is changing. Trends include increasing levels of education, increasing professionalism, and decreasing organisational loyalty among the workforce. These trends may not be independent – that is, increasing levels

of education and professionalism may contribute to generally reduced commitment and loyalty to employers.

2.1.7. Future of work

Changes in the workforce, (and particularly technology) mean that workers of the future may have more choice, flexibility and benefits than those of today. However they will not enjoy job security, stability or face-to-face contact with peers. More than ever, they will, be responsible for their own futures and have to develop, update and market their own skills' portfolio. The educated and ambitious are likely to thrive in this environment. The less able and less educated could easily fall in to an employment "underclass" (Furnham, 2000:253).

The implications of the transformation of the environment are far reaching, particularly as the entire concept of work changes. The boundaries which have traditionally existed between organisations, individuals, family, life and community will disappear as work increasingly becomes situation dependent and centred in the home. The current understanding of the meaning of work will become increasingly obsolete and therefore will force individuals to search for new meaning of work in their lives (Guevara & Ord, 1996:709).

2.2 HIGH TECHNOLOGY INDUSTRIES

High technology industries experience growth and rates of changes that exceeds those of other industries (Eisenhardt, 1989). These changes, driven by increasingly sophisticated customer preferences, increase the need to shorten product life cycles when the environment is turbulent, uncertain and risky (Kessler & Chakrabarti, 1996).

High technology firms are noted for their high level of intellectual work (von Glinow & Mohrman, 1990). High technology employees are highly educated - many with advanced degrees in science, engineering or computers. High technology firms have a large proportion of their assets tied up in human assets. Along with high intellect are high ego needs for professional satisfaction and fulfilment (Gomez & Welbourne. 1991). These needs may

conflict with organisational needs, or cut across traditional incentive and reward structures (von Glinow & Mohrman, 1990).

The work of high technology employees is governed primarily by their own expertise rather than by routine or systems. Three characteristics stand out from describing high technology workers (Mohrman & von Glinow, 1990; Turbin & Rosse, 1990):

- a high level of education

- strong preference for independence

- a professional orientation rather than an organisational focus.

The high technology worker identifies with a high technology culture apart from the organisation where he/she works (Rogers, 2001:41). This focus leads to a loyalty clash (von Glinow & Mohrman, 1990). The high technology worker wants to work on projects that enhance his own career, knowledge assets and future earning power, while the organisation generally wants current knowledge applied to developing value-added products. This clash is a common source of problems for firms wanting/needing to retain high technology workers.

Given the relatively high market power the high technology workers enjoy in the external labour market, organisations have limited control over the choices a worker makes regarding career versus business interest (Rogers, 2001).

Three key changes have made these high technology employees a corporate asset that needs to be retained:

- Technical advances are going to the market more quickly, and a company that misses the window of opportunity loses the price and profit premium available to market leaders. In many companies, technology has surpassed even sales as the critical employee segment (Kochanski & Ledford, 2001).

- Supply of high technology employees has not kept up with the demand, and is likely to get worse as employees above fifty years old begin to retire (Cataldo et al., 2000).

- The Internet has made career mobility and pay information so easy to access that even the most passive job hunters can hardly avoid learning about more lucrative positions (Kochanski & Ledford, 2001).

Following from the above, for the purpose of this study, the high technology industry refers to the electronics, computer, research and development, software, communication, and telecommunications industry. This study focused on a 100% South African owned telecommunications company based in the Gauteng province. The expertise of the company covers all the components of a network, from the backbone, through management systems, up to value added services. The group of employees in this study does not include executives, administrative staff and other job families that may exist in the high technology environment.

2.3   SUMMARY

The revolutionary change in the world of work, and the impact on the individual, work and society was discussed in this chapter. The trends driving this change were presented and the South African brain drain was discussed. Organisational commitment seems to have weakened because of these trends. The future of work suggests flexibility, boundary less communities and change in work, as we know it today. The characteristics and definition of high technology industries was discussed.

As the world of work changes from a worker intensive industrial society towards an automated information society, the retention of technological advantages, e.g. human, intellect and knowledge capital is no longer assured. Chapter 3 will discuss these human capital's retention factors.

CHAPTER 3 – RETENTION FACTORS

3.1   INTRODUCTION

The idea that employers should retain and develop their human resources in order to obtain competitive advantage is one of the core beliefs of human resources literature (DeYoung, 2000; Storey, 1992). Walton (1985) urged employers to change their employment practices from employee control to one of employee commitment. The goal of control is to reduce direct labour costs, or improve efficiency, by enforcing employee compliance with specific rules and procedures, and base employee rewards on some measurable output criteria (Eisenhardt, 1985; Walton, 1985). By contrast, commitment strategies shape desired employee behaviours and attitudes by forging psychological links between the organisation and employee goals. Thus, the focus is on developing committed employees who can be trusted to use their discretion to carry out job tasks in ways that are consistent with organisational goals.

Employee retention, productivity, quality and corporate financial success are characterised as high performance, high commitment strategies. The assumption is that integrated sets of management strategies focusing on commitment (as opposed to control) produce high levels of employee affective commitment and subsequent organisational performance (Tsui et al., 1995).

Such strategies will empower the employees to take greater responsibility and participate in decision making. This view relates to what Storey (1989) has characterised as the 'soft' version of human resources management in which the overall management philosophy is to carefully nurture and invest in human resources in order to evoke commitment. Here employers seek to treat employees as valued assets who can be a source of competitive advantage through their commitment, trust, adaptability and high quality skills and knowledge (Storey, 1992). This empowerment should increase the competitiveness of the business.

Arthur (1994:672) concluded that by using commitment strategies, organisations had significantly higher performance and lower turnover, compared to those using control strategies. The retention of technical staff has been perceived to be of strategic importance to high technology employers because of the potential return on them in the long term (Turbin & Rosse, 1990). Managing turnover is an increasing challenge, especially for companies employing high technology professionals. Some of the world's fastest growing technological companies' CEOs reported that the most significant challenge facing them was retaining qualified employees. The American Management Association (2001) currently sees retention as one of the top five business issues. Reasons for this development include:

- The growing gap between supply and demand for skilled labour (Despres & Hilltrop, 1996).

- Small companies offer a wealth of opportunities, that very few large companies cannot match. Yet, these work opportunities in small and medium-sized enterprises provide a high level of autonomy and opportunities for high impact jobs (Hall & Moss, 1998).

- Job mobility is increasing (Despres & Hilltrop, 1996).

- A shift from the traditional organisational career to a more "protean career" (Hall & Moss, 1998). The individual is managing their own career, and not the organisation.

3.2   IDENTIFYING RETENTION FACTORS

Surveys, studies and articles from 1995 to 2002, were used to identify the critical factors in high technology employees' retention. This period was specifically chosen because the demand for high technology employees skyrocketed, turnover increased, job hopping became the norm and the shortage of qualified candidates existed. Already in 1998, McNee and colleagues identified these phenomena. Table 3-1 presents the top retention factors identified in the literature on high technology employee retention.

Table 3-1 Top retention factors identified in high technology literature

Retention factor	Frequency of factors in high technology literature	Rank order of frequency
59. Training and development opportunities	32	1
41. Supervisor behaviour/support or feedback	25	2
48. Career opportunities	23	3
27. Skill variety	20	4
56. Quality of life or work/life policies	19	5
29. Job autonomy	17	6
24. Job challenge	15	7
12. Base salary	14	8
Total	**339**	**Range 1 to 19**

For the purpose of this study the following retention factors were chosen:

- Compensation (base salary)

- Job characteristics (skill variety and job autonomy. Job challenge is not a component of Hackman and Oldham's (1980) job characteristics model)

- Training and development opportunities

- Supervisor support

- Career opportunities

- Work/life policies.

Appendix B contains the complete content analysis conducted on high technology literature.

3.3 COMPENSATION

3.3.1. Financial rewards

Reward systems are frequently used by companies to try to retain staff (Farris, 2000). Financial rewards are extrinsic monetary rewards that organisations pay to their staff for services delivered by them. These financial rewards include: base salary, cash recognition, incentives, flexible pay, stock options/initial price offerings (IPOs) and hot skills premiums.

Money is still the primary incentive used to lure information technology professionals. However, most experts agree that money is not the long-term answer for hiring, and especially for keeping, skilled high technology employees (Leinfuss, 1998).

According to Higginbotham (1997) high salaries are not essential, but "good" and "fair" salaries showed a strong correlation with intention to stay, indicating that as long as the compensation is competitive, financial rewards are not the primary factor in retention. Kochanski and Ledford (2001) support this statement, which indicated that the actual level of pay is less important than feelings about pay raises and the process used to administer them. Employees want to understand how the pay system works, and want to know how they can earn pay increases. Once the pay level has been reached other things become important, the intangibles, e.g. career, supervisor support, work and family balance etc. (Tomlinson, 2002).

Stock options and profit sharing are not universally available in the high technology industry. However, when they are offered, high technology employees are very receptive to stock options, and are likely to base retention decisions on such options, particularly in organisations with high growth potential (Higginbotham, 1997; Kochanski & Ledford, 2001).

Balkin and Gomez-Mejia (1984) studied 33 high technology and 72 non-high technology companies and reported that profit sharing was more popular in high technology firms than in non-high technology firms. It appears that salary alone provides insufficient motivation for many high technology employees, but monetary compensation in the form of bonuses

and profit sharing provides a measure of performance feedback that is often more effective with high technology professionals, e.g. engineers.

According to Farris (2000) one time recognition awards are not effective in preventing turnover, rather small non-cash rewards and good old fashioned permanent salary increases were the most effective in reducing the likelihood of turnover.

3.3.2. Benefit packages

Elaborate benefit packages are becoming increasingly common in high technology firms, making them more of a compensation issue and less of an incentive to stay with the current organisation. These are the indirect financial rewards employees receive for their labour. They consist of time off, perquisites, benefit processes and benefit levels.

High technology employees do not work normal office hours, but work at a pace that invites burnout. Time off, according to Kochanski and Ledford (2001), is more important than any other indirect benefit in predicting retention. High technology employees seem to care less about how benefits are administered than about the value of benefits.

As mentioned above, a competitive financial package is a requirement for high technology employees. In addition, DeYoung (2000) supported that the latest retention benefits are of an environmental and personal nature, for instance, luxury automobiles for anyone who has surpassed their goals, pets in the office because high technology workers spend a lot of time away from home, playrooms and quiet rooms to improve team work and reduce stress and on-site gyms for employee to work out their stress.

3.3.3. Organisational commitment and compensation

Modern society values acquisition. Compensation offers an opportunity for security, autonomy, recognition and an improved self worth (Hoyt & Gerdloff, 1999). These increased feelings of self worth and importance should lead to affective commitment. Mathieu and Zajac (1990:179) indicated a low positive correlation between salary and commitment ($r_t=0.182$). Igbaria and Greenhaus (1992) found salary to be positively related to organisational commitment and negatively related to turnover.

Salary generally represents the "side bet theory" (Becker, 1960). According to this theory, employees make certain investments or side bets, e.g. shorter organisational tenure versus larger pension, in their organisations. Such an investment is a sunken cost, which reduces the attractiveness of alternative employment opportunities, and thereby increases continuance commitment (Sethi et al., 1996). Perceptions of fairness in compensation have been shown to be positively linked to affective organisational commitment (Schaubroeck et al., 1994).

3.4 JOB CHARACTERISTICS

High technology employees want to do interesting work that challenges them and uses their skills and talents. Repetitive, narrow work experience with little individual discretion repels high technology employees (Kochanski & Ledford, 2001).

Research has shown that the design of high technology professionals' work content influences the stability of the technical work force (Amabile et al., 1996). Furthermore when high technology professionals view their tasks as challenging with opportunities for learning and information exchange they are also less likely to leave. According to Amabile and colleagues (1996) and Glynn (1996), high technology professionals, e.g. engineers, appeared to be more involved, more satisfied with their jobs, and more committed to the organisation than non-technical employees did.

Job characteristics, such as variety and autonomy, are well-established determinants of organisational commitment (Mottaz, 1988), and are known to be particularly important to management information systems employees (Cougar & Zawaski, 1980).

3.4.1. Job autonomy

Job autonomy relates to increased feelings of personal responsibility. It is defined as "the degree to which the job provides substantial freedom, independence and discretion to the individual to schedule work and determine the procedures used in carrying it out" (Hackman & Oldham, 1980).

High technology professionals have a reasonable degree of autonomy in their application of that knowledge. Although high technology professionals rarely decide on the organisational policy to which their expertise contributes, there is a reasonable degree of autonomy in the process of performing their work (Bailyn & Lynch, 1983). When job autonomy is high, workers will view their work outcomes in terms of their own efforts, initiatives and decisions, rather than instruction of the supervisor or procedure (Marx, 1996:41).

Loyal, high technology employees enjoy the autonomy they receive in their current jobs according to Dubie (2000). This relates to the elusive factor that high technology employees are looking for, i.e. empowerment. Agarwal and Ferratt (1999) established that successful information technology organisations are devoting resources toward empowering information technology professionals to take responsibility for their work and decision-making.

3.4.1.1. Organisational commitment and job autonomy

The degree of freedom and independence enjoyed by employees and their participation in planning and organising their work has an influence on organisational commitment (Bailyn & Lynch, 1983). According to Marsh and Mannari (1977) the higher level of autonomy that the individual possesses, correlates negatively with turnover.

3.4.2. Skill variety

Skill variety is defined as "the degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the person" (Hackman & Oldham, 1980).

Technology employees will leave the organisation if their skills are under-utilised. McEachern (2001) reported that high technology employees had skills and training, but are not fully utilised, e.g. a software architect who ends up in a supportive role. High technology companies are addressing the personal needs of their employees to enhance retention. Some firms keep high technology professionals satisfied by giving them a chance to be creative, master different skills and pursue projects that interest them (Merrick, 1998).

When a task requires an employee to stretch his/her skills and abilities, the task is almost invariably experienced as meaningful by the individual. When a job draws on several skills of an employee, they may find the job to have highly personal meaning even if it is, not of great significance or importance (Marx, 1996:40).

3.4.2.1. Organisational commitment and skill variety

Mathieu and Zajac (1990:179) found a medium positive correlation (r_t=0.207) between skill variety and organisational commitment. One way that individuals may develop a sense of competency is by working in a job with high skill variety (Hackman & Oldham, 1975, 1976). Skill variety relates to feelings of belonging and sense of attachment to the organisation (Meyer & Allen, 1991). Skill variety is thus more related to attitudinal commitment than continuance commitment because of the increased feelings of belonging.

3.5 TRAINING AND DEVELOPMENT OPPORTUNITIES

Current skills sets are proving to be inadequate to meet the rapidly changing, fast paced world of technical and business needs. A top priority is keeping skills fresh, and staying current with emerging technologies (Gable, 1999:60).

Since 1999, employees with key information technology skills have become increasingly hard to find. Many companies have realised that proactive strategies are required for building and maintaining a high technology company's knowledge reservoir (Cataldo et al., 2000). Strategies that focus on continuous learning, retraining and retaining knowledge can decrease the time it takes to move the workforce from intermediate to expert competence, by bridging its technical skills gap. Organisations have significantly boosted investments in internal information technology training, at least partly, in an effort to attract and retain information technology talent (Lundquist, 2001; Seminerio, 2001).

3.5.1. Organisational commitment and training

According to Raghunathan and associates (1998) the difficulty of the retention of qualified information technology personnel cannot be understated, and a particular problem in the retention of information

systems personnel is attributed to their "higher growth needs" (Cougar & Zawacki, 1980).

Training is essential for the livelihood of any information technology worker, and is the only way employment can be maintained over their careers. Tomlinson (2002) suggests it is critical that organisations keep the leading edge by having their employees well trained in the latest technologies. Employees stay at companies that promote career opportunities through learning, and the ability to apply their newly learned skills (Cataldo et al., 2000; Jiang & Klein, 2000).

The primary mechanism by which training is predicted to increase organisational commitment is through increased self worth and importance. Tsui and colleagues (1995) and Agarwal and Ferratt (1999) argued that job rotation programmes, mentoring and training convey to employees that the organisation considers human resources to be a competitive advantage and that it is seeking to establish a long-term relationship with them.

Employee training is intended to provide an opportunity for advancement and might be perceived as "the organisation values them and bolster their sense of self worth, therefore building a stronger affective commitment" (Meyer and Allen, 1997:69). Training, if put to use on the job, should increase affective organisational commitment through its link to increased job scope. This response can be a function of closer psychological attachment to the organisation and its goals (McElroy, 2001). Paré and colleagues (2001:24) found training to be positively related to affective commitment (r=0.384).

Chang (1999) stated that company-provided training might affect the psychological states of employees. When employees believe that the company is doing a good job of providing proper training, they feel that the company is concerned with improving an employee's skill and ability, making them attached to their company. If training is perceived as providing organisation-specific skills that contribute to status or economic advantage within the company, but will not transfer to jobs outside the organisation, a stronger continuance commitment will develop. Extensive training should have little effect on continuance commitment, unless the

training involves organisation-specific skills. Paré and colleagues (2001:24) found training to be negatively related to continuance commitment (r=-.02).

Employees who are aware of the expense of training, or appreciate the skills they have acquired, might develop a sense of obligation (normative commitment). This will hold them in the organisation at least long enough to "reciprocate". The employees might develop a moral obligation to give the organisation its money's worth (normative commitment), particularly if the company funds the training (McElroy, 2001).

3.6 SUPERVISOR SUPPORT

Researchers have clearly recognised the role of supervisory support in employee empowerment (Amabile, 1993; Spreitzer, 1995).

Conger and Kanungo (1988), cited in Ramus and Steger (2000), define empowerment as "the motivational concept of employees' feelings (self-efficacy) that they can influence their work." Spreitzer (1995:1444) differentiated psychological empowerment from situational empowerment and defines the former as "an active orientation of the individual that reflects the individual's belief that he/she shapes his/her work role and context". Bowen and Lawler (1992) and Spreitzer (1995) described two consequences of psychological empowerment as "effectiveness" and "innovative behaviour." Thus, work environments that support employees' sense of empowerment are directly linked to innovations.

For the purpose of this study, supervisor support refers to supervisory behaviours that sustain high technology employee's innovation. Most valuable high technology employees are staff with critical innovation skills, the people with knowledge of core products or services.

3.6.1. Recognition from supervisors

In a participative work environment, acknowledgement, creation and liberation of employees are valued (Everd & Selman, 1989), and emphasise individual contribution and initiative (Lawler, 1992a). Such work environments recognise the critical human capital as necessary for the success of an organisation, and the importance of employees' creativity and

initiative for organisational responsiveness in a competitive external environment (Bowen & Lawler, 1992). These work environments thus facilitate cognitions of empowerment.

Lack of personal recognition translates to the employee as a lack of success. Regardless of the organisational level, employees want to feel good about themselves and their work, have a sense of purpose, and to be recognised when they do their jobs well. Most information technology professionals' motivation comes from the recognition they get from managers for a job well done and the feeling that they are an important part of the organisation (Agarwal & Ferratt, 1999).

3.6.2. Feedback from supervisors

In order for individuals to feel empowered they must understand the goals of their work unit and how their own work can contribute to those goals (Spreitzer, 1996). Social cognition theory suggests that access to information facilitates self-efficacy (Gist & Mitchell, 1992). Access also facilitates "sense-making" which is especially important during times of high uncertainty (Weick, 1979).

Most of the high technology employee's work is tacit and often ambiguous and difficult to measure. Kochanski and Ledford (2001) argued that high technology employees value the feedback from their co-workers and supervisors. Providing sufficient performance feedback to employees (Greenhaus, 1987) helps bolster positive attitudes toward the organisation, and helps prevent early intentions to leave the organisation.

According to Eisenberger and associates (1990) affective commitment may be enhanced under conditions of high feedback. As individuals are provided with praise and feedback, stronger feelings of loyalty to the organisation may develop.

3.6.3. Organisational commitment and supervisor support

Eby and colleagues (1999) indicated a work environment is characterised by participation in important work related decisions, supervisory feedback and support and rewards, that are perceived as fair and equitable (Bandura, 1986). This provides individuals with the chance to make a

difference on the job, try out new skills, exercise discretion and receive feedback on their performance. These work conditions are expected to increase individuals' intrinsic motivation by providing affirmation that their efforts are worthwhile and valued (Thomas & Velthouse, 1990). The proposed outcome of this mastery-based motivation is affective commitment to the organisation and general job satisfaction. In turn, these affective work reactions are expected to impact outcomes such as turnover and absenteeism.

Paré and colleagues (2001:24) indicated that recognition from the supervisor was found to be related to affective commitment (r=0.424) but not to continuance commitment (r=0.030). The reason for this might be that high technology employees explore new solutions and get feedback and recognition from supervisors, which increases their feelings of self worth, and not their obligation to stay at the company.

3.7   CAREER OPPORTUNITIES

Labour market trends in the information technology field have continued to present increased career opportunities for high technology employees and hiring and retention challenges for the organisations that employ these workers. Kochanski and Ledford (2001) survey showed that career opportunities yielded more significant predictors of retention than any other type of reward, followed by training opportunities and an employee's relationship with his or her supervisor.

As a general trend, companies have become less paternalistic and encourage more self-reliance from employees (Schein, 1978). In addition, careers are being reconceptualised away from position oriented job histories and toward a set of experiences and skills accumulated through changing roles and non-traditional paths (Applegate & Elam, 1992; Zabusky & Barley, 1996). According to Bird (1994) this shift is paving the way for broadly based organisational learning and "boundary less careers," where individuals move within and between organisations. This trend, and the flattening of the organisation, is requiring that more high technology employees, view their career as opportunities for experiences in many different areas, rather than a progression up the traditional hierarchy (Reich, 1999). Cash and associates

(1998) suggest that to retain information technology professionals, organisations must provide both technical and business orientated career opportunities.

Zabusky and Barley (1996:201) studied technicians' views of career success and reported that "love of work, and search for challenge" were the basis of what constituted a "honourable career". Their work suggests that high technology employees will seek to stay within the technology community because their "sense of identity and self" is attached to a technical career. Individuals are realising their career in terms of lateral moves and opportunities for new knowledge – careers of achievement rather than careers of advancement. In addition to the passive acquisition of knowledge through work, this implies conscious planning on the part of individuals in preparation for future moves.

The concept of career as a link between the individual and – through their work - the organisation within which work is performed has been viewed from both an external and an internal perspective (Igbaria et al., 1995). Prior research has focused on the external career of employees, i.e. on the sequence of jobs and positions (Greenhaus & Callanan, 1994). Career paths are examples of external careers. Internal careers of high technology employees focus on career aspirations, values, perceptions and effective reactions to job experiences which can have important implications for their satisfaction, commitment and retention within the organisation (Igbaria & Greenhaus, 1991).

3.7.1. External career

Career-minded high technology professionals such as engineers, encounter two basic options as their careers mature. They can pursue a career in management or, they can become more technically specialised (Bailyn, 1991). Firms do experiment with so-called "dual ladders" which try to give high technology professionals rewards and recognition for their professional contribution, but they are not easy options to make work and are often seen as offering second-class positions (Gunz, 1980; Katz & Allen, 1997). Igbaria and colleagues (1999) suggest that the dual ladder concept does not adequately describe the career needs of individuals and work needs of

organisations. Further, these ladders have been criticised because they do not offer professionals the real power over resources and contractual relationships that independent professionals exercise (Goldner & Ritti, 1967).

Petroni (2000a) proposed five career paths or routes for high technology professionals:

> - Managerial Route: this route considers advancement in the managerial track to a higher level within or outside the technology department.
>
> - Horizontal technical career route: this route mainly concerns a switch towards novel and different technical specialities (not necessarily correlated with the original area of competence), irrespective of promotion.
>
> - Cross-functional route: this route involves a switch to gather less technically orientated roles, irrespective of promotion.
>
> - Vertical technical career route: this route indicates an evolution towards higher levels of specialisation within the original area of competence, irrespective of promotion.
>
> - Project responsibility career route: this route is preferred by those dynamic individual who are looking for challenges and excitement within the execution of engineering projects, irrespective of promotions.

The managerial route moves an employee away from technical work, and is described as "successful" (Petroni, 2000b). It is generally the most attractive because it carries the highest compensation, prestige and provides the high technology professional the possibility of having real influence over technical work. The technical career route is characterised by the employee accumulating more skills, while still remaining involved in technical work. Allen and Katz (1986, 1992) argued that an increasing number of high technology professionals neither desire nor expect promotion up a managerial or technical ladder, but would prefer the opportunity to engage in challenging and exciting activities and projects irrespective of promotion, in other words they prefer the project

responsibility career route. Employees in this category are the mostly subjected to salary compression and tend to be pushed into narrow technical specialisation with resulting dangers of technical obsolescence and stagnation (Jewkes et al., 1979).

3.7.2.   Internal career

An organisation might be able to improve the retention of information technology personnel by matching career opportunities to employees' career orientation or career anchors. Schein (1987) reported that an important element of an employee's career is his/her career orientation or career anchor. That is a person's career aspiration, and in a sense it defines their self-concept in terms of their career. Career orientation provides a focus or direction to channel an employee's efforts and determines what may be done to achieve career goals and aspirations.

Career orientation or anchor, is a concept originally developed from a longitudinal study of 44 alumni of the Sloan School of Management at MIT (Schein, 1987). Career orientation or anchor is defined by Schein (1985:28) as "that set of self-perceptions pertaining to your motives and needs, talents and skills, personal values that you would not give up if you were forced to make a choice."

In an earlier study, Schein (1975) suggests employees may hold different values and pursue different types of careers. While some employees value advancement or freedom above all else, others value primarily the intrinsic excitement of work, and still others place the most significance on security and balance in their lives. These career orientations of employees can have important implications for their job satisfaction, commitment and retention within organisations.

The career orientation is not present at first entry into the workplace, but is developed through occupational experience, from which employees learn what their talents, motives and abilities really are (Igbaria et al., 1999). Schein (1987) has identified eight career anchors that guide employees' career decisions:

1. Technical and functional competence. Employees with strong technical orientations focus primarily on the intrinsic, technical content of the work, and the functional area represented by the work.

2. Managerial competence. Managerial orientated employees, who wish to supervise, influence and lead others, seek promotions to general manager positions as a vehicle to achieve feelings of success.

3. Autonomy/independence. According to Schein, autonomy orientated individuals seek work situations in which they will be maximally free of organisational constraints and restrictions to pursue their professional competence.

4. Security/stability. Security deals with both geographic security (e.g. individuals who link themselves to a particular geographic area – putting down roots in the community, investing in a house and stable life style) and organisation/ job security.

5. Sense of service/dedication. Employees who have a service orientation are dedicated to serve other people and make the world a better place in which to live and work.

6. Pure challenge. This anchor assesses the preference for overcoming impossible obstacles, solving insoluble problems and winning against extremely capable opponents.

7. Lifestyle integration. Individuals with a high-score desire to develop a lifestyle that integrates family and career concerns, with concerns for self-development.

8. Entrepreneurial creativity. These individuals need to create something on their own by developing a new product or service, by building a new business enterprise through financial manipulation or by starting and building a business of their own.

A measure of career orientation enables an organisation to find a match between organisation and individual needs and to restructure jobs accordingly. It also serves as a useful information base for individuals contemplating career changes and for organisations to help plan the

careers of their employees (Aryee, 1992; DeLong, 1982; Igbaria & Greenhaus, 1991). Career orientations provide a focus or direction to channel the employees' efforts and determine what may be done to achieve career goals and aspirations.

The study done by Igbaria and colleagues (1999) suggest that high technology professionals possess a variety of career orientations. Their 1995 study of South African information systems employees revealed them to be also lifestyle and managerially orientated, but they scored low on technical orientation and entrepreneurship (Igbaria et al., 1995).

In a recent study by Ramakrishna and Potosky (2002), a significant shift occurred in the structure of the career orientations of information systems personnel. A decade ago technical competence and managerial competence was the dominant career orientation of information systems employees (Igbaria & Greenhaus, 1991). This has declined from approximately 44% to 8%.

Geographic security and organisational stability increased from 8% to about 60%. Given the strong labour market, metropolitan areas have seen a steady growth of information systems jobs over the decade and information systems professionals can easily find jobs by moving from organisation to organisation within the same geographic area. The career orientation of organisational stability indicates organisations are becoming more flexible and accommodating in defining career options for information systems personnel, in a way that suit the needs of the information systems personnel, and not necessarily only that of the organisation.

Thus, an external career or career ladder focussing on managerial or technical orientation would not provide a complete model to accommodate the internal career needs of information systems personnel.

3.7.3. Organisational commitment and career opportunities

High technology professionals typically resent the way their careers are blocked, and this has a negative impact on their commitment to their employers (Goldner & Ritti, 1967). Igbaria and Greenhaus (1991) found that employees whose career orientations were compatible with their job

settings reported high job satisfaction, high career satisfaction and strong commitment to their organisations and low intention to leave the organisation.

Gaertner and Nollen (1989:987) reported that perceptions of the organisation's adherence to career-orientated practices, including internal promotions, training and development and employment security are positively related to commitment. They concluded, "psychological commitment is higher among employees who believe they are being treated as resources to be developed rather than commodities to buy and sell". Investing in employees sends the message that companies value them.

3.8   WORK/LIFE POLICIES

Work/life policies have been hailed by the popular press as methods for amending the conflict between working and raising families. Friedan (1989) and Leinfuss (1998) recognise work and family policies as positive for employers as a means of attracting and retaining a dedicated workforce. Paré and colleagues (2001:5) define these as, "work/life policies correspond to work conditions provided by organisations to take into account the needs of the information technology workforce and to minimise the consequences of conflict between the work and family issues".

Work/life policies include flexible work scheduling (e.g. part-time work, job-sharing, variable starting and quitting times), family leave policies allowing periods away from work for employees to take care of family matters, and child care assistance (e.g. referral service, on-site or off-site care centres) (Grover & Crooker, 1995).

Agarwal and Ferratt (1999) argued that it is a sensible business practice to accommodate those employees who may not join the workforce for a typical 9-to-5 workday because of other constraints in their personal life. Work life policies correspond to work conditions provided. The organisation should take into account the needs of the information technology workforce and try to minimise the consequences of conflict between the work and family issues (Honeycutt & Rosen, 1997).

McCrory (1999) indicated that the majority of high technology workers value work/life initiatives as very meaningful. Loyal, high technology employees (those who cannot envision changing jobs in the foreseeable future) are more concerned with leave (vacation, holidays etc.), flexible work schedules, family friendliness and a proximity to their home, than job seeking employees who are actively looking for a new position (Dubie, 2000).

The mere existence of these work/life policies demonstrates progress, but does not show that installing such a set of policies necessarily constitutes a "family-friendly" environment. Those high technology companies that back up their work/life programmes with management support will more likely be rewarded with employees that show more commitment to company success, greater loyalty, and a stronger intention to stay with their companies (Merrick, 1998).

3.8.1. Organisational commitment and work/life policies

Grover and Crooker (1995) empirically tested the effects of work and family benefits on organisational commitment. These benefits includes parental leave, flexible schedules, childcare assistance and childcare information. Employees who had access to work/life policies showed significantly greater organisational commitment and expressed significantly lower intention to quit their jobs.

Work/life policies were reported by Paré and colleagues (2001:24) to be minimally related to affective commitment (r=-0.074), and negatively to continuance commitment (r=-0.195). This might be the result of the individual being forced to stay at the organisation to increase investments rather than to have less work/life conflict. Due to the lock-in effect, the employee is forced to focus more on work than their families. This may not make for a committed employee.

3.9 SUMMARY

In this chapter the necessary transition from an employee controlling to a more employee commitment driven strategy was discussed. To gain employees' commitment to an organisation, the employer should identify which retention factors induce organisational commitment.

Compensation, job characteristics, training and development opportunities, supervisor support, career opportunities and work/life policies were identified as the top six retention factors in the content analysis done on high technology literature and their relationship with organisational commitment were discussed.

Organisational commitment as a key indicator of an employee's attitude to an organisation will be discussed in chapter 4.

CHAPTER 4 - ORGANISATIONAL COMMITMENT

4.1 INTRODUCTION

This chapter will investigate the history of defining organisational commitment and its multidimensionality, how an individual develops commitment to the organisation and the relevance of organisational commitment in the post-modern society. Since theorists mostly describe organisational commitment from their own perspective and for their own purposes, it becomes difficult to define the concept concisely. There seems to be no clear consensus on the definition of organisational commitment. This ambiguity led to organisational commitment being described as a multidimensional concept and the use of "nested" organisational commitment profiles to describe it (Lawler, 1992b).

In Figure 4-1, a graphic summary of organisational commitment will illustrate the different concepts used in the organisational commitment literature.

Commitment phenomena have been widely investigated because it affects individual attitudes and behaviours towards the workplace.

4.2 DEFINING ORGANISATIONAL COMMITMENT

Since the concept of organisational commitment was defined by Mowday and colleagues (1982:27) as "… the relative strength of an individual's identification with and involvement in a particular organisation" it has attracted its fair share of those sceptical about its distinguishablility from other behavioural constructs. According to Meyer and Allen (1997:17) the concept of organisational commitment is a construct distinguishable from other familiar concepts such as job satisfaction, job involvement, career salience, occupational commitment, turnover intentions, work group attachment and Protestant work ethic (Cohen, 1993; Mathieu & Farr, 1991; Meyer et al., 1993; Morrow & McElroy, 1986; Mueller et al., 1992). Apart from being a distinguishable construct, organisational commitment contributes uniquely to the prediction of important outcome variables such as

performance and withdrawal behaviours (Mathieu & Zajac, 1990; Meyer et al., 1993; Tett & Meyer, 1993).

Since the distinguishablility of organisational commitment from other constructs was questioned, the definition of the construct became even more difficult. Mowday and colleagues (1982:20) observed that "researchers from various disciplines ascribed their own meanings to the concept thereby increasing the complexity involved in understanding the construct." Table 4-1 (Meyer & Herscovitch, 2001:302) lists some of the many definitions taken from the commitment literature.

Table 4-1 Definitions of commitment

Commitment in general
"… engagement which restricts freedom from action." (Oxford English Dictionary, 1969)
"Commitment comes into being when a person, by making a side bet, links extraneous interests with a consistent line of activity." (Becker, 1960:32)
"… a state of being in which an individual becomes bound by his actions and through these actions to belief that sustain the activities of his own involvement." (Salancik, 1977:62)
"… a stabilising force that acts to maintain behavioural direction when expectancy/equity conditions are not met and do not function." (Scholl, 1981:593)
"… a forces that stabilises individual behaviour under circumstances where the individual would otherwise be tempted to change that behaviour." (Brickman, 1987:2)
"… one's inclination to act in a given way toward a particular commitment target." (Oliver, 1990:30)

"… an obligation force which requires that the person honour the commitment, even in the face of fluctuating attitudes and whims." (Brown, 1996:241)

Organisational commitment

"… the totality of normative pressures to act in a way which meets organisational goals and interests." (Wiener, 1982:421)

"… the psychological attachment felt by the person for the organisation; it will reflect the degree to which the individual internalises or adopts characteristics or perspectives of the organisation." (O'Reilly & Chatman, 1986:493)

"…a psychological state that binds the individual to the organisation…" (Allen & Meyer, 1990:14)

"… a bond or linking of the individual to the organisation." (Mathieu & Zajac, 1990:171)

Theorists, who provided a general definition of commitment in Table 4-1, noted that commitment is different from motivation or general attitudes (Brickman, 1987; Brown, 1996; Scholl, 1981). They suggest that commitment influences behaviour independently of other motives or attitudes and, might lead to the persistence in a course of action even in the face of conflicting motives or attitudes. Thus commitment can lead individuals to behave in ways that, from the perspective of neutral observers, might seem in contrast to their own self-interest, e.g. a temporary employee who is productive despite having no job security (Meyer & Herscovitch, 2001:301).

There are several points of agreement and disagreement on the definition of organisational commitment. All definitions of commitment in general make reference to the fact that commitment (a) is a stabilising and obliging force, and (b) gives direction to behaviour (e.g. restricts freedom, binds the person to a course of action). The differences in the definitions involve detail

concerning the nature, or origin of the stabilising force that gives direction to behaviour (Meyer & Herscovitch, 2001:301).

For the purpose of this study, the definition of organisational commitment as provided by Allen and Meyer (1990:14) is considered to be sufficient:

> "Commitment is a psychological state that binds the individual to the organisation…"

4.2.1. Forms of organisational commitment

According to Table 4-1, Meyer and Herscovitch (2001:302) suggest that there is consensus that the binding force of commitment is experienced as a mindset (i.e. a frame of mind or psychological state that compels an individual toward a course of action). As stated earlier there is less agreement about the nature of this mindset among theorists. Table 4-2, represents Meyer and Herscovitch's (2001:304) presentation of definitions of different forms of commitment.

Table 4-2 Forms of organisational commitment

O'Reilly and Chatman (1986:493)	
Compliance	"instrumental involvement for specific extrinsic rewards"
Identification	"attachment based on a desire for affiliation with the organisation"
Internalisation	"involvement predicted on congruence between individual and organisational values"
Meyer and Allen's three component model (1991:67)	
Affective	"the employee's emotional attachment to, identification with, and involvement in the organisation"
Continuance	"an awareness of the costs associated with leaving the organisation"
Normative	"a feeling of obligation to continue employment"

The different forms of commitment in this table will be discussed in 4.2.1.1 and 4.2.1.2.

4.2.1.1.　O'Reilly and Chatman's model

O'Reilly and Chatman (1986), as discussed in Meyer and Herscovitch (2001:305), developed their multidimensional framework based on the assumption that commitment represents an attitude toward the organisation, and that there are various mechanisms through which attitudes can develop. Based on Kelman's (1958) work on attitude and behaviour change, O'Reilly and Chatman argued that commitment takes on three forms:

> - Compliance. This occurs when attitudes and corresponding behaviours are adopted in order to gain specific rewards
>
> - Identification. This occurs when an individual accepts influence to establish or maintain a satisfying relationship
>
> - Internalisation. This occurs when influence is accepted because the attitudes and behaviours one is being encouraged to adopt are congruent with existing values.

The employee's psychological attachment can reflect varying combinations of these three psychological foundations.

O'Reilly and Chatman (1986) provide support for their three dimensional structure of commitment measurement. Further studies indicated difficulty in distinguishing between identification and internalisation (O'Reilly et al., 1991; Vandenberg et al., 1994). The measures tended to correlate highly with one another and showed similar patterns of correlation with measures of other variables. O'Reilly and Chatman then decided to combine these two, namely identification and internalisation, and called it normative commitment. This is not the same as normative commitment in Meyer and Allen's model (1991), that will be discussed in 4.2.1.2.

Compliance (later instrumental commitment) is clearly distinguishable from identification and internalisation. It differs not only in terms of the basis for acceptance of influence, but also in its relation to turnover. O'Reilly and Chatman (1986) found compliance to correlate positively, rather than negatively with turnover. It is generally accepted that organisational commitment correlates negatively with turnover (Meyer &

Allen, 1997). Examination of the items to measure compliance might possibly address an employee's motivation to comply with day to day pressures for performance and not with pressure to remain in the organisation. O'Reilly and Chatman's concept of compliance might assess commitment to perform which has a different behavioural focus.

4.2.1.2. Meyer and Allen's three component model

Meyer and Allen made the biggest contribution to the organisational commitment literature, with over fifteen studies published from 1984. Meyer and Allen's three component model of commitment was chosen for this study, because it has undergone the most extensive empirical evaluation to date (Allen & Meyer, 1996).

Meyer and Allen (Allen & Meyer, 1990; Meyer & Allen, 1984, 1991) developed their three component model from an identification of common themes in the conceptualisation of commitment from existing literature. Common to all conceptualisations, they argued, was the belief that commitment binds an individual to an organisation and thereby reduces the likelihood of turnover. The key difference is in the mindsets presumed to characterise the commitment. The mindsets reflected three distinguishable themes:

- Affective attachment to the organisation, labelled affective commitment

- Perceived cost of leaving, labelled continuance commitment

- Obligation to remain at the organisation, labelled normative commitment.

Table 4-3 (Meyer & Allen, 1997:12) reflects the three broad themes as indicated by category labels, used to develop their three component model of commitment. Meyer and Allen (1991:67) noted that organisational commitment is "the view that commitment is a psychological state, that (a) characterises the relationship with the organisation, and (b) has implication for the decision to continue membership with the organisation." They describe these three components as affective, continuance and normative.

Table 4-3 Meyer and Allen's three component model of commitment

Affective orientation (affective)

"The attachment of an individual's fund of affectivity and emotion to the group." (Kanter, 1968:507)

"An attitude or an orientation toward the organisation which links or attaches the identity of the person to the organisation." (Sheldon, 1971:143)

"The process by which the goals of the organisation and those of the individual become increasingly integrated or congruent." (Hall et al., 1970:176–177)

"A partisan, affective attachment to the goals and values of the organisation, to one's role in relation to goals and values, and to the organisation for its own sake, apart from its purely instrumental worth." (Buchanan, 1974:533)

"The relative strength of an individual's identification with and involvement in a particular organisation." (Mowday et al., 1982:27)

Cost based (continuance)

"Profit associated with continued participation and a "cost" associated with leaving." (Kanter, 1968:504)

"Commitment comes in to being when a person, by making a side bet, links extraneous interests with a consistent line of activity." (Becker, 1960:32)

"A structural phenomenon, which occurs as a result of individual-organisational transactions and alterations in side bets or investments over time." (Hrebiniak & Alutto, 1972:556)

Obligation or moral responsibility (normative)

"Commitment behaviours are socially accepted behaviours that exceed formal and/or normative expectations relevant to the object of commitment." (Wiener & Gechman, 1977:48)

"The totality of internalised normative pressures to act in a away which meets organisational goals and interests." (Wiener, 1982:421)

"The commitment employees consider morally right to stay in the company, regardless of how much status enhancement or satisfaction the firm gives him or her over the years." (Marsh & Mannari, 1977:59)

Allen and Meyer (1996), as discussed in Meyer and Herscovitch (2001:305) concluded that the evidence generally supports their hypotheses concerning the dimensionality of the construct in their model. Some disagreement exists about whether affective and normative commitments are truly distinguishable and whether continuance commitment is a unidimensional construct. Through confirmatory factor analyses, affective and normative commitment demonstrates a generally high correlation between them (Dunham et al., 1994).

The dimensionality of continuance commitment is mixed, with some studies (Dunham et al., 1994; Ko et al., 1997) reporting evidence of unidimensionality and others finding evidence for the two separate distinct factors, one reflecting perceived sacrifices associated with leaving, and the other a recognition of the lack of alternative employment opportunities (McGee & Ford, 1987; Meyer et al., 1990).

The integration of the forms of commitment sensitised researchers to the multidimensional nature of commitment. What differentiates the various dimensions of commitment in the multidimensional conceptualisation, is the nature of the underlying mindset. Meyer and Allen (1991) argued that affective, continuance and normative commitment are components of organisational commitment, rather than types, because the employee-

employer relationship reflects varying degrees of all three. The multidimensional framework, or conceptualisation, does not seem to be incompatible. Meyer and Allen (1991) suggested the lack of consensus in the definition of commitment contributed greatly to its treatment as a multidimensional construct. Organisational commitment as a multidimensional construct will be discussed in section 4.3.

4.2.2. The focus of organisational commitment

The commitment dimension develops during employment in the organisation. Generally, commitment is targeted toward an entity (union, organisation, career or job) or toward behaviour (e.g. attainment of organisational goals). This behavioural and entity approach to organisational commitment has an impact on the focus of commitment.

4.2.2.1. Behavioural focus of organisational commitment

Individuals' behaviours and attitudes are affected by organisational factors in terms of the psychological contract. The importance of organisational factors in affecting attitudes or behaviours of employees has been widely advocated (Allen & Meyer, 1990; Cohen, 1993; Mathieu & Zajac, 1990; Meyer & Allen, 1984; O'Reilly & Chatman, 1986).

According to Chang (1999) after entering the company, members evaluate whether the company has fulfilled the psychological and employment contract. The psychological contract is a perceptual belief about what employees believe they are entitled to receive or should receive (Robinson, 1996). Robinson and associates (1994) suggests that when employees feel that their employers have failed to fulfil their obligations, the employees tend to reduce their obligation by showing withdrawal behaviour, e.g. decreased level of commitment and turnover.

4.2.2.2. Entity focus of organisational commitment

Meyer and Herscovitch (2001) suggest that differences in focus are largely a function of emphasis. When commitment is considered to focus on an entity, the behavioural consequences are often implied, if not stated explicitly. They suggest, however, that from the standpoint of

understanding and predicting the outcomes of commitment, there may be an advantage to specifying the relevant entity and behaviour.

Morrow's (1983) study concerns 25 employee commitment concepts and measures that have been reported in the literature since 1965. Arguing that conceptual redundancy exists across these, Morrow grouped them together in five foci: commitment to work, career, organisation, job and union. The entity focus of organisational commitment can be divided into two categories or collectives: domain (e.g. commitment to the organisation, profession, career, union, work or job) and constituencies (e.g. supervisor, top management, co-workers or work group) (Meyer & Allen, 1997).

According to Meyer and Allen (1997:19) when measuring commitment as a whole, it is probably measuring employee's commitment to "top management" (Reichers, 1986) or to a combination of top management and more local foci (Becker & Billings, 1992). Meyer and Allen (1997:20) suggest if using "commitment as a means of understanding or predicting behaviour of relevance to the organisation as a whole (to top management specifically), it would seem that the purpose can be well served with global measures of organisational commitment". If interested in behaviour to more specific constituencies (e.g. supervisor), it would be better to measure commitment to the relevant constituency.

Meyer and Herscovitch (2001:309) suggest that individuals can commit to both entities and behaviours. Meyer and colleagues (Meyer & Allen, 1984, 1991; Meyer et al., 1993) defined commitment in such a way that it implies a course of action (continuing membership) of relevance to an entity (organisation or profession).

4.3 ORGANISATIONAL COMMITMENT AS A MULTIDIMENSIONAL CONSTRUCT

Meyer and Allen (1997:23) suggest organisational commitment is a psychological state linking employees to their organisations and that it is multifaceted. From the above-mentioned research, commitment can be considered multidimensional in form as well as foci. This section will discuss the multidimensional commitment concepts.

Some theorist consider commitment as a multidimensional construct. Reichers (1985), referenced in Meyer and Allen (1997) theorised that organisational commitment can be understood as a collection of multiple commitments, thus (a) an employee can have varying commitment profiles, and (b) conflict can exist among an employee's commitments. The conflict that may exist among an employee's commitments is, however, beyond the scope of this study.

Lawler (1992b) suggested that multiple subgroups or collectives are sometimes "nested," meaning that belonging to one requires belonging to another. For example, employees who belong to a local collective (e.g. work group) must remain with a larger collective (e.g. organisation) to continue membership in the former. Thus, those who have a strong affective commitment to the local collective (want to belong) might experience a high level of continuance commitment to the larger collective (need to belong). This gives rise to the multidimensionality of organisational commitment and commitment profiles as will be described below.

4.3.1. Organisational commitment profile

Becker and Billings (1992:185) define commitment in terms of multiple foci and multiple forms and this has led to the consideration of commitment profiles. As such, there has been an increasing interest in identifying patterns of commitment that are both beneficial and detrimental to individuals and the organisation.

Meyer and Allen (1997:21) suggested commitment could be considered multidimensional in both its form and focus. The two approaches to developing a multidimensional framework are not incompatible. Meyer and Allen (1991) and Reichers (1986) presented a matrix (see Table 4-4) to acknowledge the complex multidimensional nature of commitment in the workplace, thus trying to understand how employees' commitment develops and relates to behaviour.

Table 4-4: Dimensional conceptualisation of commitment

Focus of commitment	Forms of commitment		
	Affective	Continuance	Normative
Organisation			
Career			
Union			
Work			

For the purpose of this study, Table 4-4 is presented here to acknowledge the complex multidimensional model of commitment. Each cell in Table 4-4 reflects the nature of the commitment an employee has toward each individual constituency of relevance to him/her. This will not be used to classify employees. Each employee's (multidimensional) commitment profile will reflect varying degrees of different forms of commitment to each of the different constituencies as presented by the elements of the matrix in Table 4-4.

4.4   DEVELOPMENT OF ORGANISATIONAL COMMITMENT

When a new employee enters the organisation, the employee will learn the values and goals of the organisation. For the successful completion of a goal, the employee will receive a return (salary). This exchange develops over time into a certain concept of commitment. The development of organisational commitment is largely facilitated by the social exchange theory. The theory of social structure is based on the principle that "most social behaviour is predicated on the individual expectation that one's actions with respect to others will result in some kind of commensurate return" (Reber, 1995:731). Social exchange theory (Blau, 1964) originally explained the motivation behind the attitude and behaviours exchanged between individuals. Eisenberger and associates (1986) expanded the theory of social exchange to explain certain aspects of the relationship between the organisation and its employees.

4.4.1. Development of a mindset

There are clear differences and similarities between all of the commitment models (see Table 4-2). A major factor that distinguishes the different forms of commitment from one another within the various models is the mindset (emotional attachment, sense of being locked in, belief in and acceptance of goals). Meyer and Herscovitch (2001:315) argue that when considering the factors involved in the development of commitment, it is important to distinguish among the mindsets that accompany that commitment, thus any factor that contributes to the development of commitment does so through its impact on one or more of the mindsets that bind an individual to a course of action of relevance to a particular target. It thus becomes possible to distinguish between affective, continuance and normative commitment.

Meyer and Herscovitch (2001:316) made some propositions that encompasses the development of the different mindsets:

▪ The mindset of desire (affective commitment) develops when an individual becomes involved in, recognises the value-relevance of, and/or derives his or her identity from, association with an entity or pursuit of a course of action.

▪ The mindsets of perceived cost (continuance commitment) develops when an individual recognises that he or she stands to lose investments, and/or perceives that there are no alternatives other than to pursue a course of action of relevance to a particular target.

▪ The mindset of obligation (normative commitment) develops as a result of the internalisation of norms through socialisation, the receipt of benefits that induces a need to reciprocate, and/or acceptance of the terms of a psychological contract.

4.4.2. Development of affective commitment

4.4.2.1. Antecedents of affective commitment

- Personal characteristics

  Research has focused on two types of variables: demographic (e.g., gender, age, organisational tenure) and dispositional variables (e.g., personality, values). Relations between demographic variable and affective commitment are neither strong nor consistent (Meyer & Allen, 1997:45). People's perception of their own competence might play an important role in the development of affective commitment. From the several personal characteristics that Mathieu and Zajac (1990:175) have examined, perceived competence and affective commitment have the strongest link. Employees who have strong confidence in their abilities and achievements have higher affective commitment. A possible explanation for the observed relation between the two variables is that competent people are able to choose higher-quality organisations, which in turn inspired affective commitment.

- Work experience

  According to Meyer and Allen (1997:45) work experience variables have the strongest and most consistent correlation with affective commitment in most studies. In Mathieu and Zajac's (1990:179) meta-analytic study, affective commitment has shown a positive correlation with job scope, a composite of three variables, e.g. job challenge, degree of autonomy and variety of skills used. Affective commitment to the organisation is stronger among employees whose leaders allow them to participate in decision-making (Rhodes & Steers, 1981) and those who treat them with consideration (DeCotiis & Summer, 1987).

  Meyer and Allen (1997:39) suggest the latitude that employees have to express their attitudes to the organisation will vary considerably across performance indicators and between jobs. The strongest links between affective commitment and behaviour will be observed for behaviour that is relevant to the constituency (e.g. supervisor) to which the commitment is directed.

On the basis of antecedent research on affective commitment, Meyer and Allen (1997:56) suggested possible universal appeal for those work environments where employees are supported, treated fairly, made to feel that they make contributions. Such experiences might fulfil a higher order desire to enhance perceptions of self worth.

4.4.2.2. Consequences of affective commitment

Mottaz (1988) suggests that intrinsic rather than extrinsic rewards are powerful determinants of organisational commitment. Meyer and Allen (1997:23) verify this. They found employees with strong affective commitment feel emotionally attached to the organisation. It follows that the employee will have greater motivation or desire to contribute meaningfully to the organisation than would an employee with weak affective commitment. Meyer and Allen (1997:50) reported that employees will develop affective commitment to an organisation to the extent that it satisfies their needs, meets their expectations and allows them to achieve their goals, thus, affective commitment develops on the basis of psychologically rewarding experiences.

4.4.3. Development of continuance commitment

According to Meyer and Herscovitch (2001:308) most models of commitment acknowledges that individuals can become committed to a course of action because of the perceived cost of failing to do so. Commitment accompanied by the cost-avoidance mindset has commonly been referred to as continuance commitment (Jaros et al., 1993; Meyer & Allen, 1984, 1991).

Continuance commitment originates from the side bets tradition (Becker, 1960) and refers to employee's sacrifices (e.g. losing seniority or pension benefits) associated with terminating employment, thus the employee becomes aware of the costs that are associated with leaving the organisation. Employees who have strong continuance commitment to an organisation stay with the organisation because they believe they *have* to do so. Continuance commitment can develop as a result of any action or event that increases the costs of leaving the organisation, provided the

employee recognises that these costs have been incurred (Meyer & Allen, 1997:56).

Meyer and Allen (1991) summarised the action in two sets of variables: investments and alternatives.

> - Becker (1960) argued that commitment to a course of action results from the accumulation or investment in side bets that a person makes. *Side bets* would be forfeited if the employee discontinued the activity (e.g., resignation).
> - The employee's perceptions of employment alternatives are the other hypothesised antecedents of continuance commitment. The perceived availability of alternatives will be negatively correlated with continuance commitment (Meyer & Allen, 1997:57). An employee's recognition that investments and/or lack of alternatives has made leaving more costly, represents the process through which these investments and alternatives influence continuance commitment (recognition also differentiates continuance commitment and behavioural commitment).

4.4.3.1. Continuance commitment and the transferability of skills

Meyer and Allen (1997:59) show continuance commitment to be related to employees' perceptions about transferability of their skills (Allen & Meyer, 1990) to other organisations. In these studies, employees who thought their training investments were less easily transferable elsewhere, expressed stronger continuance commitment to their current organisation.

4.4.3.2. Consequences of continuance commitment

Employees whose primary link to the organisation is based on strong continuance commitment, stay with the organisation not for reasons of emotional attachment, but because of a recognition that the costs associated with doing otherwise are simply too high. All things being equal, there is no reason to expect that such employees will have a particular strong desire to contribute to the organisation (Meyer & Allen, 1997).

4.4.4. Development of normative commitment

Perceived obligation to pursue a course of action was identified as a separate dimension of commitment by Meyer & colleagues (Meyer & Allen, 1991; Meyer et al., 1993). It has been established to be distinguishable from the affective and cost based forms of commitment (Dunham et al., 1994).

This commitment concept, which is the employee's internalisation of the organisational goals and values, such that they become committed to the organisation because they believe it is the moral or "right" thing to do (Allen & Meyer, 1990; Scholl, 1981) is called, normative commitment.

4.4.4.1. Hypothesised antecedents and processes

Wiener (1982) argued that normative commitment to the organisation develops on the basis of a collection of pressures that individuals feel during their early socialisation (from family and culture) and during their socialisation as newcomers to the organisation.

Meyer and Allen (1997:61) suggest that normative commitment develops on the basis of a particular kind of investment that the organisation makes in the employee, specifically, investments that seems difficult for employees to reciprocate (Meyer & Allen, 1991; Scholl, 1981).

Closely related to the above, normative commitment might also develop on the basis of "psychological contract" between an employee and the organisation (Rousseau, 1989; Schein, 1980). Psychological contracts take different forms. The most widely recognised are transactional and relational (Rousseau, 1989). Transactional contracts tend to be somewhat more objective and based on principles of economic exchange, whereas relational contracts are more abstract and based on principles of social exchange. According to Rousseau and Wade-Benzoni (1995) relational contracts seem more relevant to normative commitment and transactional contract might be involved in the development of continuance commitment.

4.4.4.2. Consequences of normative commitment

Strong normative commitment is tied to the organisation by feelings of obligation and duty. Meyer and Allen (1991) argued that, generally, such feelings would motivate individuals to behave appropriately and do what is right for the organisation. It is expected that normative commitment to the organisation will be positively related to such work behaviours as job performance, work attendance and organisational citizenship.

4.4.5. Integration of the consequences of organisational commitment

Sethi and associates (1996) suggest that organisation needs to re-examine policies that lead to building commitment. Commonly employed strategies in a high technology environment, such as non-vested pension plans, participation in stock options and the development of organisation specific skills may, in fact be working against the organisation. Although these steps make it difficult for employees to leave, they may not encourage them to stay. Some employees may find themselves in a position where they may want to quit, but may not be able to afford to do so. Some may be motivated to do just enough to maintain their jobs. In these cases, commitment fostering steps may actually be counterproductive. Affective commitment may be harder to foster but is strongly related to the results that organisation values – employee's desire to contribute to the organisation's effectiveness.

Thus, affective, continuance and normative commitment will all be related to employee retention, i.e. each form of commitment should be negatively correlated with employees' intention to leave the organisation and with voluntary turnover behaviour.

4.5 THE RELEVANCE OF ORGANISATIONAL COMMITMENT

The organisation has changed in recent years with the business focus moving from manufacturing to technology, services and the rise of the knowledge worker. Companies have started working "smarter" and have moved away from the need for "brawn" to the need for "brains" (Peters, 1993). Mowday (1999), one of the pioneers of organisational commitment, confirms that the economy, organisations and the workplace have changed since he started studying commitment over 25 years ago.

Organisational commitment was originally intended as a tool with which to manage human resources within a hierarchical organisational structure. Such organisations are now decreasing in number, with the unit of activities becoming smaller. However, due to its potential for increasing productivity, whatever its form, strategies to encourage commitment will continue to be important in managing human resources in the future (Sano, 1999). Managers therefore rely less on formal rules and more on building a committed workforce to attain organisational objectives (Carson et al., 1999).

Organisational commitment is still important to the changing world of work, for the following reasons:

1. Organisations are not disappearing. People still form the core of an organisation even if the company becomes leaner. Organisation tend to become smaller and more flexible (Meyer & Allen, 1997:5–6).

2. Commitment develops naturally through social exchange. If employees become less committed to organisations they will channel their commitment towards other activities such as industry, occupation, profession, hobbies or volunteer activities. If not committed to the organisation, they must therefore start evaluating their marketability outside the organisation, rather than by their current or future job prospects in the organisation (The end of corporate loyalty, 4 August 1986).

Mowday (1999) suggests from the employee perspective, commitment is still a way people find meaning in their lives. People still seek a sense of accomplishment in their work through a goal or project worthy of committing to. The time frame through which commitment plays itself out may have shortened and the focus of commitment may be less on the organisation and more on other domains e.g., commitment to the profession.

4.6   GRAPHIC SUMMARY OF ORGANISATIONAL COMMITMENT

The discussion of organisational commitment that was discussed in this chapter can be presented in a graphical form as presented in Figure 4-1. The top half summarises the form of organisational commitment and the lower half the different foci of organisational commitment. This figure can be used

to distinguish the different concepts in the organisational commitment
literature.
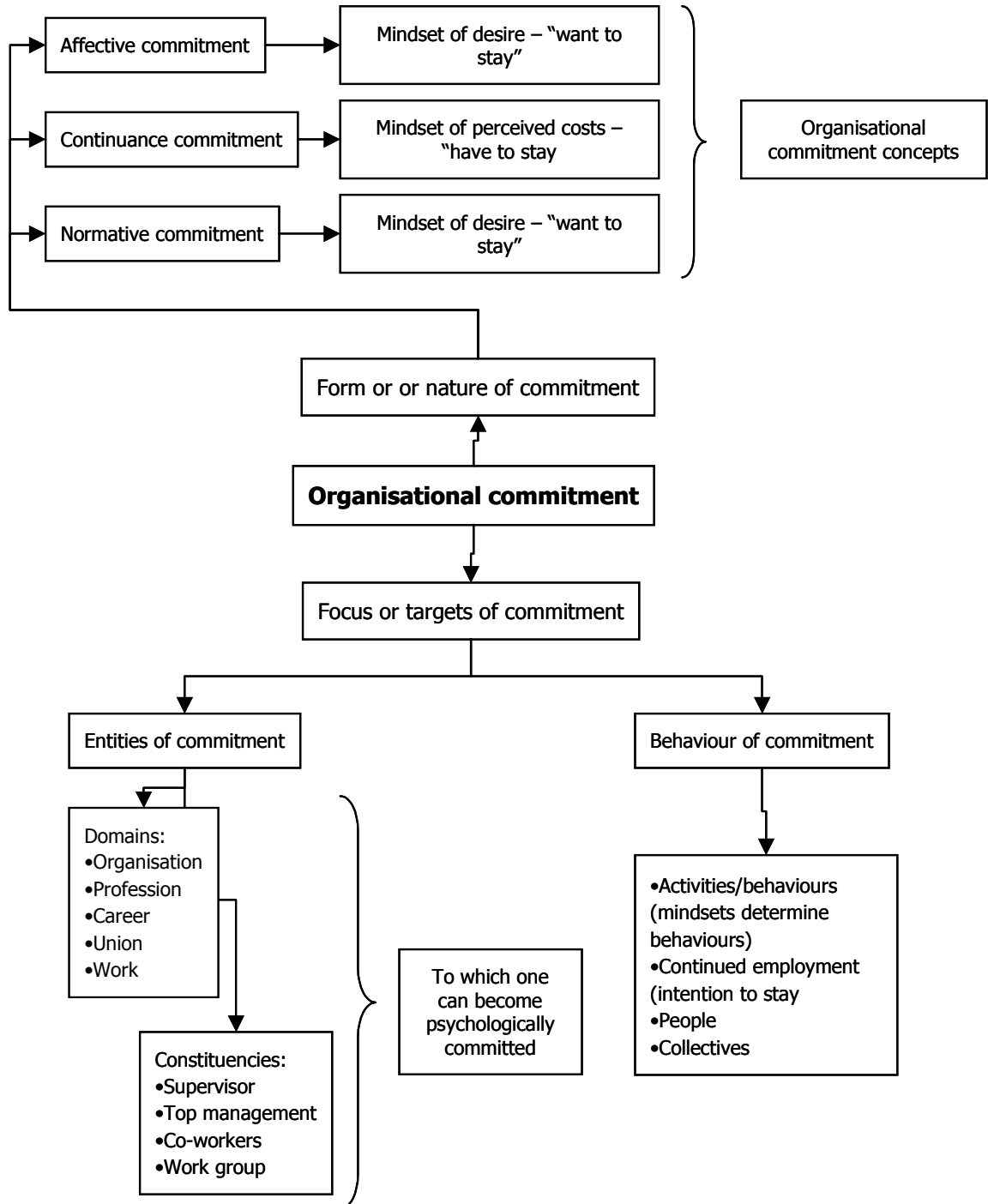
Figure 4-1 A simplistic view of organisational commitment

4.7 SUMMARY

Organisational commitment has been defined in this chapter. The different forms of organisational commitment were discussed with the approaches developed by O'Reilly and Chatman (1986) and Meyer and Allen's three component model (1991). The focus of this organisational commitment towards an entity or behaviour was discussed. Based on the different components of commitment, organisational commitment was further described as a multidimensional concept. This started the description of an employee's commitment as an "commitment profile". The development of an employee's commitment was discussed according to Allen and Meyer's (1990) approach.

The question of organisational commitment as a relevant concept for the 21st century was discussed and confirmed to be relevant.

A graphic summary was presented to illustrate the current understanding and relations between components as established in organisational commitment literature.

CHAPTER 5 - RESEARCH METHOD

5.1 INTRODUCTION

In this chapter the research methodology used in this study, including qualitative and quantitative aspects, is discussed.

The qualitative research comprises of a comprehensive literature study in which content, items and subject terms were identified for inclusion as a retention factor, and the development of the questionnaire.

The discussions on quantitative aspects include a population to test the efficacy of the questionnaire. High technology employees in a telecommunications organisation are used to determine whether the final questionnaire must be adjusted or not. The top retention factors that induce organisational commitment are identified.

5.2 RESEARCH DESIGN

Research design includes plans that guide "the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in procedure" (Sellitz et al., 1965:50, quoted in Terre Blanche and Durrheim, 1999:29). It is the design and planned nature of observations that distinguishes research from other forms of observation.

Research is a creative activity, and there are different forms of research, resting on different combinations of paradigm, purpose technique and situation (Terre Blanche & Durrheim, 1999:52). Design decisions were made according to principles of coherence and validity.

Depending on the purpose of the research intent, it may vary along a continuum from inflexible and technical on the one side, e.g., surveys, and on the other side to flexible and pragmatic guides for action e.g., qualitative induction (Terre Blanche & Durrheim, 1999:32).

As mentioned above, this investigation took place in two phases. During the first stage of research, qualitative research was conducted in the form of a content analysis and literature survey. The questionnaire was subsequently formulated from the contents identified in the literature study.

During the second phase of the research, the questionnaire was tested on a population of telecommunications employees to determine their top retention factors that induce organisational commitment.

5.3   QUALITATIVE RESEARCH

The result of this qualitative research methodology was utilised in chapter 3. Qualitative research methodology focuses on contextual research, which is concerned with making sense of human experience from within the context and the perspective of human experience. One of the central theoretical concerns in qualitative literature is that of "interpretation' (Schwandt, 1994). The purpose of interpretive analysis is to provide a thorough description of the characteristics, processes, transactions and contexts that constitute the phenomenon being studied (Terre Blanche & Durrheim, 1999:139).

Miles and Huberman (1994:10) describes a broad procedure to apply in the interpretive analysis approach:

- Data reduction

- Data display

- Conclusion drawing and verification

In reality, interpretive analysis rarely proceeds in this orderly manner, but it is a starting point to understand the method.

5.3.1.   Data reduction

Data reduction refers to the process of selecting, focusing, simplifying, and transforming the data that appear in written-up field notes or transactions. Anticipatory data reduction occurs as the researcher decides which conceptual framework, which cases, which research questions and which data collection approaches to choose.

Variables included in this study were selected based on the following criteria:

- empirical support in the literature

- theoretical relevance

- relevance to the sample studied.

5.3.2. Data display

Miles and Huberman (1994:11) describe data display in the following way "…A display is an organised, compressed assembly of information that permits conclusion drawing and action." Another step in data display is presenting content within the broad contextual background. This makes it easier for evaluators to place and understand the information in its entirety.

The literature study was comprehensively discussed in chapter 3 to ensure understanding of the contextual background. The content drawn from the literature study through data collection, analysis and reduction identified the most relevant retention factors and then assimilated them in developing a questionnaire.

5.3.3. Conclusion and verification

Conclusions are verified as the researcher proceeds. Verification may be brief or lengthy. The meanings emerging from the data have to be tested for their plausibility, sturdiness, and validity. Qualitative analysis is a continuous iterative enterprise. Issues of data reduction, display and conclusion drawing and verification come into play successively as analysis episodes follow each other.

There are many different styles of interpretive analysis, e.g. phenomenology (Kruger, 1979), grounded theory (Strauss & Corbin, 1990) and thematic content analysis (Smith, 1992).

5.3.4. Content analysis

A thematic content analysis was chosen for the qualitative research methodology. The main source of material for this study was collected from

electronic full text journals. All articles that were used were based on surveys and polls previously conducted in high technology industries.

Content analysis involves systematically coding information into categories, which allows qualitative analysis. A formal definition stresses the objectivity and systematic procedure that distinguish content analysis form other analyses of communication. "Content analysis is any technique for making inferences by objectively and systematically identifying specified characteristics of messages" (Holsti, 1969:14, quoted in Chadwick et al., 1984:239). Content analysis is often used to describe events or processes in society.

Content analysis can be done in two ways. The first is based on counting the frequency of some objective measure. In this study it was the frequency of certain words. This is known as coding the manifest content of the text. Because it is relatively simple to count the number of particular words, manifest content is very reliable. Manifest analysis could not be used in this study, because the media contain both the top retention factors and the bottom retention factors.

The other method of analysing the content of a text is coding its latent content. In this method the researcher reads a passage of text and interprets the presence of a particular theme. Latent analysis is inherently subjective, and runs the risk of being less reliable than manifest content analysis (McBurney, 1994:183). Latent analysis was used in this study, and will be discussed below.

5.3.5.   Description of the content analysis process used in this study

5.3.5.1.   Statement of the problem

The statement was: What are the specific retention factors that induce organisational commitment and can thus increase the retention of high technology employees? It was derived from the researchers own work experience in the high technology industry.

5.3.5.2.   Selection of communication

The main source of material for this study was collected from electronic full text journals available at the University of Pretoria's Library. The

electronic journals used were EBSCO, Proquest, Emerald, Swets, Infotrac, Ovid and ScienceDirect. Although electronic journals are good sources of information on the topic, their thematic and topical search capabilities are limited. Table 5-1 lists all the different high technology industries from where literature was collected and analysed.

Table 5-1 High technology industries reviewed in this study

Subject terms
Computer industry
Computer network equipment industry
Computer services industry
Computer software industry
Data processing industry
Electronics equipment industry
Electronics industry
Electronics services industry
High technology equipment industry
High technology industry
High technology services industry
Information systems industry
Information technology industry
Internet industry
Management information systems industry
Online services industry
Telecommunication equipment industry
Telecommunication industry
Telecommunication services industry

All the articles reviewed in the high technology industry literature were specifically investigated for organisational commitment and retention content.

Eighty-five articles were used to address the research question, i.e. "What are the specific retention factors that induce organisational commitment

and can thus increase the retention of high technology employees?" This enabled the researcher to identify the important retention factors that would lead employees to commit to the organisation and thus continue their employment.

5.3.5.3. Operational definitions

The retention factors were firstly defined before any coding was done on the content of the media. The meta-analytic study of Mathieu and Zajac (1990) was used as basis for the content analysis of the chosen high technology literature. Mathieu and Zajac (1990) summarised previous empirical studies that examine antecedents, correlates and consequences of organisational commitment. In total, 48 meta-analyses were conducted, including 26 variables classified as antecedents, 8 as consequences and 14 as correlates.

5.3.5.4. Training coders and checking reliability

The researcher performed all coding and no external coders were used in this study. Content analysis was not used to reach a conclusion, but merely to identify the top retention factors of technical employees in the high technology environment.

5.3.5.5. Analysis of data and writing of reports

Each factor identified as contributing to retention of high technology employees was categorised and marked next to a corresponding retention factor on the content analysis evaluation table. The amount of marks was tallied individually in the frequency column. A rank order was done to establish the top retention factors (see Appendix B for content analysis on high technology literature). The top six retention factors were compensation, job characteristics, training and development opportunities, supervisor support, career opportunities and work/life policies, as discussed in chapter 3.

5.4 QUANTITATIVE RESEARCH

5.4.1. Introduction

Quantitative research is used to represent a vast array of social and individual objects, events and processes, both tangible and intangible. It

begins with a series of predetermined categories, usually embodied in standardised quantitative measures, and used to make broad and generalisable comparisons (Terre Blanche & Durrheim, 1999:72).

5.4.2. Quasi-experimental design

A quasi-experimental design is an experimental design that does not meet all the requirements necessary for controlling the influence of extraneous variables, e.g. quasi-experiments selects subjects for the different conditions from previously existing groups (Christensen, 1997:347). The presence of uncontrolled or confounded variables reduces the internal validity of the quasi-experiment, but does not render it invalid. However, if the quasi-experiment studies subjects or settings that are more appropriate to the question of interest (McBurney, 1994:299), its external validity may be higher than a true experiment done on the same problem. Quasi-experimental designs are the best type of design available for use in field studies to make causal inferences (Christensen, 1997:348). The quasi-experimental design was chosen because it will be used to determine the retention factors that induce organisational commitment in high technology employees.

5.5 POPULATION AND SAMPLE

In South Africa, all designated employers must submit an annual Employment Equity report to the Department of Labour. A designated employer, according to the Employment Equity Act 55 of 1998, Chapter 1, Section 1, is defined as:

1) an employer who employs 50 or more employees;

2) an employer who employees fewer than 50 employees, but has a total annual turnover that is equal to or above the applicable annual turnover of a small business, in terms of Schedule 4 of this Act.

The ten member Employment Equity Forum of the company studied, classified the staff into occupational categories, based on the job title and job function. All employees classified in professionals, technician and associated professionals categories, were selected as the population. The company's Employment Equity Report of October 2002 was used as the source.

The definitions of the occupational classification system were designed by the Department of Statistics (Employment Equity Act 55 of 1998). Each occupational category contains a description and illustrative list of occupations that may be included in that category:

1. **Professionals**: This group includes occupations whose main tasks require a high level of professional knowledge and experience in the fields of physical and life sciences, or social sciences and humanities. The main tasks consist of increasing the existing stock of knowledge, applying scientific and artistic concepts and theories to the solution of problems, and teaching about the foregoing in a systematic manner. Includes: engineers (civil, mechanical, chemical, electrical. petroleum. nuclear, aerospace, etc.); architects; lawyers; biologists; geologists; psychologists; accountants; physicists; system analysts; assayers; valuators; town and traffic planners, etc

2. **Technicians and associated professionals**: This group includes occupations whose main tasks require technical knowledge and experience in one or more fields of the physical and life sciences, or the social sciences and humanities. The main tasks consist of carrying out technical work connected with the application of concepts and operational methods in the above-mentioned fields and in teaching at certain educational levels. Includes: computer programmers; nurses; physio-and-occupational therapists; draftsmen/women; musicians; actors; photographers; illustrating artists; product designers; radio and television announcers; translators and interpreters; writers and editors: specialised inspectors and testers of electronic, electrical, mechanical, etc. products; vocational instructors; technicians (medical. engineering, architectural, dental, physical science, life science, library, etc.); pilot; broker; designer; quality inspector, etc.

For the purpose of this study both these subgroups were used for the analysis. Technicians are not fully professional, as defined by Kerr and colleagues (1977), but hold significant positions in the telecommunications services company studied, thus making it worthwhile to include them.

Sampling

Sampling is the process used to select cases for inclusion in a research study. A purposive sample is a sampling technique that selects non-randomly from the population, but for a particular reason. The main problem with purposive sampling is that an error in judgement on the part of the researcher in selecting the sample may influence the results (McBurney, 1994:203). Almost these samples can be considered to constitute a population.

Table 5-2 Population selection

Selection criteria	Number of respondents
All employees on 30 September 2002	377
All permanent employees on 30 September 2002	355
All professionals, technicians and associated professionals, including human resources consultants, accountants, corporate communication managers etc.	157
All professionals, technicians and associated professionals in the population	94

Table 5-2 displays the process of population selection for this study. Questionnaires were sent to all 94 respondents. The population was limited to these specialist groups, and thus the whole population was used as a sample.

5.6   CHARACTERISTICS OF THE TARGET POPULATION

5.6.1.   Total of the target population

The total number of employees used in this survey amounts to 94. The target population is described in the following tables:

5.6.1.1. Gender

Table 5-3 Frequency: Gender

Gender	Frequency	Percentage	Cumulative percentage
Male	84	89.36	89.36
Female	10	10.64	100.00
Total	**94**	**100.00**	

According to Table 5-3, 89.36% of the respondent are male (n=84), and females (n=10) represent 10.64% of the respondents.

5.6.1.2. Age

Table 5-4 Frequency: Age

Age	Frequency	Percentage	Cumulative percentage
20-24	16	17.1	17.1
25-29	34	36.16	58.18
30-34	27	28.72	81.9
35-39	9	9.57	91.47
40-44	6	6.38	97.85
45+	2	2.15	100
Total	**94**	**100**	

According to Table 5-4, 36.16% of the respondents are between the ages of 25 and 29 (n=34). This indicates that many of the respondents are relatively young.

5.6.1.3. Home language

Table 5-5 Frequency: Home language

Home language	Frequency	Percentage	Cumulative percentage
Afrikaans	42	44.68	44.68
English	35	37.23	81.91
Other languages	17	18.09	100
Total	**94**	**100**	

According to Table 5-5, 44.68% of the respondents are Afrikaans speaking employees (n=42), and 37.33% of respondents are English speaking (n=35). Other African languages are not well represented (n=17), indicating few people of colour in this high technology organisation.

5.6.1.4. Highest qualification

Table 5-6 Frequency: Highest qualification

Qualification	Frequency	Percentage	Cumulative percentage
Secondary school	1	1.06	1.06
Standard 10/Grade 12 or equivalent	17	18.09	19.15
Post school certificate or diploma	60	63.83	82.98
Bachelor's degree or equivalent	14	14.89	97.87
Master's degree or equivalent	2	2.13	100.00
Total	**94**	**100**	

From Table 5-6, 63.83% of the respondents have attended tertiary education, achieving a post school certificate or diploma at Technikon (n=60).

5.6.1.5.   Marital status

Table 5-7 Frequency: Marital status

Marital status	**Frequency**	**Percentage**	**Cumulative percentage**
Single	40	42.55	42.55
Married	45	47.87	90.43
Divorced	3	3.19	93.62
Living together	6	6.38	100.00
Total	**94**	**100**	

According to Table 5-7, 47.87% of the respondents are married (n=45), and 42.55 are single (n=40). The majority thus has spouses and is part of a family unit.

5.6.1.6. Organisational tenure

Table 5-8 Frequency: Organisational tenure

Organisational tenure (in completed years)	Frequency	Percentage	Cumulative percentage
Less than a year	13	13.83	13.83
1	14	14.89	28.72
2	18	19.15	47.87
3	12	12.77	60.64
4	18	19.15	79.79
5	11	11.70	91.49
6	3	3.19	94.68
7	2	2.13	96.81
8	3	3.19	100.00
Total	**94**	**100**	

According to Table 5-8, 91.49% of the respondent have 5 or less years of organisational tenure with the company (n=86). This indicates a relatively short job history at their organisation.

5.6.1.7. Job classification

Table 5-9 Frequency: Job classification

Job classification	Frequency	Percentage	Cumulative percentage
Professional	22	23.40	23.40
Technicians and associated professionals	72	76.60	100.00
Total	**94**	**100**	

According to Table 5-9, 76.60% of the respondents classify themselves into the technicians and associated professionals (n=72) category. The rest of the respondents see themselves as professionals (n=22).

5.6.1.8. Average overtime hours worked per week

Table 5-10 Frequency: Overtime per week

Amount of hours worked more than the required 40 hours per week	Frequency	Percentage	Cumulative percentage
None	14	14.89	14.89
1-9	30	31.91	46.80
10-19	27	28.73	75.54
20-29	11	11.69	87.22
30-39	3	3.19	90.42
40-49	5	5.32	95.75
50-59	2	2.12	97.86
60-69	2	2.13	100.00
Total	**94**	**100.00**	

According to Table 5-10, 85.11% of respondents (n=80) do some amount of overtime at this organisation. The majority of respondents work between 1 and 19 hours overtime per week. This indicates that employees spend little time with their families and earn overtime (pay x 1.5).

5.6.1.9.   Absenteeism

Table 5-11 Frequency: Absenteeism

Days absent from work during the past year (excluding vacation leave)	Frequency	Percentage	Cumulative percentage
None	40	42.55	42.55
1-4	33	35.11	77.65
5-9	11	11.71	89.37
10-14	4	4.25	93.61
15	2	2.13	95.74
20	3	3.19	98.94
40	1	1.06	100.00
Total	**94**	**100**	

From Table 5-11, 42.55% of the respondents have not been absent in the past year (n=40). It would seem that the majority of respondents is either healthy individuals or is loyal to the company.

5.6.1.10.   Participation in any incentive scheme

Table 5-12 Frequency: Incentive scheme

Participation in an incentive scheme	Frequency	Percentage	Cumulative percentage
Yes	56	59.57	59.57
No	38	40.43	100.00
Total	**94**	**100**	

Table 5-12, displays that 59.57 % of respondents participate in an incentive scheme (n=56).

5.7   MEASUREMENT INSTRUMENTS

5.7.1.   Introduction

A questionnaire can be defined as a group of written questions used to gather information from respondents, and it is regarded as one of the most common tools for gathering data in the social sciences (Vogt, 1993, referenced in Terre Blanche and Durrheim, 1999:293). A questionnaire usually consists of a number of measurement scales, open-ended items for qualitative responses, as well as questions that elicit demographic information of the respondents.

Designing a questionnaire is a complex procedure. It is influenced by project considerations, research design and the concerns that are inherent in any written or oral form of research (McBurney, 1994:194).

The following steps must be undertaken to develop a questionnaire:

5.7.2.   Questionnaire development

5.7.2.1.   Clarify the reason for the study

The purpose of this study is to investigate specific retention factors that induce organisational commitment and can thus increase the retention of high technology employees.

5.7.2.2.   Determine the information required from the respondents

Apart from the general demographic information e.g., age, organisational tenure, gender etc., the researcher needs to establish which retention factors are likely to induce organisational commitment.

5.7.2.3.   List the research questions the researcher wants answered with the questionnaire

From previous studies, the researcher needs to establish the correlation, in the South Africa high technology industry, between all the selected retention factors and organisational commitment, which consist of the three aspects as defined by Allen and Meyer (1990) i.e. affective commitment, continuance commitment and normative commitment.

In this study the formulation of the underlying hypotheses are:

1. Is there a significant correlation between the different identified independent (retention factors) and dependent (organisational commitment) variables?

2. What are the retention factors, which have the biggest impact on organisational commitment?

3. Can it be concluded which retention factor/s is the cause of the organisational commitment effect?

5.7.2.4. Identify any additional demographic information required to address the research questions

In previous studies, age and organisational tenure were controlled and these are thus a concern in this study as well (Allen & Meyer, 1993:58; Luthans et al., 1985:217; Meyer & Allen, 1984:375; Miner, 1988:235).

Meta-analytic evidence suggests that age and organisational commitment are significantly, albeit weakly, related (Mathieu & Zajac, 1990:175). This relationship exists even when variables that are often confounded with age (organisational and position tenure) are controlled (Allen & Meyer, 1993). Meyer and Allen (1984:375) have suggested that older workers become more attitudinally committed to an organisation for a variety of reasons, including greater satisfaction with their jobs, having received better positions, and having "cognitively justified" their continuance in an organisation.

Organisational tenure has often been used as a surrogate for side bets (Meyer & Allen, 1984). The general assumption is that as individuals accumulate more years with a company, they are likely to acquire greater investments e.g., pension plans, and develop greater continuance commitment. Organisational tenure has consistently been found to be positively associated with organisational commitment (Paré et al., 2001:6).

5.7.3. Developing questions

The literature could only produce a small number of questionnaire items to address the retention factors. The majority of the questions were developed from the literature study.

A questionnaire should be concise, short and relevant and not too long to complete. Questions can open-ended or close ended. The majority of items in this questionnaire were close ended questions to elicit a standardised set of responses from all respondents. This makes it easier for comparative data analysis (McBurney, 1990:194).

5.7.4. Scale format

Scaled questions consist of statements or questions, followed by a rating scale where respondents indicate the degree to which they agree or disagree (Terre Blanche & Durrheim, 1999:296). The questionnaire presented in the form of a five-point Likert scale was distributed among various high technology employees. This format is appropriate as it allows for a wide range of responses from strongly disagreeing to strongly agreeing.

5.7.5. Composition of the questionnaire

As mentioned in 5.7.3, questions originated from questionnaires in organisational commitment, compensation, job characteristics, training and development opportunities, supervisor support, career opportunities and work/life policies.

The description of questionnaires and selected questions will be discussed below.

5.7.5.1. Organisational Commitment Questionnaire (OCQ)

Empirical research on organisational commitment often emphasises the psychological bond (identification, involvement and desire) with employees. As such commitment typically is assessed by response to attitude scales with affective types of items.

Meyer and colleagues (1993) tested the generalisability of Meyer and Allen's (1991) three component model of organisational commitment to

occupational commitment. Confirmatory factor analysis conducted on data collected from samples revealed that the three component measures of occupational commitment are distinguishable from one another and from measures of the three components of organisational commitment. Meyer and colleagues (1993:542) conducted principle component analyses on 30 commitment items. Analyses of data obtained at both the beginning and end of the year revealed that items generally loaded on the factor representing the construct they were intended to measure. In selecting items, they examined the pattern of loadings over the two analyses, looking for items with consistently high loadings on the intended factor and low loadings on the other two factors. They tried to minimise item redundancy. The final three component measurement scales each included six items. To determine whether the three commitment scales indeed measured distinct constructs, they conducted confirmatory factor analysis of the covariance matrixes derived from data obtained from their samples. They obtained maximum likelihood solutions using LISREL (Jöreskog & Sörbom, 1989).

Sethi and associates (1996) provided evidence for the generalisability of the two component model of organisational commitment in the information systems context. The three component framework of Meyer and Allen (1991) forms the basis of the organisational commitment structure in this dissertation.

i.   The reliability estimates of the Organisational Commitment Questionnaire (OCQ)

- Internal consistency

Table 5-13 displays the median reliabilities of the organisational commitment questionnaire (Meyer & Allen, 1997:120)

Table 5-13 Median reliabilities of the Organisational Commitment Questionnaire (OCQ)

Organisational commitment component	Cronbach alpha coefficient
Affective commitment scale	0.85
Continuance commitment scale	0.79
Normative commitment scale	0.73

ii. Factor structure of the Organisational Commitment Questionnaire (OCQ)

At most, the results of both exploratory (Allen & Meyer, 1990; McGee & Ford, 1987) and confirmatory studies (Dunham et al., 1994; Hackett et al., 1994; Meyer et al., 1990; Shore & Tetrick, 1991) provide evidence that affective, continuance and normative commitment are distinguishable constructs.

Meyer and Allen (1997:121) identified studies that have provided evidence that the three commitment constructs are distinguishable from measures of job satisfaction (Shore & Tetrick, 1991), career, job and work values (Blau et al., 1993), career commitment (Reilly & Orsak, 1991), occupational commitment (Meyer et al., 1993), and perceived organisational support (Shore & Tetrick, 1991).

5.7.5.2. Development of retention factors measurement scale

i. Compensation

Heneman and Schwab (1985) developed the Pay Satisfaction Questionnaire (PSQ), to assess five dimensions of satisfaction with pay (level, benefits, raises, structure/administration). The results on two heterogeneous samples of employees provided support for the multidimensional hypothesis, although the four dimensional solution (level, benefits, raises, structure/administration) provided better representation of the variance in the items studied. Table 5-14 (Heneman

& Schwab, 1985:137) shows high internal consistency reliabilities for the four scales.

Table 5-14 Scale relationships and reliabilities of the Pay Satisfaction Questionnaire (PSQ)

Scale	Coefficient alpha	
	White collar employees (N=355)	Nurses (N=1980)
Level	0.94	0.95
Benefits	0.93	0.95
Raise	0.84	0.81
Structure/administration	0.85	0.88

Heneman and Schwab (1985) have shown that pay satisfaction is a multidimensional construct, and that the antecedents and consequences of pay satisfaction can vary according to the various dimensions of compensation. According to Heneman and Schwab (1985) compensation should be viewed in five dimensions: pay level, pay increase, pay structure, employee benefits, and pay administration. The validity of these dimensions has been examined in several studies (Carraher, 1991; Scarpello et al., 1988), and the results are inconsistent regarding the number of dimensions. It seems that satisfaction with pay level and employee benefits has sound psychometric properties and that these dimensions are impermeable to organisational context.

ii. Job characteristics

One of the best conceptualisations of job context variables is in the theory proposed by Hackman and Oldham (1975, 1976). Their job diagnostic survey (JDS) was used with two items comprising each dimension, i.e. skill variety and job autonomy. Fried and Farris's (1987) meta- analyses reported a Cronbach alpha coefficient in the range of 0.20 to 0.94.

iii. Training and development opportunities

Questions were designed to address high technology employees' fear of technical obsolescence. Technical obsolescence ranges from "keeping current" to continuing education. Questions included in the questionnaire refer to the satisfaction with training and the sufficiency of training.

Rogg and associates (2001) completed a study on the indirect effects of human resources practices on customer service. The results were supportive of a social context model of the impact of human resources practices on organisational outcomes. Some of the training questions in Rogg's study (2001) were selected and were used in the questionnaire. Rogg and associates (2001) reported a Cronbach alpha coefficient of .77 to .87 for training and development opportunities.

iv. Supervisor support

Only the two components of supervisor support were used in this study as identified by the content analysis of high technology literature.

- Recognition from supervisor

Ramus and Steger (2000) used learning organisation literature and interviews at leading-edge companies as basis for defining those supervisory behaviours that support employee creativity. Their research demonstrated factors of organisational encouragement and supervisory encouragement, that have been shown in the literature to support employee creativity in general. A few of the rewards and recognition questions were used as part of the supervisor support measurement scale. Ramus and Steger (2000) reported a Cronbach alpha coefficient of 0.68 for recognition from supervisor questions.

- Feedback from supervisor

Good and Fairhurst (1999) used the job context framework to test the expectations of retail trainees. The feedback from supervisor questions were used as part of the supervisor support measurement scale. Feedback from the supervisor forms part of the Job Diagnostic Survey (Hackman & Oldham, 1980) and Fried and Farris's (1987) meta-analyses reported a Cronbach alpha coefficient in the range of 0.20 to 0.94.

v. Career opportunities

Landau and Hammer's (1986) study of clerical employee's perceptions of intra organisational career opportunities investigated the determinants of perceived ease of movement within the organisation among two groups of employees. It also investigated the relationship between perceived ease of movement and both organisational commitment and intention to quit. Perceived ease of movement and perceived organisational policy of filling vacancies from within measurement scale were used in this study. Other questions were based on the literature of internal labour market opportunities, internal career advancement, internal career mobility and internal organisational transfers, to test the individual's perception of career opportunities within the organisation.

vi. Work/life policies

Paré and colleagues (2001:5) developed work/life policies questions to take into account the needs of the information technology workforce and to minimise the consequences of conflict between the work and family issues. The questions were based on the work done by Honeycutt and Rosen (1997) and Kopelman and associates (1983).

The scale consists of five items and has a Cronbach alpha coefficient of 0.87. Only four of these items were used in this study.

5.8   COLLECTING SURVEY DATA

Ninety-four questionnaires were sent to the defined population. A cover letter explaining the purpose of this study and the assurance that all information would be used for research purpose only accompanied each questionnaire. All questionnaires were answered anonymously. Participation in the study was voluntary. Completed questionnaires were sent back to the researcher via internal mail.

5.9   STATISTICAL METHODS

Statistical methods are a set of mathematical techniques that allow the researcher to make claims about the nature of the world using forms of principles statistical argument (Terre Blanche & Durrheim, 1999:97).

The questionnaire was administered to a selected group of high technology employees. The aim of the questionnaire was to evaluate the reliability and validity of the different scales and identify poor items that should be removed.

5.9.1.   Cleaning up the data

A random sample of 22% of the population's questionnaires was selected to check whether the data capturing process was without errors. No errors were recorded.

5.9.2.   Construct reliability

Reliability refers to the dependability of a measurement instrument, that is, the extent to which the instrument yields the same result on repeated trails. Internal consistency is estimated by determining the degree to which each item in a scale correlates with every other item. It is normally determined statistically by estimating the average inter-item correlation. Cronbach alpha coefficient measures this effect and ranges from 0 (no internal consistency) to 1 (maximum internal consistency). A Cronbach alpha coefficient of greater than 0.75 is generally considered as reliable (internally consistent) (Terre Blanche & Durrheim, 1999:89-90).

5.9.3.   Construct validity

Construct validity of a measure involves the theoretical and empirical task of determining the extent to which a construct is empirically related to other specified measures with which it is theoretically associated (Terre Blanche & Durrheim, 1999:87). Factor analysis as a statistical technique is used to reduce the number of factors that present the relationship among sets of many interrelated variables to those that show the strongest association with the phenomenon measured (Terre Blanche & Durrheim, 1999:366).

5.9.4.   Correlation matrix

A correlation matrix indicates the relation between variables. It is the pivotal information for most multivariate procedures (Terre Blanche & Durrheim, 1999:371). Its value varies between 0 and 1 with 0 indicating

there is no association between two variables and 1 shows that two variables are fully associated.

5.9.5. Multiple linear regression

Multiple regression is a method of determining the separate and collective contributions of each of the specified independent variables to the variations of a dependent variable. It is one of the most commonly used multivariate procedures in the social sciences, and is used to build models for explaining and predicting scores on the dependent variable from scores on a number of other independent variables (Terre Blanche & Durrheim, 1999:369).

5.10 STATISTICAL COMPUTER PROGRAMME

The data was processed by the standard statistical package, SAS V8.2, on the mainframe of the University of Pretoria.

5.11 SUMMARY

The research design used in this study consisted of qualitative and quantitative research methods.

The qualitative research methodology, in particular, content analysis, (outlined in chapter 3, and chosen as the interpretive analysis approach to high technology literature) was discussed.

The discussion of quantitative research methodology included an explanation of the research design. The identified population, used, and their characteristics, were tabulated.

The methodology of questionnaire design and the composition of the different measurement scales were discussed. This was followed by an outline of the statistical methods used in this study.

The empirical results obtained from the survey conducted, will be discussed in chapter 6.

CHAPTER 6 - RESULTS

6.1   INTRODUCTION

In this chapter the statistical measures used to test the various aspects of the proposed model are presented.

6.2   STATISTICAL ANALYSIS

The analysis of the questionnaire commenced by testing its construct reliability and validity. Table 6-1 presents the revised result of the internal consistency of each scale as measured by Cronbach alpha coefficients.

Table 6-1 Revised assessment of the internal consistency of each scale

Scale	Cronbach alpha coefficient	Number of items
Affective commitment (AC)	0.78	6
Continuance commitment (CC)	0.61	5
Normative commitment (NC)	0.76	6
Compensation (COMP)	0.90	13
Job characteristics (JC)	0.41	2
Training and development opportunities (TD)	0.83	6
Supervisor support (SS)	0.90	6
Career opportunities (CO)	0.76	4
Work/life policies (WLP)	0.87	4

The composite reliability coefficients of all the measurement scales but three, satisfied Nunnally's (1978) guidelines.

Continuance commitment showed a weak reliability coefficient of 0.50. Based on the results of the reliability analysis and the inter-item correlation coefficient matrix (not shown here), one item was removed from the continuance commitment measurement scale. On this basis continuance

commitment (V28) "If I had not already put so much of myself into this organisation, I might consider working elsewhere" was removed. As a result of this change the reliability coefficient of the continuance commitment scale improved to 0.61.

Job characteristics show a weak negative reliability coefficient of –0.16. Two items were removed from this scale. Job characteristic (V43) "The job denies me any chance to use my personal initiative or judgement in carrying out the work" and job characteristic (V44) "The job is quite simple and repetitive" do not correlate highly with any of the three components in this construct (construct validity). As a result of this specification the reliability coefficient of the job characteristics scale improved to 0.41.

Career opportunities show a weak reliability coefficient of 0.54. Two items were removed from this scale. Career opportunity (V60) "Job vacancies at the organisation are usually filled by people from outside the organisation," and career opportunity (V62) "An employee who applies for another job at the organisation has a better chance of getting that job than someone from outside the organisation who applies for the job" did not correlate highly with any of the other 4 items in this scale. Both questions originated from perceived organisational policy of filling vacancies from within by Landau and Hammer (1986). As a result of this change the reliability coefficient of the continuance commitment scale improved to 0.76.

6.2.1. Factor analysis

Factor analysis was conducted to confirm the validity of the scales. Items from the six retention factors, affective commitment, continuance commitment and normative commitment scales were entered into the factor analysis and nine factors were forced.

6.2.1.1. Dependent variables

One of the three dependent variables emerged cleanly with an eigenvalue of more than 1.0. Of the remaining 17 items, only four items cross loaded to a different dependent variable.

6.2.1.2. Independent variables

Four of the six independent variables emerged cleanly with an eigenvalue of more than 1.0. Of the remaining 35 items, only five items cross loaded to a different independent variable.

The factor analysis is thoroughly discussed in Appendix C - FACTOR ANALYSIS OF THE MEASUREMENT INSTRUMENT SCALES.

6.2.2. Intercorrelations for the variables

The scale correlations are calculated between the independent and dependent variables and two demographic variables. In Table 6-2 the correlations matrix reflects coefficients that vary between -0.409 and 0.85.

Table 6-2 Correlation coefficient matrix of the variables

	Mean	Std. Dev.	AC	CC	NC	OC	COMP	JC	TD	SS	CO	WLP	AGE	OT
AC	3.61	0.70	1.0											
CC	3.07	0.70	.115	1.0										
NC	3.33	0.72	.651 **	.115 *	1.0									
OC	3.34	0.53	.788 **	.604 **	.850 **	1.0								
COMP	3.04	0.66	.401 **	.076	.364 **	.377 **	1.0							
JC	4.19	0.60	-.006	-.217 *	.033	-.083	.007	1.0						
TD	3.24	0.76	.363 **	.104	.361 **	.370 **	.473 **	.224 *	1.0					
SS	3.45	0.89	.473 **	.044	.290 **	.360 **	.257 *	.217 *	.393 **	1.0				
CO	3.02	0.79	.446 **	.033	.292 **	.344 **	.273 **	.107	.585 **	.523 **	1.0			
WLP	3.05	0.96	.354 **	.209 *	.142	.312 **	.047	-.100	.191	.332 **	.33 **	1.0		
AGE	29.99	5.86	.054	-.160	.052	-.023	.185	.085	.017	-.147	-.29 **	.036	1.0	
OT	2.86	2.04	-.166	-.106	-.092	-.161	-.029	-.057	-.82	-.277 **	-.409 **	-.344 **	.352 **	1.0

$**p \leq 0.01$; $* p \leq 0.05$; N=94

AC=Affective commitment; CC=Continuance commitment; NC=Normative commitment; OC=Organisational commitment; COMP=Compensation; JC=Job characteristics; TD=Training and development opportunities; SS=Supervisor support; CO=Career opportunities; WLP=Work/life policies; AGE=Age; OT=Organisational tenure

The correlation matrix presents the relations between the three measures of commitment namely affective, continuance and normative commitment and the various retention factors. In addition the correlation between the overall measure namely organisational commitment and the retention factors is shown.

All the retention factors except job characteristics, age and organisational tenure had a strong and significant relation to affective commitment.

Only the work/life policy factor is significantly related to continuance commitment. Job characteristics are not significantly related to continuance commitment. The other independent variables, namely compensation, training and development opportunities, supervisor support, career opportunities, age and organisational tenure were poorly and non-significantly related to continuance commitment.

All the retention factors except job characteristics, work/life policies, age and organisational tenure had a strong and significant relation to normative commitment.

All the retention factors, except job characteristics, age and organisational tenure had a strong and significant relation to organisational commitment as a total of all the different commitments.

Age (AGE) and organisational tenure (OT) had no correlation with any of the commitments.

6.2.3. Control variables

As discussed in 5.7.2.4, demographic variables of age and organisational tenure have an impact on organisational commitment. According to Table 6–2, both age and organisational tenure had no correlation with any of the commitment components, and thus will not be used in the linear regression model.

6.2.4. Regression

Linear regression was calculated on individual commitment components and on organisational commitment as an overall measure of commitment.

In Table 6-3 the results of the relation between the specified independent variables and affective commitment are presented.

Table 6-3 Linear regression of the specified independent variables on affective commitment

Independent variables	Parameter estimate	Standard error	t-value	p
Intercept	1.419	.548	2.59	0.011
Compensation	.293*	.104	2.82	.006
Job characteristics	-.077	.0106	-.73	.470
Training and development opportunities	.008	.109	.08	.940
Supervisor support	.205*	.083	2.47	.017
Career opportunity	.0154	.103	1.49	.139
Work/life policies	.138*	.068	2.01	.048
*p≤0.05; N=94 Overall model: F=8.90, p≤0.0001; R²=0.38; Adjusted R²=0.34.				

Table 6–3 present the result of predictors of affective commitment. The regression coefficient of independent variables on affective commitment was estimated. The overall model is significant at the 1% level. The retention factors explain 38% of the variance in the affective commitment. Of the independent variables, compensation (+), supervisor support (+) and work/life policies (+) are the only predictors statistically different from zero and had a significant and direct effect on affective commitment. The remaining independent variables, namely job characteristics (-), training and development opportunities (+) and career opportunities (+) had no significant direct effect on affective commitment.

In Table 6-4 the results of the relation between the specified independent variables and continuance commitment are presented.

Table 6-4 Linear regression of independent variables on continuance commitment

Independent variables	Parameter estimate	Standard error	t-value	p
Intercept	3.480	.658	5.29	.0001
Compensation	.013	.125	.11	.916
Job characteristics	-.270*	.127	-2.12	.037
Training and development opportunities	.166	.131	1.27	.208
Supervisor support	.020	.100	.20	.841
Career opportunity	-.112	.123	-.90	.369
Work/life policies	.136	.083	1.65	.103
*p≤0.05; N=94				
Overall model: F=1.70, p≤0.1296; R²=0.11; Adjusted R²=0.04.				

The results of the overall model are non-significant and all the retention factors explain only 11% of the variance in the continuance commitment variable. Job characteristics (-) is the only predictor statistically different from zero and has direct effect on continuance commitment. Compensation (+), training and development opportunities (+), supervisor support (+), career opportunities (-) and work/life policies (+) had no significant direct effect on continuance commitment.

In Table 6-5 the results of the relation between the specified independent variables and normative commitment are presented.

Table 6-5 Linear regression of independent variables on normative commitment

Independent variables	Parameter estimate	Standard error	t-value	p
Intercept	1.618	.637	2.54	.013
Compensation	.260*	.121	2.14	.035
Job characteristics	-.046	.123	-.37	.710
Training and development opportunities	.162	.127	1.28	.205
Supervisor support	.108	.097	1.12	.265
Career opportunity	.047	.120	.39	.699
Work/life policies	.025	.080	.31	.756
*p≤0.05; N=94				
Overall model: F=3.74, p≤0.0023; R²=0.21; Adjusted R²=0.15.				

The overall model is non significant and all the retention factors explain only 21% of the variance in the normative commitment variable as indicated by R^2. All the retention factors are non-significant except compensation (+) which was statistically different from zero and had direct effect on normative commitment. Job characteristics (-), training and development opportunities (+), supervisor support (+), career opportunities (+) and work/life policies (+) had no direct effect on normative commitment.

In Table 6-6 the results of the relation between the specified independent variables and organisational commitment are presented.

Table 6-6 Linear regression of independent variables on organisational commitment

Independent variables	Parameter estimate	Standard error	t-value	p
Intercept	2.173	0.440	4.94	0.000
Compensation	0.188**	0.83	2.26	0.027
Job characteristics	-0.131	0.085	-1.54	0.126
Training and development opportunities	0.112	0.088	1.28	0.204
Supervisor support	0.111*	0.067	1.67	0.099
Career opportunity	0.030	0.083	0.36	0.721
Work/life policies	0.100*	0.055	1.81	0.074
**p≤0.05; *p≤0.1; N=94				
Overall model: F=6.16, p≤0.0001; R²=0.30; Adjusted R²=0.25.				

The overall model is significant at the 1% level and retention factors explained 30% of the organisational commitment variable. Compensation (+) was the only predictor statistically different from zero and had significant and direct effects on organisational commitment on the 5% level. Supervisor support (+) and work/life policies (+) had a significant effect on organisational commitment only at the 10% level. Job characteristics (-), training and development opportunities (+) and career opportunities (+) had no significant direct effect on organisational commitment.

6.3   SUMMARY OF RESULTS

The internal consistency of the measurement scales was calculated and four factors were removed to increase the reliability coefficient. A factor analysis for the dependent and independent variables was calculated to assess the construct validity. One of the three dependent variables and four of the six

independent variables came out cleanly. The factor analysis is discussed in detail in Appendix C.

A correlation coefficient matrix is presented and all the independent variables are strongly and significantly related to organisational commitment, except job characteristics, age and organisational tenure. Age and organisational tenure were used as control variables in previous studies, but did not have any impact on organisational commitment in this study. Age and organisational tenure were not controlled in the linear regression.

Table 6–7 provides a summary version of the regression analysis presented earlier where only the coefficients of the various independent variables and their level of significance (indicated by *) are presented.

Table 6-7 Coefficients of regression analysis

Variables	Organisational commitment	Affective commitment	Continuance commitment	Normative commitment
Compensation	0.188 *	.293 *	.013	.260 *
Job characteristics	-0.131	-.077	-.270 *	-.046
Training and development opportunities	0.112	.008	.166	.162
Supervisor support	0.111	.205 *	.020	.108
Career opportunities	0.030	.0154	-.112	.047
Work/life policies	0.100	.138 *	.136	.025
	$R^2=0.30$	$R^2=0.38$	$R^2=0.11$	$R^2=0.21$
*p≤0.05; N=94				

The overall fit of the various models as indicated by the R^2, indicates that a low percentage of the variation has been explained. The best results were obtained for affective commitment and the worst for continuance

commitment. The low R² are in line with that obtained in cases of cross sectional analysis. The most relevant explanatory factors were compensation, supervisor support, work/life policies and job characteristics had a significant influence on the development of organisational commitment in high technology employees.

6.4   CONCLUSIONS

According to the results, compensation has a strong, significant relation to organisational commitment, affective commitment and normative commitment. The subscale coefficients (not shown here), indicate high technology employees are satisfied with the benefits received, the structure or administration of their compensation and the level or competitiveness of their compensation. However, they were not very satisfied with the way their raises were determined or their most recent raise. The results obtained in the study are supported by Higginbotham's study (1997) on pay satisfaction, and Kochanski and Ledford's study (2001) on retaining high technology professionals.

The majority of high technology employees receive an incentive, which provides a measure of group performance feedback. This feedback creates the perception that the organisation values their commitment. The findings confirm that high technology employees want a competitive salary. Perceptions of a "fair" salary have shown to be positively linked to affective commitment (Schaubroeck et al., 1994) and with an intention to stay (Higginbotham, 1997).

High technology employees would also like to know how their compensation is determined and how they can increase their pay. Most of the employees believe their supervisor has an influence on their raises (factor analysis cross loading).

According to the results, job characteristics have a significant strong negative relation to continuance commitment. High technology employees' work requires them to use a number of complex or high level skills. This gives them considerable opportunity for independence, skill proficiency and freedom in how they complete their work. Continuance commitment creates

a mindset of perceived costs, which compels the employees to stay in the organisation because of sunken costs.

The majority of employees are between the ages of 25 and 29 and with organisational tenure less than 5 years, which indicates that there are few organisational investments made, e.g. pension plans. High technology employees could thus easily resign because of their high skill set demand in the market and minimal investments in the company.

The relation between supervisor support and affective commitment is strongly significant. Supervisor support provides individuals with the chance to make a difference on the job, try out new skills, exercise discretion and receive feedback on their performance. This is supported by Paré and colleagues (2001:27-28) who demonstrated clearly that high technology employees are particularly sensitive to recognition and has been shown to have a direct effect on affective commitment. Supervisor supports make high technology employees feel important and responsible in that they can use their innovation and skill to the advantage of the organisation. This is a major intrinsic motivation for individuals.

The relation between work/life policies and affective commitment is moderately significant. Many high technology organisations offers employees family responsibility leave, referral programmes, flexible work arrangements and other human resources policies aimed at helping them balance work and family responsibilities (Friedan, 1989; Leinfuss, 1998). The majority of employees are between 25 – 29 years old, and are about equally divided into single and married employees. The majority of employees work between 1-19 hours overtime per week.

The majority of employees indicated that they have minimal conflict between their work and family. Based on the type of work these employees do, they receive a lot of flexibility and freedom to allocate their time to work. Minimal conflict, flexibility and freedom indicate a balance between their work and personal lives.

Employees are more attracted to organisations offering work/life benefits, regardless of whether the employee is a beneficiary or nonuser. These

benefits are generally seen as a general indicator of corporate concern and responsibility (Grover & Crooker, 1995). Basically, for people to commit to an organisation, they need to know they are cared about.

Training, development opportunities and career opportunities were found not to have any direct impact on the development of organisational commitment in the high technology industry. This finding is contrary to other studies in the high technology industry (Agarwal & Ferratt, 1999; Kochanski & Ledford, 2001; Meyer & Allen, 1997; Paré et al., 2001). Training is vital to the livelihood of high technology employees and the only way to keep employment in their careers (Tomlinson, 2002). Employees may see training as a perk and not as an essential investment in intellectual capital of the organisation, thus not making them committed to the organisation.

Many high technology employees may resent the way their careers are blocked by the department hierarchy (Goldner & Ritti, 1967). Attitudes vary on the perceived organisational policy of filling vacancies from within (removed from questionnaire because of low inter-item correlation coefficient). This may mean policies are not enforced and managers may be minimally interested in shaping and directing high technology employees' careers.

6.5   RECOMMENDATIONS

High technology organisations are not only interested in the retention of employees but also in creating a mutually beneficial interdependence with employees.

These retention factors might serve as a means to demonstrate the organisation's support for, or commitment to, their employees and in turn cultivate a reciprocal attachment by employees. Employees' organisational commitment is related to their belief that these retention factors were motivated by the desire to retain good employees and to be fair in the treatment of employees.

Despite the literature's view on compensation's weak relation to commitment, it still has an impact on employees' commitment. The monetary value of the compensation is less important but the way in which organisations determine

pay is clearly a concern to high technology employees. Employees constantly review if their salary is still competitive. Informing employees on the process of determining pay levels could change this perception. High technology employees see profit sharing as a form of recognition for good work. Because of the high technology employee's commitment to their team, group based pay may result in more commitment to the organisation. Clever schemes devised by high technology organisations (such as golden handcuffs and stock options) may bind employees to the organisation but lock in and create bitterness among top employees.

Organisations should have a process for encouraging, planning and investing in the high technology employee's professional development. Organisational investment in employees was associated with higher levels of employee affective commitment to the organisation. This process will indicate that management is committed to establishing a long-term relationship with employees. These educational investments could make employees more committed to their profession. This might lead to reduced organisational commitment, or make the employees more attractive to headhunters, both of which could lead to reduced retention. These development opportunities should rather be seen as essential and invaluable to the organisation. Organisations should view such investments as their social responsibility to build a better South Africa.

Jobs characterised by varied work, an opportunity to solve challenging problems, opportunities to work with the best people, freedom, flexibility and being able to pursue interesting assignments would increase employee's retention. These feelings of increased competence and the meaningfulness of the work should develop more organisational commitment.

As more families are becoming dual income based, flexibility around work has become more important. Organisations need to accommodate these individuals with remote access for telecommuting, childcare centers, referral programmes and employee assistance programmes. Both beneficiaries and non-users of the benefits will have a more positive attitude toward the company. Offering assistance to employees in need, symbolises concern for employees and positively influences attachment to the organisation.

6.6   FUTURE STUDIES

The aim of the present study was to assist human resources professionals and researchers to identify the effect of retention factors on high technology employees' organisational commitment. However, in future investigations several limitations of this study would need to be considered. First, respondents from various organisations in the high technology industry could be used to obtain a more representative sample. Second, cross sectional data cannot confirm the direction of causality implied in the research model. Last, longitudinal studies are needed in order to validate the predictive dimension of the model.

Future studies could include:

- Some of the over 50 different types of retention factors identified in high technology literature, could be selected and their impact on organisational commitment measured.

- In this study the retention factors' effect on organisational commitment was tested. Organisational commitment is also described in literature as attitudinal commitment. The intention to stay form part of behavioural commitment. A study could investigate if the retention factors, used in this study, have more effect on the attitudinal or behavioural commitment of high technology employees.

- High technology employees can become more committed to their own profession, because of the respect they receive as experts and the ability to deal with difficult technical situations. A study could investigate the difference in retention factors on their professional commitment and organisational commitment.

- Some organisations, in order to accommodate their valuable employees, offer them the flexibility of telecommuting. A study could investigate whether telecommuters have organisational commitment, since their physical interaction is limited.

- The world of work is experiencing rapid change and the high technology contingent workers have become prevalent. Since work is contract based and retention is not a major concern to the organisation, a study could

investigate whether contingent workers have any organisational commitment.

- As the workforce is becoming more diverse, a study could investigate the effect of retention factors on organisational commitment in a non-homogenous employee environment.

- Increasingly, individuals are unable to depend on a single organisation for their entire career because of mergers, downsizing and layoffs. A longitudinal study could investigate the employee emigration from organisational commitment to career commitment.

- The Internet has created opportunities with less risk and more reward. Many high technology professionals are changing careers and working for high technology start-up companies. A study could determine if these professionals have developed organisational commitment over time, if any.

In conclusion, these findings present solutions to some of the issues regarding retention of valuable high technology employees. Other are encouraged to examine, both theoretically and empirically, these and other retention and commitment constructs.

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APPENDIX A – QUESTIONNAIRE

QUESTIONNAIRE

Dear Respondent

You are kindly requested to respond to the statements in the following questionnaire. The statements are related to **work and life in organisations**.

Your responses are of great importance as this survey forms part of a study of the aspects mentioned above. I therefore value your co-operation very highly.

On the following pages you will find several kinds of questions. Different instructions will precede the various sets of statements. Please follow the instructions carefully. It should not take you more than 20 minutes to complete the entire questionnaire. Please ensure that you respond to every question.

There are no right or wrong answers to any questions. I am only interested in your personal opinions. The "right" answer to any question is your frank and truthful response.

Your answers will be treated in **strict confidence** and will only be used for research purposes. Your name should not appear anywhere on this document. Please turn to the next page.

A. Please complete the following biographical information. This information will only be used for statistical purposes.

1. How would you classify your job?

Professional This group includes occupations whose main tasks require a high level of professional knowledge and experience in the fields of physical sciences. The main tasks consist of increasing the existing stock of knowledge, applying scientific concepts and theories to the solution of problems. <u>Includes</u>: engineers (electronic); physicists; system analysts, etc.	**1**
Technician and associated professional This group includes occupations whose main tasks require technical knowledge and experience in one or more fields of the physical sciences. The main tasks consist of carrying out technical work connected with the application of concepts and operational methods. <u>Includes:</u> computer programmers; product designers; specialised inspectors and testers of electronic products; technicians (engineering or physical science) quality inspectors, etc.	**2**

V1   1

2. How long have you been employed at this company (in completed years)?

V2   2

3. How many hours do you work **more** than the required 40 hours per week (in hours)?

V3 | | | 4

4. How many days (excluding vacation leave) have you been absent from work during the past year (in days)?

V4 | | | 6

5. Do you participate in any incentive scheme?

Yes	1
No	2

V5 | | 8

6. What is your highest qualification?

Primary school	1
Secondary school	2
Standard 10/Grade 12 or equivalent	3
Post school certificate or diploma	4
Bachelor's degree or equivalent	5
Master's degree or equivalent	6
Doctoral degree or equivalent	7
Other (specify):	

V6 | | | 9

7. What is your home language?

Afrikaans	**1**	V7 ☐☐	11
English	**2**		
Ndebele	**3**		
North Sotho	**4**		
South Sotho	**5**		
Swazi	**6**		
Tsonga	**7**		
Tswana	**8**		
Venda	**9**		
Xhosa	**10**		
Zulu	**11**		
Sign language	**12**		
Other (specify):			

8. What is your marital status?

Single	**1**	V8 ☐	13
Married	**2**		
Widower/Widow	**3**		
Divorced	**4**		
Living together	**5**		

9. What is your gender?

Male	**1**	V9 ☐	14
Female	**2**		

10. What is your age (years)?

V10 [|] 15

B. Please respond to the following questions on your commitment to the organisation. Use the scale provided below each statement to reflect your view.

11. This organisation has a great deal of personal meaning for me.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V11   17

12. Right now, staying with my organisation is a matter of necessity.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V12   18

13. I owe a great deal to my organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V13   19

14. It would be very hard for me to leave my organisation right now, even if I wanted to.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V14   20

15. I feel that I have too few options to consider leaving this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V15 ☐ 21

16. I do *not* feel "emotionally" attached to this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V16 ☐ 22

17. I would feel guilty if I leave my organisation now.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V17 ☐ 23

18. I really feel as if this organisation's problems are my own.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V18 ☐ 24

19. One of the few negative consequences of leaving this organisation would be the scarcity of other job opportunities.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V19 ☐ 25

20. I do *not* feel like "part of the family" at my organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V20 ☐ 26

21. I would not leave my organisation right now because I have a sense of obligation to its people.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V21 ☐ 27

22. I do *not* feel a strong sense of "belonging" to my organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V22 ☐ 28

23. Even if it were to my advantage, I do not feel it would be right to leave my organisation now.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V23 ☐ 29

24. I do *not* feel any obligation to remain with my current employer.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V24 ☐ 30

25. This organisation deserves my loyalty.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V25 [ ] 31

26. Too much of my life would be disrupted if I decided I wanted to leave my organisation now.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V26 [ ] 32

27. I would be very happy to spend the rest of my career with this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V27 [ ] 33

28. If I had not already put so much of myself into this organisation, I might consider working elsewhere.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V28 [ ] 34

C. The statements below describe various aspects of your compensation (pay, benefits, etc.). For each statement, decide how satisfied or dissatisfied you feel about your compensation. Use the scale provided below each statement to reflect your view.

29. My benefits package.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V29 [ ] 35

30. My most recent raise.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V30 [ ] 36

31. The information about pay issues provided by the company.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V31 [ ] 37

32. My current total salary package (base pay, benefits and incentives).

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V32 [ ] 38

33. The company's pay structure.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V33 [ ] 39

34. Influence my supervisor has on my pay.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V34 [ ] 40

35. The competitiveness of my total salary package (base pay, benefits and incentives).

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V35 [ ] 41

36. The value of my benefits.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V36 [ ] 42

37. Consistency of the company's pay policies.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V37 [ ] 43

38. Size of my current financial incentive.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V38 [ ] 44

39. The number of benefits I receive.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V39 [ ] 45

40. How my raises are determined.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V40 [ ] 46

41. How the company administers pay.

Very dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied
1	**2**	**3**	**4**	**5**

V41 [ ] 47

D. Please respond to the following questions related to the characteristics of your job. Use the scale provided below each statement to reflect your view.

42. The job requires me to use a number of complex or high-level skills.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V42 [ ] 48

43. The job *denies me* any chance to use my personal initiative or judgement in carrying out the work.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V43 [ ] 49

44. The job is quite simple and repetitive.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V44 [ ] 50

45. The job gives me considerable opportunity for independence and freedom in how I do the work.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V45 [ ] 51

E. Please respond to the following training questions. Use the scale provided below each statement to reflect your view.

46. This company is providing me with job specific training.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V46 ☐ 52

47. Sufficient time is allocated for product and solution training.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V47 ☐ 53

48. I can apply the training I receive, in this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V48 ☐ 54

49. There are enough development opportunities for me in this company.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V49 ☐ 55

50. Sufficient money is allocated for product and solution training.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V50 [ ] 56

51. I have the opportunity to be involved in activities that promote my professional development.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V51 [ ] 57

F. Please respond to the following questions on your supervisor. Use the scale provided below each statement to reflect your view.

52. My supervisor looks for opportunities to praise positive employee performance, both privately and in front of others.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V52 ☐ 58

53. I feel undervalued by my supervisor.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V53 ☐ 59

54. The supervisor almost *never* gives me any "feedback" about how well I complete my work.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V54 ☐ 60

55. My supervisor rewards a good idea by implementing it and giving the responsible employee(s) credit.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V55 ☐ 61

56. My supervisor seldom recognises an employee for work well done.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V56   62

57. My supervisor often lets me know how well he thinks I am performing the job.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V57   63

G. Please respond to the following career development questions. Use the scale provided below each statement to reflect your view.

58. My chances for being promoted are good.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V58   64

59. There are enough career opportunities for me in this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V59   65

60. Job vacancies at this organisation are usually filled by people from outside this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V60   66

61. It would be easy to find a job in another department.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V61   67

62. An employee who applies for another job at this organisation has a better chance of getting that job than someone from outside this organisation who applies for the job.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V62   68

63. An employee's career development is important to this organisation.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V63   69

H. Please respond to the following questions on your balance between work and life. Use the scale provided below each statement to reflect your view.

64. I often feel like there is too much work to do.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V64 [ ] 70

65. My work schedule in often in conflict with my personal life.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V65 [ ] 71

66. My job affects my role as a spouse and/or a parent.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V66 [ ] 72

67. My job has negative effects on my personal life.

Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1	**2**	**3**	**4**	**5**

V67 [ ] 73

I. **Please respond to the following questions on your commitment to the organisation. Use the scale provided below each statement to reflect your view.**

68. How would you rate your chances of still working at this company a year from now?

Not likely at all	Barely likely	Somewhat likely	Quite likely	Very likely
1	**2**	**3**	**4**	**5**

V68 ☐ 74

69. Do you intend to leave this company voluntarily in the near future?

Will definitely leave	Chances are quite good	Situation is quite uncertain	Chances are very slight	Definitely will not leave
1	**2**	**3**	**4**	**5**

V69 ☐ 75

70. What are your plans for staying with this organisation?

I intent to leave as soon as possible	I will leave if something better turns up	I will leave only if something considerably better turns up	I will leave only if something very much better turns up	I intent to stay until I retire
1	**2**	**3**	**4**	**5**

V70 ☐ 76

Thank you for your co-operation.

J. Respondent number

V71 ☐☐☐ 77

APPENDIX B – CONTENT ANALYSIS

Retention factors	Frequency of factors in high technology literature	Rank order of frequency
Personal characteristics		
1. Ability	0	not identified in the content literature analysis
2. Age	0	not identified in the content literature analysis
3. Education	0	not identified in the content analysis of literature
4. Gender	1	19
5. Job level/status or title	1	19
6. Marital status	0	not identified in the content literature analysis
7. Need for achievement	0	not identified in the content literature analysis
8. Number of dependants	0	not identified in the content literature analysis
9. Perceived personal competence	0	not identified in the content literature analysis
10. Protestant work ethic	0	not identified in the content literature analysis
11. Organisational tenure	0	not identified in the

		content literature analysis
Compensation		
12. Base salary	14	8
13. Cash recognition	8	13
14. Flexible pay	6	14
15. Hot skills premium	2	18
16. Incentives	2	18
17. Ownership/Initial Price Offering (IPO) or equity	11	10
18. Satisfaction with pay level	6	14
19. Satisfaction with pay process	3	17
20. Satisfaction with pay raises	2	18
Role states		
21. Role ambiguity	3	17
22. Role conflict	1	19
23. Role overload	0	not identified in the content literature analysis
Job characteristics		
24. Job challenge	15	7
25. Meaningfulness of work	6	14
26. Resource adequacy	0	not identified in the content literature analysis
27. Skill variety	20	4
28. Start-up/incubator atmosphere	5	15
29. Job autonomy	17	6
30. Variety/diversification of jobs	13	9
31. Work overload	0	not identified in the

		content literature analysis
32. Working with new technology	10	11
Group/Leader relations		
33. Collegial atmosphere	5	15
34. Co-worker behaviour/support or feedback	8	13
35. Group cohesiveness	0	not identified in the content literature analysis
36. Leader communication	3	17
37. Leader consideration behaviour	1	19
38. Leader initiating structure	0	not identified in the content literature analysis
39. Participative leadership	0	not identified in the content literature analysis
40. Peer cohesion	9	12
41. Supervisor behaviour/support or feedback	25	2
42. Task interdependence	0	not identified in the content literature analysis
Organisational characteristics		
43. Degree of centralisation/bureaucracy	5	15
44. Dependability of organisation	1	19
45. Expected loyalty of organisation	0	not identified in the content literature analysis
46. Size of organisation	10	11

Career		
47. Career goals	6	14
48. Career opportunities	23	3
Other		
49. Coaching	4	16
50. Cost of departure	0	not identified in the content literature analysis
Indirect financial rewards		
51. -time off	8	13
52. -benefits	4	16
53. -perquisites	6	14
54. Job security/stability	6	14
55. Mentoring	11	10
56. Quality of life or work/life policies	19	5
57. Sabbaticals	1	19
58. Telecommuting	6	14
59. Training and development opportunities	32	1
Total	**339**	Range 1 to 19

Definition of terms used in content analysis, are listed below:

1. Ability: "The essence of the term is that the person can perform the task now, no further training is needed" (Reber, 1995:1).
2. Age: The length of time since the birth of an employee.
3. Education: Classification of employees according to level of education, e.g. graduate or post graduate.
4. Gender: Classification of employees according to male of female.
5. Job level/status of title: Occupational categorising of the job according the amount of responsibility in organisation.
6. Marital status: Classification of employees according to marital status, e.g. single, married, divorced or widowed.

7. <u>Need for achievement</u>: "...personal motive manifested as a striving for success; quite literally, a motive to achieve" (Reber, 1995:6).

8. <u>Number of dependants</u>: Quantitative number of individuals dependent on primary member of unit.

9. Perceived personal competence. Perceived personal ability to perform some task or master a skill.

10. <u>Protestant work ethic</u>: "...commitment to the values of hard work, to work itself as an objective, and the work organisation as an inevitable structure within which internalised values can be satisfied" (Kidron, 1978:240).

11. <u>Organisational tenure</u>: Length of time spent at current organisation.

12. <u>Base salary</u>: Normal pay for labour.

13. <u>Cash recognition</u>: Monetary acknowledgement.

14. <u>Flexible pay</u>: Employees customise their compensation according to their needs.

15. <u>Hot skills premium</u>: Compensation for rare, specialised skills.

16. <u>Incentives</u>: Monetary rewards based on degree of risk of achieving monetary targets.

17. <u>Initial Price Offering (IPO)</u>: Company stock, issued to employees resembling monetary financial interest, before extended to public.

18. <u>Satisfaction with pay level</u>: Employees' contentment with the level of compensation determined by hierarchy.

19. <u>Satisfaction with pay process</u>: Employees' contentment with the procedures used to determine compensation conditions.

20. Satisfaction with pay raises. Employees' contentment with the perceived fairness of compensation.

21. <u>Role ambiguity</u>: "The degree to which a person perceives inconsistent or mutually exclusive expectations or insufficient expectations (respectively) about his/her work role" (Rizzo et al., 1970).

22. <u>Role conflict</u>: "A role which conflicts with their value system, or to play two or more roles which conflict with each other or to cope with incompatible expectations" (Kahn et. al., 1964).

23. <u>Role overload</u>: "A role overload is perceived to exist in those cases in which the worker feels that he or she has more work than can be completed in the time allotted" (Newton & Keenan, 1987).

24. <u>Job challenge</u>: This concept refers to the challenge the work requires in order to successfully complete it. This is not formally a component of Hackman and Oldham's (1980) job characteristics model.

25. <u>Meaningfulness of work</u>: An objective characterisation of how meaningful a particular job is.

26. <u>Resource adequacy</u>: Receiving enough resources form the organisation to complete a job.

27. <u>Skill variety</u>: "The degree to which a job requires a variety of different activities in carrying out the work, involving the use of a number of different skills and talents of the person" (Hackman & Oldham, 1980).

28. <u>Start-up incubator atmosphere</u>: Highly entrepreneurial and volatile work environment with few formal structures.

29. <u>Job autonomy</u>: "The degree to which the job provides substantial freedom, independence and discretion to the individual to schedule work and determine the procedures used in carrying it out" (Hackman & Oldham, 1980).

30. <u>Variety/diversification of jobs</u>: Increasing the set of responsibilities of the employee's job.

31. <u>Work overload</u>: Employee receiving to much work to do in a to short time.

32. <u>Working with new technology</u>: Having access to experiment with new technology, products and services.

33. <u>Collegial atmosphere</u>: Highly interactive group with few or no formal structure.

34. <u>Co-worker behaviour/support or feedback</u>: Receiving respect, support and feedback form one's peers.

35. <u>Group cohesiveness</u>: 'A dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its goals and objectives' (Canon, 1982:124).

36. <u>Leader communication</u>: "Supervisor who provides accurate and timely communication to team" (Mathieu & Zajac, 1990).

37. <u>Leader consideration behaviour</u>: Seeking out issues and solutions from employees.

38. <u>Leader initiating structure</u>: Source of role clarification and subordinate satisfaction.

39. <u>Participative management</u>: "A form of management of an organisation in which the employees are involved in managerial decision –making on issues that directly concern them" (Reber, 1995:542)

40. Peer cohesion: Perception of peers as a unifying force or object.

41. Supervisor support: "The relationship between subordinate and supervisor, which is viewed by the subordinate as having a positive contribution on their development" (Kram, 1985:10).

42. Task interdependence: "when employees experience high functional dependence they become more aware of their own contribution to the organisation" (Morris & Steers, 1980).

43. Degree of centralisation/bureaucracy: The extent of control in the organisation structure.

44. Dependability of organisation: Reliance on the organisation for support.

45. Expected loyalty of organisation: Anticipated loyalty of the organisation towards its employees.

46. Size of organisation: Amount of people in one organisation.

47. Career goals: Individual career milestones based on the future role within the company.

48. Career opportunities: Job opportunities to move either vertically or horizontally in an organisation to master competencies.

49. Coaching: "Mainly real-time, directly concerned with immediate improvement of performance and development of skills" (Borkowski, 2001).

50. Cost of departure: The monetary investments

51. Time off: Non compensated leave from work.

52. Benefits: Services provided by company to assist employees.

53. Perquisites: Gratuities for service. Any incidental gratuity from a certain type of employment.

54. Job security/stability: An employee's sense of power that they can "maintain desired continuity in a threatened job situation." (Greenhalgh & Rosenblatt, 1984:438)

55. Mentoring: "A process of an integrated approach to advising, coaching, and nurturing, focused on creating a viable relationship to enhance individual career/personal/ professional growth and development" (Adams, 1998).

56. Quality of life or work/life policies: "Work conditions provided by organisations to take into account the needs of the workforce and to minimise the consequences of conflict between the work and family issues" (Paré et al., 2001).

57. Sabbaticals: Remunerated leave for extended periods

58. <u>Telecommuting</u>: Interacting with the workplace from afar via electronic technology.

59. <u>Training and development opportunities</u>: Opportunities for employees to acquire training of any kind and being given the opportunity to apply these newly learned skills.

APPENDIX C – FACTOR ANALYSIS OF THE MEASUREMENT INSTRUMENT SCALES

Factor analysis was conducted to confirm the validity of the scales. Items from the six retention factors, affective commitment, continuance commitment and normative commitment scales were entered into the factor analysis and the nine factors were forced. The independent and dependent scales were orthogonal rotated, assuming the factors are uncorrelated. Factor matrix loadings of less than 0.30 were left out.

Dependent Variable Factor Analysis

The factor analysis was conducted on the organisational commitment scale of Meyer and Allen (1991). As shown in Table 1, one of the three dependent variables emerged cleanly and all had an eigenvalue of more than 1.0. Of the remaining 17 items, only four cross loaded to a different scale. CC V14 and CC V26 could be removed from the continuance commitment scale since its factor loading was less than 0.50. Similarly, NC V24 and NC V25 could be removed in the normative commitment scale since its factor loading was not above the cut-off point.

Table 1-Dependent variable factor analysis results

	Factor 1 Affective commitment	**Factor 2** Normative commitment	**Factor 3** Continuance commitment
AC V11	**0.522**	0.385	
AC V16	**0.683**	0.404	
AC V18	**0.570**		
AC V20	**0.733**		
AC V22	**0.830**		
AC V27	**0.584**		
CC V12			**0.627**
CC V14		**0.622**	**0.447**
CC V15			**0.707**
CC V19			**0.631**
CC V26		**0.670**	**0.293**
NC V13	0.302	**0.505**	
NC V17		**0.730**	
NC V21		**0.638**	
NC V23	0.326	**0.644**	
NC V24	**0.588**	**0.314**	
NC V25	**0.430**	**0.348**	
Eigenvalue	4.822	2.015	1.386
% variance	30.14	12.60	8.66
Cumulative % variance	30.14	42.74	51.40
All factor loadings above 0.30 are shown			

Independent Variable Factor Analysis

As shown in Table 2, four of the six independent variables emerged cleanly and all had an eigenvalue of more than 1.0. Of the remaining 35 items, only five items cross loaded to a different scale. COMP V34, V40, V41 could be removed from the compensation scale since it factor loading was less than 0.50. Similarly, TD 49 and TD 51 could be removed in the training and development scale since its factor loading was not above the cut-off point.

Table 2-Independent variable factor analysis

	Factor 1 COMP	Factor 2 SS	Factor 3 CO	Factor 4 WLP	Factor 5 TD	Factor 6 JC
COMP V29	**0.791**					
COMP V30	**0.546**					
COMP V31	**0.597**				0.460	
COMP V32	**0.783**					
COMP V33	**0.728**					
COMP V34	**0.406**	**0.610**			0.324	
COMP V35	**0.674**		0.338			
COMP V36	**0.775**					
COMP V37	**0.684**				0.359	
COMP V38	**0.757**					
COMP V39	**0.672**					
COMP V40	0.432	**0.427**				
COMP V41	0.455				**0.578**	
JC V42						**0.694**
JC V45						**0.671**
TD V46			0.412		**0.640**	0.342
TD V47			0.414		**0.618**	
TD V48					**0.544**	0.574
TD V49			**0.596**		0.190	
TD V50					**0.601**	
TD V51			**0.545**		0.435	
SS V52		**0.780**	0.346			
SS V53		**0.634**	0.329			
SS V54		**0.826**				
SS V55		**0.731**				
SS V56		**0.767**				
SS V57		**0.756**	0.339			
CO V58		0.345	**0.678**			
CO V59			**0.750**			
CO V61			**0.576**			
CO V63			**0.618**			
WLP V64				**0.699**		
WLP V65				**0.893**		
WLP V66				**0.800**		
WLP V67				**0.832**		
Eigenvalue	9.194	4.847	2.735	2.197	1.545	1.350
% variance	26.27	13.85	7.81	6.28	4.41	3.86
Cumulative % variance	26.27	40.12	47.93	54.21	58.62	62.48
All factor loadings above 0.30 are shown						

In summary the reliability and construct validity of the measurement scales was accepted.