UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

Gordon Institute of Business Science
University of Pretoria

Reward preferences of knowledge workers in technology firms and their influence on attraction, retention and motivation.

Wernardt Christiaan Toerien
Student #: 22145126

A research project submitted to the Gordon Institute of Business Science, University of Pretoria, in partial fulfilment of the requirements for the degree of Master of Business Administration.

11 November 2013

I

Abstract

Orientation: In the global war for talent, companies competing in the new knowledge economy face global shortages of their most precious resource – human capital in the form of knowledge workers. In organisations that are at the forefront of the information age, such as information technology (IT) firms, the competitive advantage comes from the intangible value of the knowledge residing within pools of highly skilled employees. It is imperative to be able to attract, retain, and motivate these scarce resources.

Research purpose: The purpose of this study was to deepen understanding of the reward preferences of IT knowledge workers in South Africa, specifically as these relate to attraction, retention, and motivation of knowledge workers.

Motivation for the study: The world of work is evolving, and the nature of relationships between knowledge workers and their employers has changed distinctly, leading to a change in the type of the rewards they prefer. The nature of these preferences in the local, industry-specific context is poorly understood.

With technology increasingly changing the way we work, the workplace is also irrevocably changing. Combined with the demanding nature of the company's most valuable people, the shifting workplace paradigm gives rise to knowledge workers valuing different rewards than before.

Research design approach and method: The research was a quantitative, empirical, and descriptive study of reward preferences, measured in a self-administered survey and analysed using non-parametric tests for variance between dependent and independent groups, internal consistency testing, and non-parametric analysis of variance (ANOVA).

Main findings: This study identifies the most important reward components in the competition for knowledge workers. It further found that reward preferences differ for attracting IT knowledge workers to a company, for retaining them, and for motivating and engaging them in their jobs.

Managerial implications: The study's findings show that a holistic approach to total rewards is required, failing which, companies will find themselves facing increased turnover and job-hopping. Importantly the study also highlights that different rewards need to form part of knowledge workers' relationship with their employer in three different scenarios — attraction, retention, and motivation.

Contribution: This study suggests a competitive rewards model that builds on the study's findings and on previous theory, to illustrate the most pertinent reward preferences that should be considered in a holistic total rewards package for South African IT knowledge workers.

Keywords: Reward preferences; new world of work; information technology; knowledge worker; South Africa; attraction, retention motivation; employee engagement; total rewards.

Declaration

I declare that this research project is my own work. It is submitted in partial fulfilment of the requirements for the degree of Master of Business Administration at the Gordon Institute of Business Science, University of Pretoria. It has not been submitted before for any degree or examination in any other university. I further declare that I have obtained the necessary authorisation and consent to carry out this research.

………………...............…………..

Wernardt Christiaan Toerien

11 November 2013

Acknowledgements

I would like to briefly extend my appreciation and acknowledgement of those people who have made these last two years, and finally, this dissertation, possible.

Firstly, I would like to extend my sincere thanks to my supervisor, Dr. Mark Bussin. For his guidance and mentorship throughout the development of this research and for making time to share his expertise and point me in the right direction, I am truly thankful.

Secondly, to my classmates, faculty, and friends I have made at GIBS over these last two years, I will treasure everything I have learnt from you all for the rest of my life. You have had a lasting impact.

To my family and friends, my infinite gratitude for their support and understanding during the two years that have led up to this dissertation.

To Ockert and Bruce, two leaders and mentors I have had the privilege of working for, your support and encouragement started me on this road, and without it I would never have managed to meet the demands of this programme. Thank you.

I would like to express my humble gratitude to my colleagues at Dell Inc. South Africa, especially to our leaders Stewart van Graan and Bradford McKenzie, who took an interest and supported me in this research.

To my parents and friends, who endured the long periods of silence when I had my head down in yet another textbook — your encouragement means the world to me.

Lastly, to Gavin, my deepest gratitude and special thanks for encouraging me and believing in this journey.

List of Figures

List of Tables

Table of Contents

1. Chapter One: Introduction to the research problem

1.1.   Background to the research problem

"The single most important challenge in shifting to globally integrated enterprises — and the consideration driving most business decisions today — will be securing a supply of high-value skills" – Sam Palmisano, former president and CEO of IBM (Stahl et al., 2012).

The world in which we work in the 21st century is a rapidly evolving place, in many ways fundamentally different from what we would have recognised as the traditional workplace merely two or three decades ago. It is this evolution, no doubt, that gave rise to the above quote from a leader of one of the world's most recognised multi-national corporations.

In many parts of the modern world, we are no longer merely human factories, shuffling to and from a place of employment in a daily transaction where we trade our labour for cold, hard currency. The modern workplace is changing fast, driven by the advent of an unprecedented revolution — the dawn of the age of information. Advances in technology are changing the nature of the world's economy as it ushers us away from being predominantly product-based towards a new, knowledge-based paradigm, where the most valuable assets we create are intangible, birthed from the talented minds of employees (Beechler & Woodward, 2009).

With the fundamental value captured in our economies undergoing this shift, the nature of companies' strategic assets is also changing, as value is increasingly primarily generated by the company's employees (Beechler, & Woodward, 2009). This shift in value generation has been recognised by many, and in what could be considered a seminal report that started a global debate on the subject, McKinsey and Company, in 1998 (Chambers, Foulon, Handfield-Jones, Hankin, & Michaels, 1998), declared that a global 'war for talent' was afoot as companies compete for control of an increasingly small pool of these value-generating assets.

Since the start of this debate, business publications have abounded with affirmations that this war is not only taking place, but is indeed escalating. In a

Harvard Business Review article titled "Redesigning knowledge work," Dewhurst, Hancock and Ellsworth (2013) affirmed the prevalent notion that, in a knowledge economy, competitive advantage lies within the unique knowledge and experience of a company's most talented and skilled employees.

At the same time, the sentiment expressed in the original McKinsey report (Chambers et al., 1998) — that the competition is on for a decreasing pool of these scarce resources — was echoed by authors such as Stahl et al. (2012), who, in a recent study of global talent management best practices, asserted that, globally, executives are plagued by the challenges of building strong talent pipelines. These executives, the authors noted, find themselves increasingly competing for scarce talent in a marketplace where rapid globalisation has opened up the competition for talent, and transformed it into a truly borderless phenomenon.

Dewhurst, Hancock, and Ellsworth (2013) concurred in the *Harvard Business Review*, saying that there simply aren't enough knowledge workers to meet global demand, and cited research by the McKinsey Global Institute that suggested that, by 2020, there may be as much as a 13% shortage of highly skilled and university-educated workers worldwide. This shortage of skills is also evident in the South African context. Wöcke and Heymann (2012) asserted that the problem of high employee turnover in South Africa is made worse by the decreasing standards of education and knowledge workers increasingly seeking opportunities outside the country.

In addition to firms competing for scarce skills on which they are ever more reliant to stay in business, there is significant cost to firms when they lose their existing knowledge workers to voluntary turnover. These costs include decreased productivity and the direct costs of recruiting and training replacements. In addition to this, there are the less quantifiable costs involved in losing employees who carry significant intellectual capital with them, and the disruption in organisational processes experienced by the employer when these workers leave (Wöcke & Heymann (2012) citing Dess & Shaw (2001) and Morrell, Loan-Clarke and Wilkinson (2004)). In one study on the information technology (IT) sector in the United States of America, the cost of replacing an employee was estimated to

2

be between \$80 000 and \$800 000, depending on a variety of factors (Von Hagel, & Miller, 2011), which represents a significant financial impact on technology firms.

Whilst companies must not only contend with this new reality — wherein they need employees rather than employees needing them (Beechler & Woodward, 2009) — they must also consider that technology, being the factor propelling us into the global knowledge economy, is also fundamentally changing the way in which we work.

Johns and Gratton (2013) described, in the *Harvard Business Review*, how technology has, since roughly the 1980s, resulted in three 'waves of virtual work.' First, the advent of e-mail allowed the rise of a contingent of virtual freelancers who could suddenly, due to increased connectivity, work outside the traditional parameters of a formal organisation. Second, the evolution of mobile technology started allowing employees to work from anywhere, whilst still functioning normally within the organisation. Third, there was a realisation that increasingly having employees work from anywhere causes isolation and may inhibit collaboration, which led to a search for new ways in which to encourage employee community.

The aforementioned situation is causing the next stage of workplace evolution, where employees, though increasingly mobile and able to work from anywhere, want to use co-located spaces to collaborate. This gives rise to a metamorphosis of the workplace from a traditional, functional, and hierarchical cubicle farm where people came to clock in and clock out, to a communal, more flexible, and more transparent workplace that is dramatically changing not only the physical work environment, but organisational design, culture, processes, and employee-employer relationships (Johns & Gratton, 2013).

3

1.2. Research problem

1.2.1. Motivation for the research problem

Technology drives not only a major shift in the source of value generation for companies, but also the evolution of the workplace and, subsequently, the relationship between employers and employees, giving rise to a change in the psychological contracts between employer and employee (Sutherland, & Jordaan, 2004). The concept of a psychological contract essentially refers to what employees and employers expect of each other in their working relationship.

As technology is a major driver of the changes to the psychological contract, authors writing in business publications, such as Johns and Gratton (2013), are of the opinion that knowledge workers in technology companies are at the forefront of the evolving workplace, and have come to expect to be able to 'live' the revolution.

Studies on workers in high-technology industries (Medcof & Rumpel, 2007) show that these employees are likely to have a slightly different emphasis regarding what they expect from their workplace and from their employer than those in more traditional companies.

Given such changing expectations, we return to the challenge facing companies, and, particularly, IT firms, of not only attracting top talent, but ensuring that such talent is retained, and that employees are motivated to perform at their peak. Retention of knowledge workers and having a deep understanding of their evolving workplace expectations is of particular importance, considering the high financial cost of knowledge worker turnover (Von Hagel & Miller, 2011). The rate of turnover in organisations has a negative relationship with organisational performance, and this negative relationship is significantly stronger in knowledge-intensive sectors, which are heavily dependent on highly skilled employees (Hancock, Allen, Bosco, McDaniel, & Pierce, 2013).

In a recent study, Van der Merwe (2012) underscored the importance of the employer value proposition (EVP) in making sure employees find a certain appeal to their work, and remain with a particular employer. The EVP can be said to be

4

the totality of factors contributing to such appeal, and, to a large extent, describes how the employer's brand is perceived by its employees.

Van der Merwe (2012) asserted that the EVP consists, in large part, of both the intrinsic and extrinsic rewards that employees perceive they are receiving from their employer, and illustrates through a model of the EVP that its major components align closely with those of most total rewards models.

The concept of total rewards is based on the notion that the benefits received by employees in the work relationship stretch beyond pay and traditional perks like medical aid, to everything employees value in their work relationship (Medcof & Rumpel, 2007). The major components of most total rewards models are monetary compensation (or remuneration), ancillary benefits such as medical aid and leave, work-life or work environment factors such as structure and working conditions, performance and recognition, and development and career opportunities.

When all these factors are considered together, they constitute a major part of the EVP, and the particular make-up of any employer's total rewards will therefore play an influential role in its ability to attract, retain, and motivate employees. It follows that an employee's preferences for one component over another would be a strong determinant of that employee's perception of the EVP. Such preferences can be termed *reward preferences*.

The changing expectations of employees cited here, particularly in the IT sector, coupled with the evolution of the workplace, present us with the challenge of understanding their reward preferences and how they might be changing, if we are to remain ahead in the competition to attract and keep the talent necessary for a sustained competitive advantage.

1.2.2. Problem statement

Organisations who rely chiefly on the intangible assets generated by a force of highly skilled knowledge workers face not only high costs of employee turnover globally, but also increasing competition for a decreasing global pool of educated talent, a rapidly changing workplace, and a fundamental shift in the nature of the

traditional employer-employee relationship, and, subsequently, of the expectations of these key human resources.

Effective talent attraction, retention, and motivation is critical for firms in the IT sector, as is avoiding the impact of turnover on their performance, which creates the necessity to develop a better understanding of their reward preferences in the workplace.

Whilst studies abound in developed markets like the United States, there is a lack of understanding of knowledge worker reward preferences in the South African context, particularly as these relate to the IT sector (most local studies were not industry-specific). Furthermore, the present study was necessitated by a lack of understanding of how these reward preferences relate specifically to attraction, retention, and motivation of knowledge workers.

The research problem can therefore be summarised as follows: The high cost of knowledge worker turnover, and its negative impact on the performance of knowledge-intensive organisations, such as those in the IT sector, highlight the critical importance of understanding knowledge worker reward preferences in a rapidly changing and globalising work environment. These preferences, and their influence on attraction, retention, and motivation in the South African context, are poorly understood by IT firms, and must be investigated in order to allow such firms to enhance their competitive advantage and decrease the financial costs associated with employee turnover.

1.3. Research objectives

In light of the absolute necessity for companies to understand the impact of the evolving workplace on their relationship with their employees — if they are to remain competitive — and owing to the rapidly changing nature of the global workplace, especially in the IT industry, which is, in many cases, riding the crest of this wave of change, the aim of this research is as follows:

It has the purpose of assessing the main challenges facing firms operating in this sector in structuring rewards to ensure they have access to the top talent required to remain viable businesses in the global knowledge economy. Further to this, the

6

research aims to deepen understanding of the factors influencing the attraction, retention, and motivation of knowledge workers in the IT sector, particularly as these relate to their preferences for certain types of rewards in the employer-employee relationship.

1.4.　Summary of introduction

The world finds itself in a global transition to a new knowledge economy, wherein companies must compete for a new type of value-generating asset: scarce human talent. Failure to attract, retain, and motivate top talent will ensure the demise of any company dependent on the intangible assets on which so much of our modern economy is based. This is especially true given the high cost of losing such talent to turnover, and the demonstrably negative impact of knowledge worker turnover on firm performance.

The evolving workplace, spurred on by rapid advances in technology, is changing the nature of relationships between employees and employers, steadily shifting the focus to those factors that are likely to keep top talent within a company.

In firms that operate in the IT industry, at the cutting edge of the technology revolution, building a deep understanding of the impact of these changes on the organisation's ability to hold on to skilled employees will be vital to future success.

The next chapter reviews key literature relating to the realities facing companies competing for knowledge workers, and how the evolving workplace influences this competition. It further reviews key concepts in understanding the employee-employer relationship in the context of rewards expected and given between them. An understanding is developed of the nature of reward preferences and their role in employee attraction, retention, and motivation. Lastly a view is sought on appropriate reward strategies.

2. Chapter Two: Literature review

2.1. Introduction

The focus of this study was developing a deeper understanding of the nature of reward preferences, especially those of knowledge workers, who are the primary generators of value in the new knowledge economy and who are considered an increasingly scarce commodity. Furthermore, debates in both the academic and business worlds, as outlined in the previous chapter, show the need for companies to understand how reward preferences influence the attraction, retention, and motivation of employees.

This chapter examines the evolving world of work and the subsequent shift in value generation towards intangible assets generated by human resources, the changes in workplace dynamics this brings about, and the evolving psychological contracts between employers and employees. The challenges inherent in these changing dynamics were explored, as well as the performance impact and high cost of knowledge worker turnover on organisations operating in the knowledge economy.

The review proceeds to build an understanding of the concept and characteristics of knowledge workers, who are deemed crucial to companies operating in a knowledge economy, and exhibit very distinct preferences regarding the types of relationships they expect to have with their employers.

The review comes to grips with the new realities of employer-employee relationships in this context, and explores how this impacts the way in which employees are, and expect to be, rewarded in the workplace. A feasible model for unpacking such reward preferences will be reviewed, allowing structured thought on the topic and building a foundation for comparison between this study and others.

In the context of the concept of total rewards, the review of the literature further builds an understanding of how preferences for certain rewards might differ, based on a variety of factors.

Finally, it examines the related imperatives of companies to not only attract talented people, but also to retain and motivate them. The review of the literature explores prevalent views on the difficulties of constructing effective reward strategies to achieve the attraction, retention, and motivation a highly talented workforce in the face of increasing global competition, and how such difficulties necessitate the need for study in this area.

2.2.   The evolving world of work

The phrase *the war for talent* was coined by McKinsey & Company in their well-known 1998 report on the matter (Chambers et al., 1998). The report sparked debate in the business and academic worlds on the changing nature of the global workplace, which has been an on-going discussion in the years since it was first published. This debate centres on the changing nature of world economies, particularly those of developed nations. As such, economies are transitioning from producing products and selling them to customers, to generating value through intangible products and services that are highly related to the world entering the information age (Beechler & Woodward, 2009).

Coupled with the changing nature of world economies, the war for talent was also precipitated by changes in the workforce, particularly in the developed nations, which traditionally have highly educated populations from which employers draw the highly skilled workers necessary to operate businesses in a knowledge economy (Beechler & Woodward, 2009). These changes include declining birth rates in developed economies and increased global mobility of employees, both of which contribute to companies not only having to compete in a global talent marketplace, but also having to compete for a pool of talented employees that is shrinking, relative to growth in global demand for them (Beechler & Woodward, 2009). Contemporary business writing on the topic of talent management confirms this conundrum. In a recent *Harvard Business Review* article titled "Redesigning knowledge work," Dewhurst, Hancock, & Ellsworth (2013) cited subsequent research by McKinsey & Company, which indicated that the global shortage of highly educated and skilled workers may reach as much as 13% by 2020. Not only is this a concern for developed markets, but for Africa as well, with

9

Sutherland (2011) affirming the shortage of skilled and executive-level employees to serve the needs of Africa.

Whilst business articles seem to affirm executives' concern for their ability to compete for much-needed talent, the academic fraternity finds substantial evidence to support these fears. Studies on international talent management practices, for example, have found that an increased convergence of global talent management practices seem to support the notion of an increasingly global competition for these human assets. More and more, companies battling to secure strong pipelines of talented employees are adopting similar best practices for managing their talent, highlighting just how mobile such scarce resources are becoming (Stahl et al., 2012).

As executives come to terms with the future of competitive advantage resting on building the hard-to-duplicate know-how of their most talented employees (Dewhurst, Hancock, & Ellsworth, 2013), they also face another complication: the historic nature of the employee-employer relationship is changing. Sutherland and Jordaan (2004) explained that the psychological contract has been evolving dramatically. *Psychological contract* is the term used to describe the totality of all expectations, both implicit and explicit, that exist between employees and employers, and is not limited to traditional compensation.

Employees are increasingly aware of their importance to companies, and of the fact that they have become a sought-after commodity. As an economy experiences the shift in workforce composition towards more highly educated, skilled, and therefore self-actualising employees, it must come to grips with the changing nature of employees' preferences this brings about (Stahl et al., 2012).

Not only do companies compete for a pool of talent with shifting demographics and more demanding employment preferences (Stahl et al., 2012), and do so across borders, but they are also faced with technology as a major disruptor of the traditional workplace. Johns and Gratton (2013) explained that work models have evolved steadily since the 1980s, as a result of the advent and proliferation of electronic communication. In the current, 'third wave' of this evolution, workplaces are no longer office spaces populated with cubicle farms where

employees clock in and out. Increasingly, employees are able to work from anywhere, at any time, leading to workspaces adapting away from being the place where employees come to access the resources they require to produce work, towards a communal space aimed at facilitating collaboration between employees who are otherwise able to work from any place on earth, with this change bringing about a change in organisational culture towards increased flexibility and transparency (Johns & Gratton, 2013).

This changing nature of the workplace, along with the transition of economies to being more knowledge-intensive, gives rise to the concept of a new type of worker — one that utilises mainly accumulated knowledge, expertise, and intellectual abilities to generate value for an employer (Sutherland & Jordaan, 2004). This employee has become the primary value-generating asset in modern economies (Beechler & Woodward, 2009).

2.3.   The impact and cost of knowledge worker turnover

In the increasingly globalised competition for knowledge workers, the cost of employee turnover is significant. Organisations must bear not only the costs of replacing employees who leave, but also the expense of training their replacements. These financial burdens are, however, not the only consequences of turnover. Employers face a period of time where replacement employees are finding their feet in their new role before they can become productive. At the same time, continuity of business process is compromised, and customer service may be affected if the departing employee was in such a role (Wöcke & Heymann, 2012).

The direct financial cost of knowledge worker turnover in the United States IT sector has been estimated at between $80 000 and $800 000 per employee, which constitutes a significant financial burden on organisations experiencing high turnover (Von Hagel & Miller, 2011).

In addition to the direct financial consequences, it has been shown that various indicators of firms' performance (such as profit, customer satisfaction, and productivity, amongst others) are negatively correlated to employee turnover. This correlation has been found to be much stronger in knowledge-intensive firms

11

than in other industries, highlighting the importance of retention for firms operating in, for example, the IT industry (Hancock et al., 2013).

2.4. Knowledge workers

With the changing workplace paradigm, from one in which employees need employers, to employers needing employees (Beechler & Woodward, 2009), understanding the nature of knowledge workers is vital. Knowledge workers are said to be those who create intangible assets by using specialised knowledge, and who, due to the changing nature of the knowledge economy in which they operate, need to continuously enhance, upgrade, and refresh their knowledge (Sutherland & Jordaan, 2004). This provides a key insight: knowledge workers are not just highly talented people who must be obtained and kept for as long as possible; they are assets that require continuous maintenance and upkeep in the form of learning and development.

Studies into factors that influence the retention of knowledge workers showed that these employees indeed have high levels of egocentrism, are increasingly career-mobile, and expect personal learning and development to be a key feature of their relationship with their employer (Sutherland & Jordaan, 2004).

Nowhere is the importance of knowledge workers as evident as in technology industries, where these workers are at the forefront of the knowledge economy, catapulting the working world into the information age. In IT, knowledge workers expect to 'live' the evolution, harnessing technology in the workplace to provide unprecedented flexibility in their working arrangements (Johns & Gratton, 2013). In high-technology industries, employees have vastly different expectations of their employers, placing great emphasis on the working environment and knowledge-sharing elements of their jobs (Medcof & Rumpel, 2007).

It is further notable that job satisfaction, previously considered a reliable antecedent to employee turnover, is not an accurate predictor of knowledge workers' intention to remain with their current employer. Studies suggest that this is because other, more egocentric factors, such as their personal development

goals, are important considerations in knowledge workers' career decisions (Sutherland & Jordaan, 2004).

This illustrates the demanding nature of knowledge workers, and presents employers competing for their skills with the challenge of finding a suitable frame of reference for defining exactly what it is that these highly mobile resources will expect before they will join and stay with a company.

2.5.   The total rewards concept

In an effort to define the aforementioned expectations, researchers have defined the concept of *total rewards*, which is said to be everything that employees value as part of their relationship with an employer (Medcof & Rumpel, 2007). It is related to the EVP which, in marketing and branding terms, refers to internal brand equity that an employer has in its employees (Van der Merwe, 2012).

Studies on the EVP have attempted to identify and quantify the factors that contribute to the employee's perception of the employer's EVP, and authors such as Van der Merwe (2012) illustrated that the EVP is generally created by a combination of internal marketing, organisational culture, and the intrinsic and extrinsic rewards received by employees. Notably, components generally considered to contribute towards the EVP are closely aligned with those that are considered to form part of most widely used total rewards frameworks (Van der Merwe, 2012).

Hlalethoa (2010, p. 14) asserted that most companies have adopted a form of total rewards model that was derived from the one created and maintained by WorldatWork, which is "the largest global not-for-profit professional association dedicated to knowledge leadership in total rewards".

FIGURE 2.1 - WORLDATWORK TOTAL REWARDS MODEL
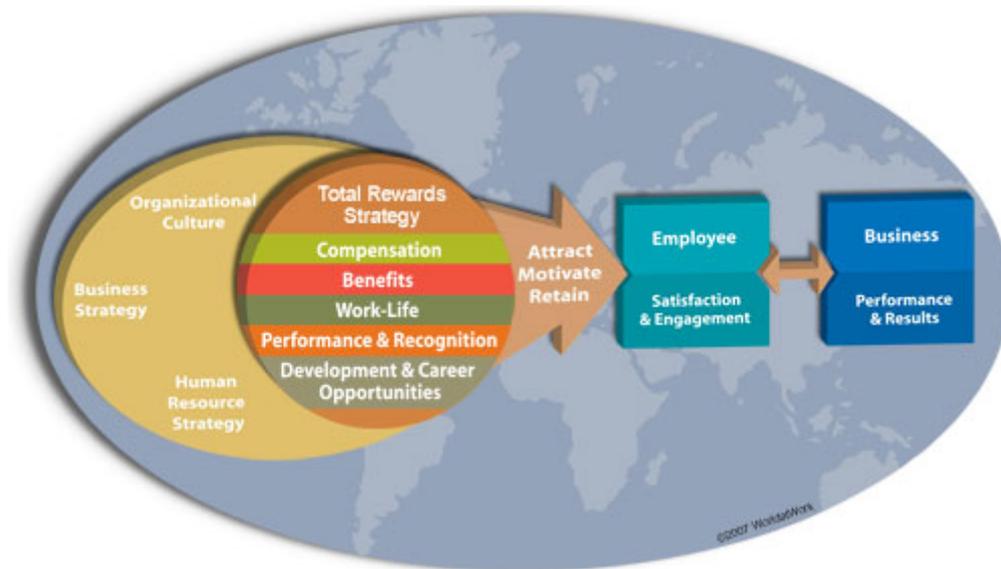
Source: WorldatWork, 2013.

Hlalethoa (2010) noted that this model classifies rewards as follows:

1. Compensation, which is any remuneration in the form of variable of fixed pay;
2. Benefits, which are ancillary, such as medical or retirement benefits;
3. Work life, which is the structure, processes, and environment put in place to support employees to do their jobs;
4. *The terms performance* and *recognition* refer to the perception that performance is being measured correctly and in alignment with the organisation. The terms also refer to the employee's duties, coupled with the employee receiving acknowledgement for helping the organisation achieve its goals;
5. *Development opportunities* refers to initiatives put in place to upgrade or enhance an employee's skills, whilst *career opportunities* refers to all factors that contribute to a clear career path and career planning being in place.

Research by Medcof and Rumpel (2007) reported that the total rewards approach is a promising approach for employees in high-technology industries, as these employees have significantly different reward preferences than other occupational categories.

14

Van Blerck (2012) asserted that several variations of total rewards models exist, with slight differences; however the underlying components are mostly similar. Moore and Bussin (2012) used an adapted version of this model, called the *Total Reward Mix*, for application in the South African context.

Whilst differences in defining and categorising reward components are noted across several studies (Moore & Bussin, 2012; Nienaber, Bussin, & Henn, 2009; Snelgar, Renard, & Venter, 2013), dividing reward components into categories seems to be done based on logical classification, rather than based on the fact that employees seem to show a preference for all the components of a category. For example, whilst Moore and Bussin (2012) and Nienaber et al. (2009) found that components do not show internal consistency when compared to aggregated category scores, Snelgar et al. (2013) found that their revised categorisation showed internal consistency.

This shows that there is no definite correct or incorrect model for defining reward categories and classifying the underlying components. With the WorldatWork model being the most widely used as a basis for derived models (Hlalethoa, 2010), it is the most suitable for framing investigation into the different reward components and categories preferred by knowledge workers.

2.6.   Understanding reward preferences

Understanding which rewards are preferred by employees is vital for any organisation as a starting point in developing methods of finding and keeping top talent. Studies undertaken in an effort to deepen this understanding have suggested that reward preferences might differ based on a variety of factors.

Some of the most widely posited determinants of reward preference include the employee's demographics, such as age, gender, marital status, and race (Moore & Bussin, 2012; Nienaber et al., 2009; Bunton & Brewer, 2012; Snelgar et al., 2013).

Other studies have highlighted the apparent differing reward preferences between industries, with Medcof and Rumpel (2007) reporting, for example, that employees in high-technology companies exhibit significantly different reward preferences compared to those in more traditional companies. Horwitz, Heng, and Quazi

(2003) suggested that workers in IT place enlarged emphasis on having access to the latest technology in their place of work. The work environment also plays a bigger role in retaining employees in this sector than it does in others.

Moore and Bussin (2012) attempted to find out whether generational theory and reward preference could be correlated, but found the contrary, suggesting that an employee's life stage might, instead, be a more significant determinant of reward preferences. A study by Bunton and Brewer (2012), in the United States, similarly found that generational cohort did not significantly determine reward preferences.

Nienaber et al. (2009) suggested that employee personality type might be a significant determinant of reward preferences, but also found that demographics played a big role, citing different preferences for employees of different races, for example.

It is clear that the notion of demographic, environmental, and circumstantial factors influencing reward preferences has some merit; however, the difficulty lies in reliably correlating these factors with certain reward preferences, especially when studies examine employees from different sectors and types of companies. This is further complicated by reward preferences, even for a single employee, varying between those preferences that would encourage them to take up employment with an employer, those that they evaluate when deciding to stay with a current employer, and those that motivate them to perform (Snelgar et al., 2013).

In summary, studies seem to show that reward preferences are determined not only by factors attributable to the individual employee — demographics, life stage, personality, and related factors — but also by two categories of external 'influencers.' These are broadly categorised into those of an environmental nature — industry, country, and the culture in which the employee operates — and those of a circumstantial nature — whether an employee is attracted to an employer, or is deciding whether to remain with an existing employer, or is motivated to perform optimally.

2.7.   Attraction, retention, and motivation

Studies on reward preferences appear to indicate that they may differ based on three broad scenarios — being initially attracted to a new employer, deciding whether to remain with an existing employer, or feeling motivated (attraction, retention, and motivation respectively). Examples in the local context include findings by Snelgar et al. (2013) and Nienaber et al. (2009), which illustrate these differences. Nienaber et al. (2009), citing Bergmann and Scarpello (2001), noted that organisations who use mainly remuneration or monetary compensation as a reward might find themselves challenged to sustain their employees' motivation, which supports the concept of different rewards being preferred in attraction, retention, and motivation.

Having established that reward preferences may differ between these scenarios, it is imperative to understand the nature of these differences. In most cases, a competitive total compensation package forms the basis for attracting and retaining top talent (Horwitz et al., 2003). Whilst competitive compensation has been shown to be important in attracting new employees and, when absent, causes existing employees to consider seeking other employment opportunities, the dynamic of motivating people seems to work slightly differently, with the emphasis shifting to the nature of work undertaken by employees, having freedom to plan and schedule work, feeling supported, receiving acknowledgement, and being rewarded (Horwitz et al., 2003).

When examining the reward categories, as defined previously in the Total Rewards Model, studies concur that, whilst basic (fixed) monetary compensation is a major factor in attracting employees initially, once this employment 'order qualifier' is in place, employees value a variety of other factors relating to career management, personal development, and the work environment when deciding whether to stay with an employer and feel motivated to perform. Even in studies where base compensation is cited as the most important factor in more than one of these three scenarios, it does appear to behave like a 'hygiene factor' that is the minimum hurdle required to compete for talent, followed by diverging preferences for

17

subsequent reward categories in the three scenarios respectively (Nienaber et al., 2009; Snelgar et al., 2013; Bhengu & Bussin, 2012).

Findings on how reward preferences differ between the three scenarios are not always the same in different studies. This appears to be based on a variety of factors, the most apparent of which are: the measuring instrument used, the categorisation of reward preferences and their components, the target population, and the industry concerned. For example, Nienaber et al. (2009) found that base pay (fixed compensation) is the biggest factor in attraction, whilst performance- and career management was the biggest factor in retention and motivation of employees. Similar findings were made by Snelgar et al. (2013), who found that performance- and career management was the most important factor in motivation, and the second-most important factor in retention.

In somewhat dissimilar findings, Bhengu and Bussin (2012) reported that differences were indeed present between the factors influencing attraction, retention, and motivation; however, their study showed that monthly salary (compensation) came third in all three scenarios. The authors found that, in retention and motivation, quality of the work environment and developmental opportunities were rated most and second-most important respectively, whilst regarding attraction, the inverse was true. The findings do, however, support Nienaber et al. (2012), who asserted that retention and motivation exhibit similar reward preferences, whilst attraction is dissimilar.

In a contemporary survey conducted at Aon Hewitt (2011 Aon Hewitt Engagement Survey), it was reported that drivers of employee attraction, retention, and engagement (motivation) differed quite substantially, affirming that competitive base pay was the number one driver of attraction, followed by competitive health care benefits, the financial stability of the company, and a flexible work schedule. Top drivers of retention were shown to be the quality of senior leadership decisions, having the necessary tools and resources, and competitive health care benefits. Lastly, it showed that, whilst a clear career path and development were important to a lesser extent in driving retention, these factors were the top drivers

in engagement, along with involvement in decisions affecting work, and having the necessary resources (Kwon & Hein, 2012).

It follows from these findings that companies competing for talent on the basis of money alone are likely to be faced with the phenomenon of employees job-hopping, as these companies are simply competing on price. In order to gain a competitive advantage in the war for talent, there is consensus that competitive pay is only a requirement for entry into the competition, and that companies wishing to retain top talent need to ensure that their talent management practices follow a holistic total rewards approach (Stahl et al., 2012).

2.8. Reward strategies

As it is not advisable to rely solely on outbidding the competition for talent, constructing effective reward strategies for attraction, retention, and motivation is essential. In a study on effective attraction, retention, and motivation strategies, Horwitz et al. (2013) found that there were mismatches between strategies commonly used by employers to achieve these outcomes and those that were considered by managers and HR practitioners to be effective in these three scenarios. It also found, in support of the previously cited research, that strategies that were considered effective for attraction were different to those for retention and motivation respectively.

This mismatch shows an apparent general lack of understanding of reward strategies, echoing sentiments of authors such as Moore and Bussin (2012) citing Bussin (2002), who commented that employers find it impractical to structure rewards packages tailored to each individual's preferences, and explained that companies generally structure generic rewards based on pay grade. This sentiment was echoed by Nienaber et al. (2009), who explained that the overhead and effort involved in managing individually customised reward packages make it infeasible.

It is suggested that an alternative to structuring total rewards packages for individual employees is to find a way of meaningfully segmenting the

organisation's workforce in order to target more tailored reward packages toward the segment's particular preferences. Such segmentation is usually based on employee demographics or factors such as job level or type of role (Snelgar et al., 2013, citing Du Toit, Erasmus & Strydom (2007)).

Nienaber et al. (2009, p. 5), citing Harris and Clements (2007), stated that "Total reward models designed in accordance with the reward preferences of employee segments can have maximum impact at no additional or even lower cost."

In an effort to uncover effective segmentation strategies, studies such as that by Moore and Bussin (2012) determined that generational cohort would not be an effective basis for segmentation, and suggested that segmentation according to employees' life stage, job level, race, marital status, and gender might warrant further investigation. This correlates with findings by Bunton and Brewer (2012), which suggest that generational theory is not suitable as a method for segmentation, but that other demographics do show merit, in that they have been linked to certain reward preferences.

The question of designing reward strategies based on feasible employee segments therefore warrants the need for employers to establish credible findings regarding rewards that attract, retain, and motivate their employees, as well as feasible grounds for segmenting their workforce in such a way as to effectively assign different total reward packages accordingly.

2.9.   Summary of literature review

The literature review uncovered the evolving world of work, where a war for talent is underway, due to the changing nature of world economies, coupled with shifting preferences and the demanding nature of the modern knowledge worker. It also established that the fundamental nature of the workplace is rapidly changing, with technology driving a shift in focus from bodies being physically present in the office to minds collaborating to provide high-value, intangible products.

In the face of a global shortage of knowledge workers to meet the demand, the review further examined the nature of these workers, and determined that their

emphasis on individual advancement, self-development, and the changing nature of their relationship with employers have resulted in a new reality, where these workers increasingly dictate the terms of their employment, and where old-school, life-long company loyalty is a thing of the past.

In this new reality, knowledge workers expect to be rewarded for their intellectual efforts, and increasingly value flexible work environments and exposure to cutting-edge trends more than merely money. It was also established that keeping knowledge workers 'satisfied' in their jobs will not reliably combat employee turnover, due to the emphasis shifting to aspirational and developmental aspects of their careers.

In order to better understand what knowledge workers value in their employment relationship, the literature review examined the concept of total rewards, illustrated by means of the WorldatWork Total Rewards model (WorldatWork, 2013). Employees generally view rewards in five categories: compensation, benefits, work-life factors, performance and recognition, and development and career opportunities.

Through this model, the review discussed different factors that might influence employee reward preferences, including demographics such as age, gender, race, job level. It illustrated that findings on influential factors extended beyond demographics, into psychographics (including personality), as well as environmental factors like industry and culture. It highlighted that current literature often reports contradictory findings on which of these factors influence reward preferences, and to what extent.

The review of the literature illustrated that the problem is compounded by reward preferences differing based on three broad circumstantial scenarios: when employees are attracted to a new employer (attraction), when they decide whether to stay with a current employer (retention), and whether they are motivated and engaged in their role (motivation). Notable differences were found between rewards preferred in each of these scenarios, but, again, these differed across studies.

Lastly, in light of the difficulty faced by employers in designing effective reward strategies, the review examined possible solutions in the form of determining effective ways of segmenting the workforce and targeting reward strategies based on such segments to attract better talent, increase the retention of existing employees, and increase employee engagement. The review found that, whilst studies agree that segmentation and targeted reward strategies are an effective way to employ a more holistic but customised total reward approach, it was difficult to determine the variables to use to effectively segment the workforce, and to determine which categories of the total rewards model are relatively more important to different segments.

In light of the above insight and challenges uncovered, the next chapter defines the research questions that this study aimed to answer, in an effort to develop a usable and practically applicable understanding of reward preferences and their influence on attraction, retention, and motivation, as well as feasible segmentation methods that may be used.

3. Chapter Three: Research questions

3.1.   Introduction to research questions

The objective of this study was to assess the main challenges facing firms in structuring rewards to ensure that they have access to the top talent required to remain viable businesses in the global knowledge economy. Further to this, the research aimed to deepen understanding of the factors influencing the attraction, retention, and motivation of knowledge workers, particularly as related to their preferences for certain types of rewards in the employer-employee relationship.

The review of the literature highlighted several pertinent gaps in understanding, which led to specific questions that will have to be answered in order to achieve the research objective. Broadly, these gaps can be defined as follows:

1) Findings regarding demographic and related factors are different, and sometimes contradictory in terms of how these factors influence reward preferences. This presents a problem, as the literature suggests that the best way to structure targeted rewards is to find evidence of feasible segmentation variables based on the demographics of the workforce.

2) Studies on reward preferences in the South African context are often cross-industry, and the literature illustrates that the industry or sector might well be a determining factor in reward preferences.

3) Previous work measuring reward preferences in South Africa largely neglected to differentiate between the three scenarios of attraction, retention, and motivation, and, when indeed doing so, measured the preferences for rewards on a category-level only. This shortcoming is exacerbated by findings in certain studies that reward category components sometimes do not show internal consistency in reward preference measurements, indicating that asking respondents to indicate reward preference on a category level might, in some cases, show different findings than if they were to be asked to do the same for individual components of those categories.

4) Due to the paucity of South African research specifically into differences in reward preferences for attraction, retention, and motivation, these scenarios are not well understood in the South African context.

Having established that reward preferences may vary depending on demographic, psychographic, circumstantial, and environmental factors, existing studies, particularly in the South African context, disagree on which of these factors correlate to differences in reward preferences. Snelgar et al. (2013) found, for example, that gender, age, and job level were relevant in determining employee reward preferences, while educational level, marital status, and household size were reported as not relevant. Nienaber et al. (2009) also found gender and job level to be significant, and did not find differences based on age. In similar studies on age (termed *generational cohort*), Moore and Bussin (2012) found no significance, whilst Cennamo and Gardner (2008) did. The findings of Snelgar et al. (2013) are in contradiction to those of Giancola (2008) with regard to the theory of life stage influencing reward preferences, and are also in contradiction to those of Paddey and Rousseau (2011), who found that gender does not have a significant influence.

The literature shows that there is evidence of the presence of industry-specific reward preferences (Bunton & Brewer, 2012; Medcof & Rumpel, 2007); however studies reviewed in the South African context usually involved samples where industry composition was not reported (Snelgar et al., 2013), or the studies were done across industries or sectors (Nienaber et al., 2009; Bhengu & Bussin, 2012). In reviewing the literature, evidence was found that the technology and related sectors may exhibit distinct reward preferences (Johns & Gratton, 2013; Medcof & Rumpel, 2007). Studies in South Africa in the IT sector provide some insight into reward preferences, but are limited in their exploration of the quantitative influence of demographic factors influencing these preferences. These studies also did not explore circumstantial effects in the scenarios of attraction, retention, and motivation (Moore & Bussin, 2012).

Studies in the local context that touched on the theory of differing reward preferences in attraction, retention, and motivation have yielded findings in this

regard based on a category-level exploration of these preferences. Snelgar et al. (2013) asked respondents to rate their preferences for reward categories such as compensation, benefits, work-life, career development, and performance and recognition. However, in other studies, it was often found that preferences per component level did not show covariance when aggregated into their categories, often necessitating factor analysis to determine modified categorisation (Moore & Bussin, 2012; Nienaber et al., 2009).

This review of the major issues in using existing research in the South African context to address the research objective illustrates the need for further investigation in an industry-specific context (IT), and led to the research questions outlined below.

3.2. Research questions

Themes suggested by literature and, therefore, gaps identified in knowledge, led to questions about the industry-specific reward preferences of knowledge workers in the IT sector, the influence of demographics on these preferences, and whether or not there is evidence supporting the use of certain demographics as segmentation variables for targeted rewards, and the circumstantial differences in reward preferences when trying to attract, retain, and motivate employees in the South African IT sector.

3.2.1. Research Question 1

What are the reward preferences of South African IT knowledge workers overall, and do their reward preferences show significant differences as these relate to attraction, retention, and motivation respectively?

3.2.2. Research Question 2

Which demographics play a significant role in determining the different reward preferences for South African IT knowledge workers?

25

3.2.3. Research Question 3

Do the components of different reward categories show internal consistency, and is it appropriate to aggregate findings for South African IT knowledge workers up to reward categories, and, indeed, to draw comparisons between findings that measure reward preferences on a component level versus those that measure on a category level?

3.3.   Summary of research questions

Three research questions have been defined in this chapter, in order of importance to this study. The next chapter will cover the methodology used to gather data and answer the research questions.

4. Chapter Four: Research methodology

4.1.   Overview of the study

The present study was descriptive and quantitative, and aimed to describe the relative importance to South African IT knowledge workers of factors in the Total Rewards model (WorldatWork, 2013), as well as how these relate to attraction, retention, and motivation.

Exploration of the factors that make up the reward preferences for knowledge workers was sufficient in prior research to assert that the Total Rewards model is an appropriate framework with which to evaluate the local context. The present study did not aim to explore unknown factors, but to ascertain a more accurate view of reward preferences in an industry-specific, local context.

The study was therefore descriptive in nature, which is described by Saunders and Lewis (2012, p. 111) as "....research designed to produce an accurate representation of persons, events or situations."

4.2.   Research design

Research was conducted in the form of primary data-gathering, which was done using a survey consisting of a three-part questionnaire (see Appendix 1 – Questionnaire). A survey as a structured method of collecting data from a sizable population (Saunders & Lewis, 2012) was deemed suitable to the research problem; however, the study required a minimum response rate in order for findings to be accurate and generalisable to the population.

Part 1 of the questionnaire collected demographic information from respondents, namely age, gender, race, type of position occupied, length of service with current organisation, level of qualification, and type of organisation.

Part 2 was constructed to measure reward preferences. The five categories of rewards defined by the WorldatWork Total Rewards Model (WorldatWork, 2013) were expanded into components, drawing on previous research done by Hlalethoa

(2010), Moore and Bussin (2012) and Nienaber et al. (2009), and on the theory reviewed in Chapter Two.

The components selected to comprise each of the five categories are listed in Table 4.1 below.

TABLE 4.1 - TOTAL REWARDS COMPONENTS

Category	Components
Compensation (pay)	Fixed pay
	Variable pay (commission, etc.)
	Incentives (bonuses)
	Share options
Benefits	Medical
	Leave (maternity, study, annual, family responsibility, etc.)
	Retirement
Work life (work environment)	Organisational structure & processes
	Tools for the job (systems, technology)
	Access to latest technology
	Work-life balance & flexible working arrangements
	Office environment (facilities and support)
	Leadership
	Organisational climate and stability
Career, learning, & development	Opportunities for self-directed learning & development
	Having a clear career path and planning
	Employer-selected training programmes
Performance & recognition	Correctly measured and rewarded performance
	Acknowledgement for achieving organisational goals

The study was faced with findings of previous studies, where components of these reward categories were numerous, and therefore necessitated measuring preferences for attraction, retention, and motivation on a category level. Due to issues with internal consistency of components and their categories, cited in other studies (Moore & Bussin, 2012), and the focus of the present study's primary research question, it was decided to balance the number of components in each category with the feasibility of measuring respondents' preference for each component in the three different scenarios.

28

To achieve this, the study selected what was deemed the minimum number of reward components in each category that would provide useful insight into reward components that are most pertinent to the local and industry context of this study.

A new set of questions was designed to measure the respondents' preference for each of the 19 components. Questions were ordered so that components from the same category were not sequential to one another. This was done so that respondents would be more likely to consider each question on its own merit, rather than recognising similar components clustered together, thereby introducing response bias.

The questionnaire used a 5-point Likert-type scale, presenting respondents with hypothetical scenarios or statements concerning each reward component. Respondents were asked to evaluate each statement, and indicate whether they considered the component unimportant, of little importance, moderately important, important, or very important.

Part 3 of the questionnaire consisted of three rank order questions. The aim of this part of the questionnaire was twofold. First, it aimed to assist the researcher in verifying the overall reward preferences of respondents. Second, it served to determine whether respondents had significantly different reward preferences in each of three different scenarios related to an employer's rewards strategy — attracting new employees, retaining existing employees, and motivating employees to perform at their peak.

4.3. Population

The target population consisted of employees of South African IT companies, who, by their job function, were considered knowledge workers. The population of employees in South African Information Systems (IT), Telecommunication Technologies and Electronics sectors, according to the Media, Information and Communication Technologies Sector Education and Training Authority (SETA)'s 2011 Sector Skills Plan was 143 076 in 2010. Of these, 53% resided in IT, which

29

amounted to 75 284 employees (Media, Information and Communication Technologies Sector Education Training Authority, 2011).

The research relied on HR- and line managers in these companies to distribute the survey to the target population.

4.4.   Sampling

Saunders and Lewis (2012) stated that non-probability sampling techniques are appropriate for selecting a sample when the researcher does not have a complete list of the population.

Sampling in the present study was non-probabilistic in nature, with the sample being determined by the accessibility of respondents to the known line- and HR managers in each of the two organisations that formed part of the target population. The target sample comprised the South African staff complement of two major multi-national technology companies (482 and 1 230 staff members respectively).

A form of snowball sampling was employed, where HR- and line managers were used to cascade the survey into the organisational hierarchy. Saunders and Lewis (2012) stated that snowball sampling is appropriate when members of the population are hard to identify or to access.

The research required a good probability of selecting a sample that was representative of most knowledge workers in South African IT companies. These two organisations were chosen as they had workforces that represented a diverse range of knowledge workers with varied demographics and job functions, ranging from sales to technical experts.

Further to this, accessibility was a major consideration, and the researcher had relationships with management at both organisations, which provided a route to facilitate access to the population.

30

4.5.   Data collection

Data were collected by distributing an electronic version of the survey to respondents via selected senior managers, line managers, and human resources personnel.

A significant challenge in the data collection phase was to ensure that an adequate response rate was achieved in order for the sample to be of a sufficient size to make valid inferences. Saunders and Lewis (2012) asserted that response rates vary considerably when questionnaires are used. As a rough indication, they cite previous research on response rates from individuals in academic studies using questionnaires, where the response rate was 52.7%, on average.

In a paper on appropriate sample sizes for conducting organisational research using surveys, Bartlett, Kotrlik and Higgins (2001) advised the correct sample size to use in the case where variance will primarily be analysed on continuous data. The second and third parts of the questionnaire in the present study contained the bulk of the information to be collected, and consisted of continuous ordinal-type data measuring respondent's agreement on a five-point scale, as well as rank order data. As the research propositions were chiefly concerned with variance in this continuous data, the reference table provided by Bartlett, Kotrlik and Higgins (2001) was used to determine that a total population of 4 000 or higher would require a sample size of 119, where alpha = 0.05.

In addition, a minimum ratio between the number of observations to any independent variables to be used needed to be maintained if the researcher wished to perform multiple regressions. Bartlett, Kotrlik and Higgins (2001) stated that this ratio should not fall below 5. Even though regression analysis was not conducted to verify any of the research propositions in the present study, future use of the data may require such analysis, and it was therefore decided that sample size should be adequate to maintain this ratio.

As noted in Section 4.2, the demographic variables collected numbered 6 in total. Bartlett, Kotrlik and Higgins (2001) note that, even though the minimum ratio of independent variables to observations should not be lower than 5, a more

31

conservative number is 10. Obtaining 119 responses, as derived from the reference table provided by them, was therefore considered adequate to maintain a 10:1 ratio of observations to the number of independent variables that could possibly be required for regression analysis in future research.

4.6.   Data analysis

Descriptive statistics (mean and median) were generated for the purposes of understanding the relative importance of reward preferences to respondents on the component level. In order for results to assist employers in tailoring their reward strategies in line with the components selected under each of the five categories of the Total Rewards model (refer to Table 4.1), the present study needed to determine which rewards were favoured by respondents, ranking them by median and then mean to determine this.

The ranking derived needed to be verified, to determine whether differences in medians were statistically significant, thereby validating the ranking of overall reward preferences.

De Winter and Dodou (2010) explained that their study found that non-parametric methods are the most appropriate, and have increased power and reliability when analysing five-point Likert-type ratings, especially if such data violate the assumption of normality required for parametric testing. Non-parametric methods were used to analyse all data in the present study, considering that they were of the ordinal type, and also likely to violate an assumption of normal distribution.

Weiers (2011) explained that the Wilcoxon signed rank test for comparing paired samples is appropriate for testing whether two dependent samples might have the same medians. In order to test the differences between reward component median ratings pair-wise Wilcoxon signed rank tests were executed on all pairs of reward preferences, to determine whether their medians were statistically significantly different. This was done to validate and investigate the importance assigned to reward preferences based on descriptive statistics.

32

Data were required to be investigated for variance attributable to certain demographic variables. When conducting analysis of variance (ANOVA), a single dependent variable was used, which was the importance of a reward component to the respondent, measured on a 5-point scale. In the present research, this variable was the rating given to a particular reward component. In addition, ANOVA used an independent variable, which was controlled statistically, to observe its effect on the value of the dependent variable. In the ANOVAs conducted, independent variables were either quantitative (such as age or length of service) or qualitative (such as gender or race). In ANOVA, there may be more than one variable that affects the dependent variable, and it is appropriately referred to as a *factor* (Weiers, 2011).

The type of ANOVA suitable to analysis of the data depended on assumptions of the distribution of the data, and on the type of data being analysed. General descriptive statistics and histograms were generated for responses based on each of the independent variables of interest. It was determined that their distribution violated the assumption of normality, which is essential in parametric analysis of variance. In addition, the dependent variable data were either ordinal (Likert-type scale) or rank order.

McKnight and Najab (2010a) explained that, for these types of data, non-parametric equivalents for analysis of variance are more suitable, and recommended the Kruskal-Wallis test. Analysis of variance was thus conducted by grouping responses into samples based on each of the independent variables, and comparing them to detect whether samples may or may not be from the same population (indicating the probability that their variance was statistically significant).

The research propositions put forth in this study were primarily concerned with evaluating one factor at a time to determine its effect on the variance of knowledge workers' reward preferences. Analysis of variance was conducted on one factor at a time. A statistical package was used to perform grouped sets of Kruskal-Wallis tests, using each of the demographics in turn as independent variables, and the level of importance assigned by respondents to reward components as dependent

variables, to ascertain whether there are significant differences between the reward preferences of different demographic groups.

Where such differences were indicated, the Kruskal-Wallis test did not indicate the source of the variance. This test was followed by pair-wise testing to determine which group in the sample (based on the independent variable) was responsible for the variance. This was done using the Mann-Whitney U-test, which is also known as the Wilcoxon rank sum test, and which tests for differences between two groups where the variable being measured is ordinal and where there is no specific distribution (McKnight & Najab, 2010b).

In each of the three scenarios presented to respondents, corresponding to preference for attraction, retention, and motivation respectively, the data contained the top ten preferred components selected by each respondent. This data were transformed into rank scores according to the ranks assigned to them by respondents. For each observation of a component being ranked first, that component was given a rank score of 10. Being ranked second resulted in a rank score of 9; third: 8; fourth: 7; and tenth: 1. Unranked components (not chosen to be in the top 10) were assigned a rank score of 0.

Descriptive statistics were generated for each of the three scenarios (attraction, retention, and motivation) to illustrate the overall rank scores achieved by the 19 reward components in each scenario, and to allow comparison to determine where possible differences in preference might be between the scenarios.

In order to identify where statistically significant reward preferences might exist across the three scenarios and across all reward components, an ANOVA was required, with each of the scenarios being regarded as a dependent sample, as they were rated by the same respondents. Weiers (2011) explained that the Friedman test is the non-parametric equivalent of the randomised block ANOVA, and is applicable to the examination of ordinal data. It compares two or more dependent samples for statistically significant differences in mean rank.

Where such differences were indicated by the Friedman ANOVA, the reward component was tested with the Kruskal-Wallis test across the three scenarios, to determine whether the variance was statistically significant. Importantly, using

this test requires that the samples have similar variance, and that the distributions are more or less of the same shape (Fagerland & Sandvik, 2009).

4.7.   Research limitations

Research was limited in that the sampling method used could not necessarily guarantee adequate representation of all demographics intended to be measured and compared.

Furthermore, because two large multi-nationals were targeted, the findings may apply mostly to corporate technology firms, and may not be generalisable to all firms operating in the industry, particularly smaller, niche environments.

In addition, the research design introduced inherent response bias by asking respondents to directly rank rewards. Giancola (2012) found that studies of reward preferences tended to show marked differences based on whether they asked respondents to directly rank rewards, to assign importance to rewards based on a points system, or used more complex methods like conjoint analysis, though he indicated that it is still unclear which method is the best for eliciting true reward preferences.

Lastly, the present research aimed primarily to develop a deeper understanding of reward preferences and their relationship to attraction, retention, and motivation, and did not explore any causal relationships in differing reward preferences. Whilst this still provides valuable insight into what reward preferences actually are in the local context, there may be complex reasons for differences in such preferences across different demographics, which were not evaluated.

4.8.   Conclusion

The methodology described directed analysis of the data gathered, in order to answer the research questions proposed in Chapter Three. The following chapter presents the results of the data analysis.

5. Chapter Five: Research results

5.1.   Introduction

In Chapter Three, the research objectives and questions were outlined, whilst Chapter Four described the research design and methodology used in order to achieve the research objectives and answer the research questions. This chapter presents the findings of the analysis described in the research methodology.

It will deal with the following results:

5.2 Description of the sample;

5.3 Results of reward preference ratings;

5.4 Rank-order results in attraction, retention, and motivation scenarios; and

5.5 Results of reward category internal consistency testing.

5.2.   Description of the sample

The survey was distributed to a total of 563 potential respondents, with 135 completed questionnaires returned. Of these responses, 14 were incomplete or unusable, providing 121 usable responses. This signified a response rate of 23.9%.

Demographic information for the sample is discussed next, according to the following data gathered on the respondents:

- Age (in years);
- Gender (male or female);
- Ethnicity or race (White, Indian, Asian, Coloured, or Black African);
- Tenure at current employer (years and months);
- Highest level of education (high school, diploma, bachelor's degree, honours degree, Master's degree, or doctoral degree); and
- Role in the organisation (administrative, sales, operations, support (technical or operations), marketing, human resources, finance, supervisory, middle management, senior management, or executive).

The age of respondents was grouped as follows:

- Under 30 years of age;
- 30 and over, but under 40; and
- Over 40 years.

Respondents aged under 30 years numbered a total of 30 (24.79%), whilst those in their 30s numbered 57 (47.11%). A total of 34 (28.10%) respondents were aged 40 and over. Figure 5.1 illustrates the age group frequency distribution.

FIGURE 5.1- FREQUENCY DISTRIBUTION OF AGE GROUPS
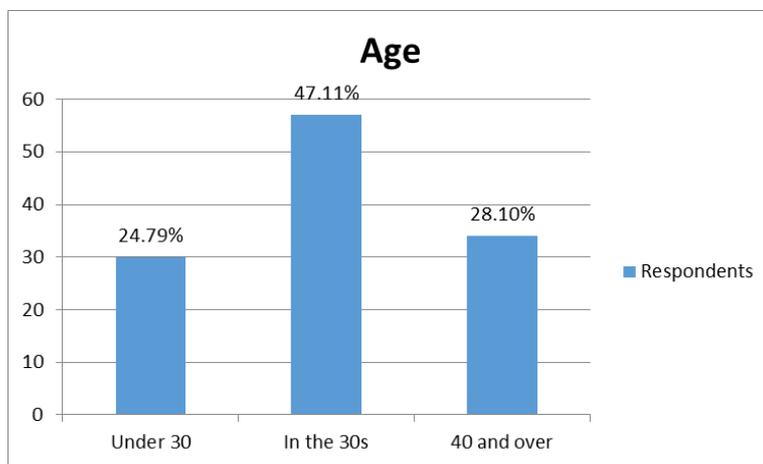
About two thirds of respondents (63.64%) were male, whilst approximately one third (36.36%) was female. Figure 5.2 illustrates the frequency distribution of respondents' gender.

FIGURE 5.2- FREQUENCY DISTRIBUTION OF GENDER

37
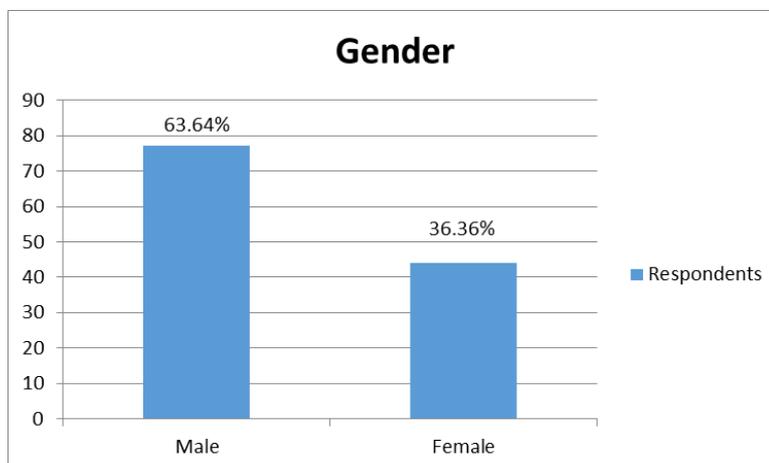
The ethnic background (or race) of respondents was predominantly White/Caucasian (45.45%), with Indian (14.87%), Coloured (17.35%), and Black African (21.48%) respondents being fairly represented. There was a single Asian respondent (0.82%). Figure 5.3 shows the frequency distribution of respondents' ethnicity.

FIGURE 5.3 - FREQUENCY DISTRIBUTION OF ETHNICITY
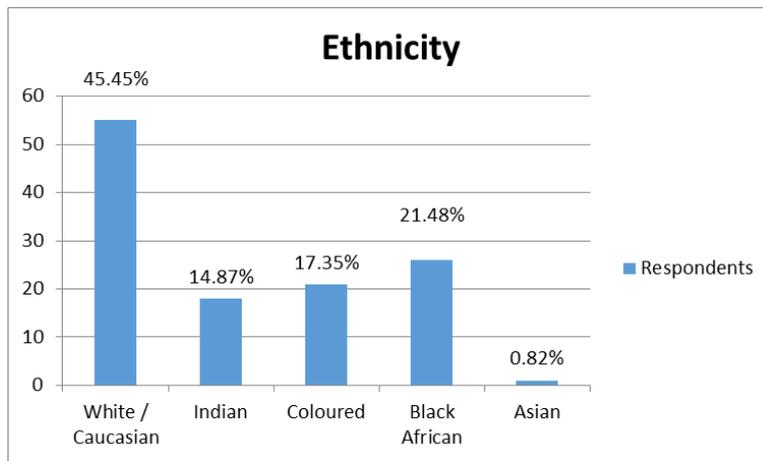
The tenure of respondents with their current employer was grouped as follows: less than two years, two to five years, and more than five years. Figure 5.4 shows the frequency distribution of respondents' tenure, which was fairly evenly distributed. A total of 35 respondents (28.92%) had been with their employer for less than two years, whilst those who had been with their employer for two to five years and more than five years numbered 43 (35.54%) in each case.

FIGURE 5.4 - FREQUENCY DISTRIBUTION OF TENURE

38
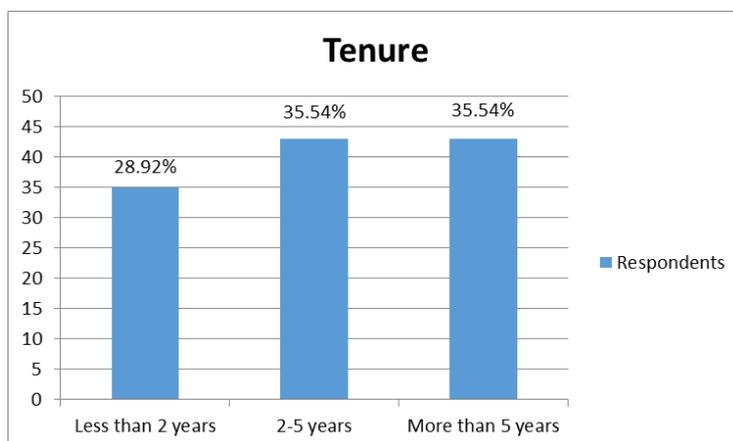
Respondents' education levels were grouped into those who had no tertiary education, followed by those who had completed a diploma or equivalent, and, lastly, those who had obtained a bachelor's or postgraduate degree.

Figure 5.5 shows the frequency distribution of respondents' highest level of education. Respondents who had no education beyond secondary school numbered 27 (22.31%), whilst respondents who had completed a diploma or equivalent qualification totalled 42 (34.71%). The number of respondents who held a bachelor's or postgraduate degree was 52 (42.97%).

FIGURE 5.5 - FREQUENCY DISTRIBUTION OF EDUCATION
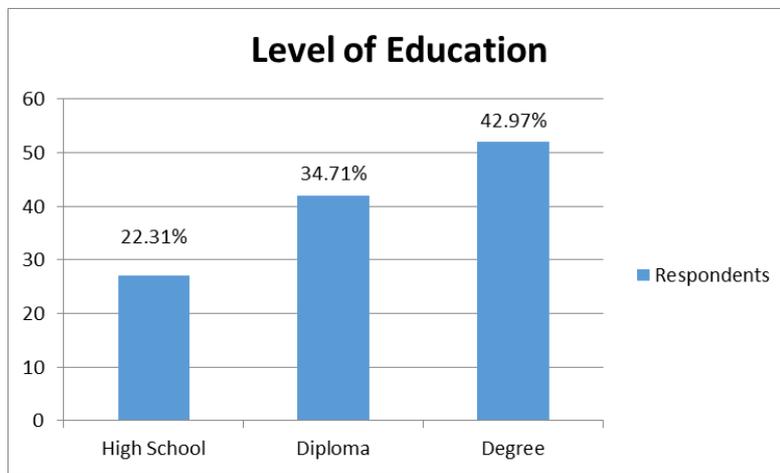
The job roles of respondents were categorised and grouped by the main categories of roles that were represented by the sample, and are as follows: sales, technical specialist, consultant, management and executive (middle management and above), operations and technical support (staff in operations and support), functional business areas (human resources, marketing, finance, and other business support functions).

Figure 5.6 shows the frequency distribution and percentages of respondents in the indicated job roles.

39

FIGURE 5.6 - FREQUENCY DISTRIBUTION OF JOB ROLE
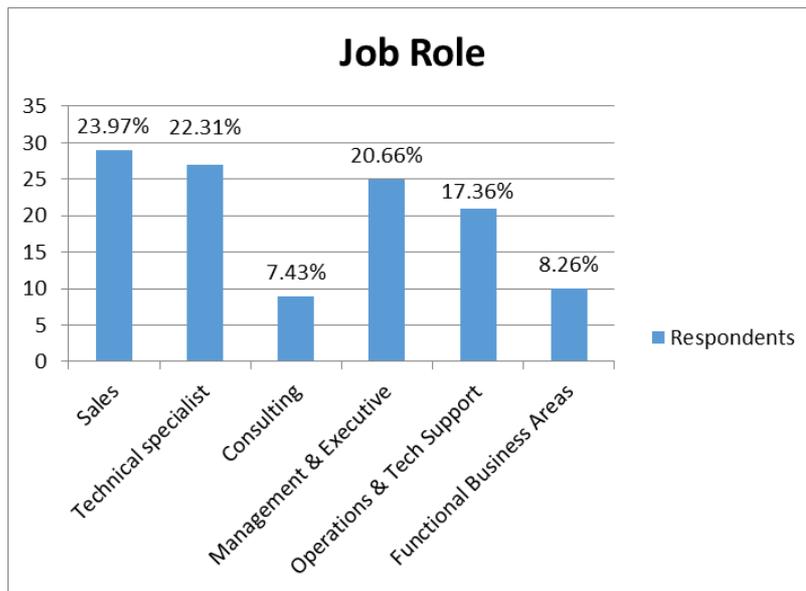
The highest representation of a job role was sales (29 respondents), technical specialists (27 respondents), and management and executive staff (25 respondents), followed by operations and technical support (21 respondents). Respondents who indicated that they were in a functional role that supported the business numbered 10, whilst consultants numbered 9.

5.3. Results of reward preference ratings

5.3.1. Description of reward preferences

Overall preference for different reward components was measured on the central tendency of their scores on the five-point Likert-type scale. A summary of these measures, with shortened reward component descriptions, is presented in Table 5.1.

TABLE 5.1 - SUMMARY OF OVERALL REWARD PREFERENCES SORTED BY MEDIAN AND MEAN

Reward component	Mean	Median	Upward range	Downward range
Quality of leadership	4.686	5	0	4
Base pay	4.653	5	1	4
Incentives & bonuses	4.620	5	2	4
Correctly measured performance	4.587	5	3	3
Flexible working & work-life balance	4.562	5	4	3
Retirement benefit	4.496	5	4	5
Acknowledgement & recognition	4.488	5	4	4
Self-directed learning & development	4.388	5	3	3
Tools & systems	4.339	5	3	2
Medical	4.322	5	4	1
Clear career path	4.314	5	5	1
Climate and stability	4.149	4	1	4
Organisational structure & processes	4.058	4	1	3
Access to latest technology	4.041	4	2	2
Amount of leave	4.017	4	3	1
Training from employer	3.983	4	4	0
Office environment	3.545	4	0	2
Shares	3.438	3	1	1
Variable pay	3.372	3	2	0

It was found that respondents favoured the reward components measured very similarly. Whether the rating data on these individual Likert-type items are considered of the ordinal or interval type, both measures of central tendency (median and mean, shown above) show the same reward preferences.

The variance of ratings was of such a nature that it was only possible to rank ratings into three major categories of importance. However, results of Wilcoxon matched-pairs tests between each item and the remaining items showed some significant differences (shown in Appendix 2 — Results of Wilcoxon Matched-Pairs Tests). These are expressed in Table 5.1 as the distance to the nearest upward or downward item that shows a statistically significant difference, labelled *Upward range* and *Downward range* respectively.

Respondents showed statistically similar preferences for the first 11 items shown above, corresponding to a rating of *Very important*. Further, the next six items had medians corresponding to a rating of *Important*, whilst only the last two items showed a median corresponding to a rating of *Moderately important*. No

41

components showed that they were considered *Of little importance* or *Unimportant* by the sample in totality.

The upward and downward range numbers showed that the approximate ranking of items in Table 5.1 is accurate, with ranges increasing and decreasing respectively as boundaries to the three categories of importance are approached. However, results of Wilcoxon matched-pairs tests between items (Appendix 2) illustrated that there are significant differences between some items within, especially the first category of importance, for example, *Quality of leadership* (Item 1) was shown to be statistically more important than *Retirement benefit* (Item 6). The approximate ranking achieved above therefore demonstrated accuracy.

5.3.2. Demographic influences on reward preference ratings

The influence of demographics on overall reward preference ratings (Part 2 of the survey instrument) was measured by conducting Kruskal-Wallis ANOVA (comparison of more than two independent groups), and controlling for each demographic as the independent variable.

The results of these tests per demographic variable, in the form of the relevant p-values, are shown in Table 5.2. Cases where the tests for differences were significant are shown in bold, and are shaded.

TABLE 5.2 - SUMMARY OF REWARD PREFERENCE COMPARISONS BY DEMOGRAPHICS

Reward category	Reward component	Gender	Race	Age group	Tenure	Educational level	Job role
Compensation	*Base pay*	0.3335	**0.0035**	0.2578	0.0943	0.2657	0.5694
	Variable pay	0.9558	0.537	0.9732	0.1242	0.4027	**0.0001**
	Incentives & bonuses	0.3242	0.6165	0.0679	0.1754	0.1716	0.055
	Shares	0.8863	0.2721	0.9993	0.295	**0.0328**	0.3936
Benefits	*Medical*	0.1647	0.7397	0.144	0.3893	0.1183	0.2074
	Amount of leave	0.7647	0.6321	0.8543	0.0512	**0.0439**	**0.0232**
	Retirement benefit	0.4910	0.4284	0.6882	**0.0072**	0.0895	**0.0083**
Work life (work environment)	*Organisational structure & processes*	0.1404	0.6258	0.2554	0.585	**0.0124**	**0.0333**
	Tools & systems	**0.0447**	0.063	0.1403	0.3196	**0.0003**	0.0975
	Access to latest technology	0.3536	0.4807	0.7852	0.3741	**0.0084**	0.1235
	Flexible working & work-life balance	0.3750	0.2664	0.0646	**0.0098**	0.9961	0.5096
	Office environment	0.4756	**0.0323**	0.5208	0.599	0.0681	0.0701
	Quality of leadership	0.8445	0.8609	0.7028	0.578	0.5223	0.5402
	Climate and stability	0.6723	0.8783	0.97	0.9812	0.0649	0.3325
Career, learning, & development	*Self-directed learning & development*	0.2182	0.489	**0.0413**	0.6995	0.669	0.0844
	Clear career path	0.9268	0.0789	0.6495	0.153	0.9492	0.669
	Training from employer	0.4510	**0.0001**	**0.0029**	**0.0253**	**0.0254**	**0.0067**
Performance & recognition	*Correctly measured performance*	**0.0119**	0.3665	0.7019	0.5027	0.7225	0.1351
	Acknowledgement & recognition	0.1415	0.2199	0.9565	0.1889	0.7357	0.104

Table 5.2 shows that differences based on all demographic variables were found. Where significant differences were found, the relevant demographic and reward components were inspected on the mean ranks to provide information as to the nature of the differences.

The results show significant differences in preferences for the rewards components *Tools & systems* and *Correctly measured performance* between male and female respondents. A summary of the mean ranks is shown in Table 5.3.

TABLE 5.3 - SUMMARY OF DIFFERENT REWARD PREFERENCES BASED ON GENDER

Mean ranks of different components		
	Male	Female
Tools & systems	56.6364	68.6364
Correctly measured performance	55.9286	69.8750

A comparison of the mean ranks showed that female respondents assigned a higher mean rank to both reward components listed above.

The demographic of race showed significant differences for three reward components, namely *Base pay*, *Office environment*, and *Training from employer*. A summary of the findings for these three components is shown in Table 5.4.

TABLE 5.4 - SUMMARY OF DIFFERENT REWARD PREFERENCES BASED ON RACE

Mean ranks of different components				
	White / Caucasian	Indian	Coloured	Black African
Base pay	52.3000	78.0000	66.3571	62.6538
Office environment	61.9000	46.1842	55.2381	74.5769
Training from employer	45.9636	74.2895	77.4286	69.8269

A comparison of mean ranks assigned by respondents indicated differing levels of preference for the three components listed, with White/Caucasian respondents showing the lowest preference for *Base pay* and *Training from employer*, compared to other respondents. Indian respondents indicated a significantly strong preference for *Base pay,* whilst African respondents appeared to strongly favour *Office environment*.

The age group of respondents showed an influence on reward preference for *Self-directed learning & development* and *Training from employer.* Both these components were much more strongly favoured by respondents under the age of 30 than by other age groups. A summary of mean ranks assigned by respondents is shown in Table 5.5.

TABLE 5.5 - SUMMARY OF DIFFERENT REWARD PREFERENCE BASED ON AGE GROUP

Mean ranks of different components			
	Under 30	In the 30s	Over 30
Self-directed learning & development	73.5333	57.1404	56.4118
Training from employer	78.5833	56.8947	52.3676

Duration of service with present employer, expressed as tenure, showed significant differences in respondents' preference for *Retirement benefit*, *Flexible working & work-life balance*, and *Training from employer.* A summary of mean ranks assigned by respondents is shown in Table 5.6.

TABLE 5.6 - SUMMARY OF DIFFERENT REWARD PREFERENCES BASED ON TENURE

Mean ranks of different components			
	Less than 2 years	2-5 years	Over 5 years
Retirement benefit	50.0429	59.9651	70.9535
Flexible working & work-life balance	54.8857	54.9070	72.0698
Training from employer	66.9000	67.1860	50.0116

Respondents who had been with their employer for longer (more than five years) showed significantly bigger preferences for *Retirement benefit* and *Flexible working & work-life balance*, whilst they also showed significantly less preference for *Training from employer* than respondents with shorter tenures.

The level of education attained by respondents was found to influence their preferences for the components *Shares*, *Amount of leave*, *Organisational structure & processes*, *Tools & systems*, *Access to latest technology*, and *Training from employer*. Respondents who had no tertiary education showed less preference for the components *Shares* and *Training from employer*, whilst they showed a higher preference for the component *Amount of leave.*

45

Respondents with postgraduate diplomas showed the highest preference for the components *Organisational structure & processes*, *Tools & systems*, *Access to latest technology*, and *Training from employer*. A summary of mean ranks assigned to each component by respondents is shown in Table 5.7.

TABLE 5.7 - SUMMARY OF DIFFERENT REWARD PREFERENCES BASED ON LEVEL OF EDUCATION

Mean ranks of different components			
	High school	Diploma	Degree
Shares	46.7963	68.2262	62.5385
Amount of leave	70.8519	64.9524	52.6923
Organisational structure & processes	64.5556	70.8571	51.1923
Tools & systems	62.1111	75.3810	48.8077
Access to latest technology	62.0185	72.4405	51.2308
Training from employer	50.8519	71.5833	57.7212

The job role of respondents was found to have a significant influence on their preference for the components *Variable pay*, *Amount of leave*, *Retirement benefit*, *Organisational structure & processes*, and *Training from employer*. A summary of mean ranks assigned to each component by respondents is shown in Table 5.8.

TABLE 5.8 - SUMMARY OF DIFFERENT REWARD PREFERENCES BASED ON JOB ROLE

Mean ranks of different components						
	Management / executive	Ops & tech support	Sales	Technical specialist	Consulting	Functional business areas
Variable pay	50.5800	59.7857	90.1897	52.5185	34.4444	51.7500
Amount of leave	43.0000	61.1667	75.1034	59.4074	64.0000	66.3500
Retirement benefit	50.9800	73.0714	63.1897	67.6667	34.1667	60.5000
Organisational structure & processes	48.6400	71.0952	72.6552	55.5185	45.7778	65.4000
Training from employer	38.7200	68.6905	65.5345	62.2037	67.8333	78.0000

Respondents in sales showed a significant preference for the component *Variable pay*, compared to other respondents. Sales employees were also found to prefer

46

the component *Amount of leave*, as compared to other respondents, of whom management/executives showed the least preference for the same.

The component *Retirement benefit* was found to be most favoured by respondents in operations or technical support, as compared to other respondents.

Operations and sales respondents were both found to have assigned relatively high mean ranks to the component *Organisational structure & processes*, as compared to other respondents.

The component *Training from employer* was found to have been rated most highly by respondents in functional business areas, and least by those in management or executive positions.

5.4. Reward preferences in attraction, retention, and motivation

Respondents' preferences for different rewards in each of the three scenarios (attraction, retention, and motivation) were measured with partial rank-order questions. Rank preference scores were calculated for each reward component, based on the number of times respondents assigned a specific rank to that component. For each observation of Rank 1, components were given 10 points, for Rank 2, 9 points, and so forth. For components not selected for a respondent's top ten choices, zero points were assigned.

5.4.1. Descriptive statistics for attraction, retention, and motivation

Respondents showed similar preferences for the components *Base pay* and *Incentives & bonuses* across all three scenarios. Similarly, the component *Flexible working & work-life balance* was found to be highly preferable in all three scenarios. It is notable that components categorised as benefits in the Total Rewards model were found to be more preferable in the scenario of attracting and retaining, whilst they were not preferred in the motivation scenario.

47

A summary of the median and mean rank scores of all components in the attraction scenario is shown in Table 5.9, below.

TABLE 5.9 - SUMMARY OF RANK SCORES FOR ATTRACTION

Variable	Mean	Median
Attract - Base pay	*8.3058*	*10*
Attract - Incentives & bonuses	*4.6198*	*6*
Attract - Medical	*4.562*	*6*
Attract - Flexible working & work-life balance	*4.4545*	*5*
Attract - Retirement benefit	*3.8595*	*5*
Attract - Quality of leadership	*3.5537*	*3*
Attract - Climate and stability	*3.3554*	*3*
Attract - Self-directed learning & development	*2.8595*	*2*
Attract - Clear career path	*2.6364*	*2*
Attract - Acknowledgement & Recognition	*2.0413*	*1*
Attract - Variable pay	*2.8017*	*0*
Attract - Amount of leave	*2.1653*	*0*
Attract - Shares	*1.7438*	*0*
Attract - Correctly measured performance	*1.7025*	*0*
Attract - Organisational structure & processes	*1.686*	*0*
Attract - Tools & systems	*1.4463*	*0*
Attract - Training from employer	*1.2562*	*0*
Attract - Office environment	*0.8926*	*0*
Attract - Access to latest technology	*0.7438*	*0*

The top ten reward components preferred by respondents for the attraction scenario are shown above the line, with less important components shaded.

In the retention scenario, reward components were found to show similar preferences, though in a slightly different order to those in the attraction scenario. A summary of mean and median rank scores for reward components in the retention scenario is shown in Table 5.10, below. The top ten components preferred (determined by sorting, first, according to mean and then according to median) in the retention scenario are shown above the line, with less important components shaded.

TABLE 5.10 - SUMMARY OF RANK SCORES FOR RETENTION

Variable	Mean	Median
Retain – Base pay	*7.950413223*	*10*
Retain - Incentives & bonuses	*4.876033058*	*6*
Retain - Flexible working & work-life balance	*5.074380165*	*5*
Retain - Medical	*4.404958678*	*5*
Retain - Retirement benefit	*3.487603306*	*3*
Retain - Acknowledgement & recognition	*3.115702479*	*3*
Retain - Quality of leadership	*3.388429752*	*2*
Retain - Self-directed learning & development	*3.32231405*	*2*
Retain - Clear career path	*2.694214876*	*2*
Retain - Correctly measured performance	*2.380165289*	*1*
Retain - Climate and stability	*2.181818182*	*1*
Retain - Variable pay	*2.132231405*	*0*
Retain - Amount of leave	*1.975206612*	*0*
Retain - Tools & systems	*1.851239669*	*0*
Retain - Organisational structure & processes	*1.743801653*	*0*
Retain - Shares	*1.595041322*	*0*
Retain - Training from employer	*1.074380165*	*0*
Retain - Access to latest technology	*0.925619835*	*0*
Retain - Office environment	*0.58677686*	*0*

In the motivation scenario, respondents showed similar preferences for the components *Base pay*, *Incentives & bonuses*, and *Flexible working & work-life balance*, whilst preferences for components relating to the reward categories of *Career, learning, & development* and *Performance & recognition* featured prominently.

A summary of mean and median rank scores for reward components in the motivation scenario, with the top ten reward components shown above the line, and less important components shaded, is shown in Table 5.11.

TABLE 5.11 - SUMMARY OF RANK SCORES FOR MOTIVATION

Variable	Mean	Median
Motivate - Base pay	*5.76033*	*7*
Motivate - Incentives & bonuses	*4.66942*	*6*
Motivate - Flexible working & work-life balance	*4.78512*	*5*
Motivate - Acknowledgement & recognition	*4.50413*	*4*
Motivate - Self-directed learning & development	*3.60331*	*4*
Motivate - Correctly measured performance	*3.52066*	*3*
Motivate - Clear career path	*2.98347*	*2*
Motivate - Quality of leadership	*2.95041*	*1*
Motivate - Tools & systems	*2.68595*	*1*
Motivate - Climate and stability	*2.46281*	*1*
Motivate - Variable pay	*2.38843*	*0*
Motivate - Organisational structure & processes	*2.28926*	*0*
Motivate - Access to latest technology	*2.16529*	*0*
Motivate - Medical	*2.08264*	*0*
Motivate - Office environment	*1.7438*	*0*
Motivate - Training from employer	*1.71074*	*0*
Motivate - Amount of leave	*1.43802*	*0*
Motivate - Retirement Benefit	*1.34711*	*0*
Motivate - Shares	*1.33884*	*0*

5.4.2. Differences between attraction, retention, and motivation

Respondents showed significantly different preferences for many components across the three scenarios. An illustration of differences in median rank scores for all reward components is shown in Figure 5.7. This graph shows the three different scenarios — attraction, retention and motivation — and the mean score assigned to each reward component by respondents for each scenario. The mean score is illustrated on the Y-axis, and the X-axis contains the 19 different reward components. The data points and lines drawn on the graph allow a comparison of reward preferences between scenarios.

50

For example, the graph shows that *Base pay* was considered most important in attraction and retention (mean rank of 10 on the blue and purple lines), and less important for motivation (mean rank of 7 on the green line).

FIGURE 5.7 - DIFFERENT PREFERENCES FOR ATTRACT, RETAIN AND MOTIVATE
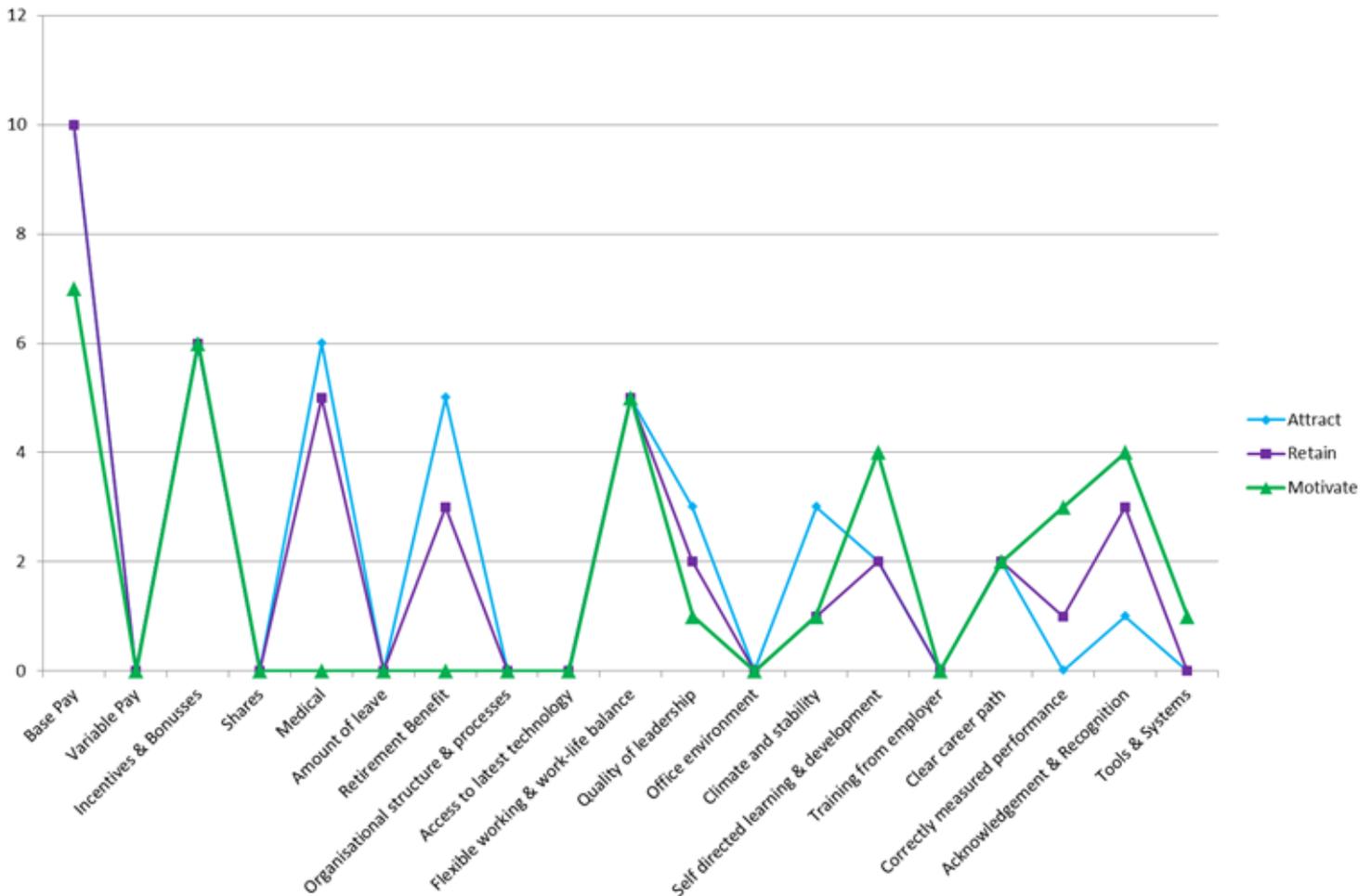
The comparison in Figure 5.7 shows that the components *Base pay*, *Incentives & bonuses*, Shares, *Training from employer*, *Clear career path*, *Office environment*, *Flexible working & work life balance*, *Access to latest technology*, and *Organisational structure & processes* received similar median rank scores across the three scenarios.

The median rank score for *Base pay* was highest, and equal for attraction and retention, whilst it was less for motivation. The reward components *Medical*, *Amount of leave*, and *Retirement benefit*, whilst showing only slightly higher median ranks for attraction than retention, showed low median ranks of 0 for motivation.

51

The component *Self-directed learning & development* showed equal median rank scores for attraction and retention, but a markedly higher median rank score for motivation.

The component *Correctly measured performance* was found to have the lowest median rank score for attraction, with a slightly higher score for retention, and the highest score for motivation.

The component *Acknowledgement & recognition* showed a similar trend in median rank scores, being higher for retention and motivation than for attraction.

Results of Friedman ANOVA tests on each reward component across the three scenarios found statistically significant differences in preference for all reward components, except five. A summary of the relevant p-values is presented in Table 5.12, with significant p-values presented in bold and shaded.

TABLE 5.12 - SUMMARY OF FRIEDMAN ANOVA RESULTS

Reward category	Reward component	Friedman ANOVA p-value
Compensation	*Base pay*	**0.0000**
	Variable pay	**0.0762**
	Incentives & bonuses	0.3509
	Shares	0.3971
Benefits	*Medical*	**0.0000**
	Amount of leave	**0.0028**
	Retirement benefit	**0.0000**
Work-life (work environment)	*Organisational structure & processes*	**0.0999**
	Tools & systems	
	Access to latest technology	**0.0000**
	Flexible working & work-life balance	**0.0970**
	Office environment	**0.0001**
	Quality of leadership	0.4486
	Climate and stability	**0.0034**
Career, learning & development	*Self-directed learning & development*	0.2440
	Clear career path	0.4216
	Training from employer	**0.0070**
Performance & recognition	*Correctly measured performance*	**0.0001**
	Acknowledgement & recognition	**0.0000**

A number of tests found p-values that were smaller than the number of decimal places displayed by the statistical software package. These are shown as 0.0000; however, they are not precisely zero.

5.5. Reward category and component internal consistency

Internal consistency of reward categories (*Compensation, Benefits, Work life, Career, learning & development,* and *Performance & recognition*) was found to be low for all categories, based on the Cronbach alpha calculated for the Likert-type scale ratings.

A summary of the calculated Cronbach alphas for each reward category is shown in Table 5.13, below. The tests found that aggregation of component ratings and scores to category level, and subsequent analysis of such on a category level, would be inappropriate.

TABLE 5.13 - SUMMARY OF INTERNAL CONSISTENCY TESTING ON REWARD COMPONENT RATINGS

Reward category	Reward components	Cronbach alpha
Compensation	*Base pay* *Variable pay* *Incentives & bonuses* *Shares*	0.433
Benefits	*Medical* *Amount of leave* *Retirement benefit*	0.525
Work life (work environment)	*Organisational structure & processes* *Tools & systems* *Access to latest technology* *Flexible working & work-life balance* *Office environment* *Quality of leadership* *Climate and stability*	0.738
Career, learning & development	*Self-directed learning & development* *Clear career path* *Training from employer*	0.570
Performance & recognition	*Correctly measured performance* *Acknowledgement & recognition*	0.441

53

5.6.   Summary of results

The results illustrated the overall preferences for individual reward components based on median and mean ratings, and found that the demonstrated rank of reward components could broadly be classified into three degrees of importance, namely *Very important*, *Important*, and *Moderately important*. Subsequent analysis demonstrated that the overall rank of individual components was relatively accurate, whilst the boundaries of the three categories of importance were found to be sound.

Analysis of variance found statistically significant differences in respondents' median ratings assigned to certain reward components, based on all demographics.

Rank-order data in the three scenarios of attraction, retention, and motivation were found to show statistically significant differences in rank scores for most reward components across the three scenarios. Relative rankings for each reward component in the different scenarios were established by comparing mean and median rank scores in each scenario.

Finally, analysis of internal consistency of individual reward components aggregated into reward categories, defined for this study (Table 4.1) found that aggregated scores and analysis were not suitable for either Likert-type ratings or rank-order scores in the attraction, retention, and motivation scenarios.

The next chapter discusses the results set out in this chapter, and interprets these in light of the theory reviewed in Chapter Two, as well as the research questions posed in Chapter Three.

54

6. Chapter Six: Discussion of research results

6.1.   Introduction

This chapter discusses the results of the statistical analysis presented in Chapter Five, as it relates to the literature reviewed in Chapter Two, and the relevant findings with regard to the research questions, presented in Chapter Three.

6.2.   Sample demographics

The sample contained roughly equal amounts of respondents in the under-30 age group and the over-40 age group, at 24.79% and 28.10% respectively, while the majority of respondents (47.11%) were in their 30s. The number of respondents in each age group was at least 30, showing good representation.

The sample contained roughly twice as many men as women, which indicates that the IT sector in South Africa is largely male-dominated, and correlates with demographics in similar studies in other parts of the world (Bunton & Brewer, 2012).

The ethnic variety represented in the sample showed that most respondents classified themselves as White/Caucasian (45.45%), whilst the remaining groups were roughly equally represented (Indian 14.87%, Coloured 17.35%, and Black African 21.48%). As only one respondent indicated being Asian, this respondent was included in the group classified as Indian for the purposes of analysis.

The tenures of respondents were very similar, with equal representation from those in the categories of 2-5 year and longer than 5 years (35.54%), with a slightly lower proportion having been with their employer for less than two years (28.92%). This showed good representation across a range of longer-serving and newer employees.

The level of education of respondents was positively skewed towards those with post-secondary qualifications, such as diplomas (34.71%) and degrees (42.97%). This trend confirmed that the sample represented knowledge workers who use specialised knowledge (Sutherland, & Jordaan, 2004) and generate competitive

55

advantage, as they are highly educated and skilled (Dewhurst, Hancock, & Ellsworth, 2013).

Respondents were given a wide variety of job roles to choose from in the survey, including the option to specify a role not listed. The exploratory nature of this question was as a result of limited insight into the exact nature of roles comprising the South African IT industry. From these responses and a categorisation of job functions into groups that are more or less similar, a picture emerged of the main roles in the industry, as illustrated in Figure 5.6.

Job role categories that emerged were: sales, technical specialist, consulting, management/executive, operations and technical support, and functional business areas. Most of these roles were represented similarly (17-24%), apart from consulting (7.43%) and functional business areas (8.26%).

6.3. Discussion of findings relating to Research Question 1

Research Question 1: What are the reward preferences of South African IT knowledge workers overall, and do their reward preferences show significant differences as they relate to attraction, retention, and motivation respectively?

6.3.1. Overall reward preferences

The overall results of reward preference ratings, as reported in Table 5.1, show a number of important aspects. First, it answered the question relating to which reward components are considered more important than others. An interpreted version of Table 5.1 is presented in Table 6.1, below, which indicates the rank (relatively speaking) of each component, as well as its category of overall importance to respondents, based on Likert-type ratings.

The findings agree with the literature, which showed that the main elements of monetary compensation are still crucially important (Horwitz et al., 2003; Snelgar et al., 2013; Moore & Bussin, 2012; Nienaber et al., 2009; Bunton & Brewer, 2012). Findings in the present study highlight basic or fixed pay and the opportunity to earn incentives and bonuses as being very important to respondents.

The inclusion of benefits such as medical and retirement in the factors considered very important supports the notion in contemporary business writing (such as in the work of Horwitz et al. (2003)) that a competitive total package is a criterion for entry into the competition for talent.

TABLE 6.1 - RELATIVE IMPORTANCE OF REWARD COMPONENTS

Reward component	Relative rank	Importance
Quality of leadership	1	
Base pay	2	
Incentives & bonuses	3	
Correctly measured performance	4	
Flexible working & work-life balance	5	
Retirement benefit	6	Very Important
Acknowledgement & recognition	7	
Self-directed learning & development	8	
Tools & systems	9	
Medical	10	
Clear career path	11	
Climate and stability	12	
Organisational structure & processes	13	
Access to latest technology	14	Important
Amount of leave	15	
Training from employer	16	
Office environment	17	
Shares	18	Moderately
Variable pay	19	important

The findings illustrate the relatively high importance of flexible working arrangements and work-life balance to knowledge workers in the IT industry, which is in agreement with more recent industry-specific business literature by Johns and Gratton (2013) and academic studies in the local context (Nienaber et al. (2009)).

Components that can be considered part of the *work life* (work environment) reward category, as defined in Table 4.1, were found to be important to respondents, in line with findings in the high-technology industry by Medcof and Rumpel (2007); however, they were exceeded in importance by reward components that belong to the categories *Career, learning, & development* and *Performance & recognition*. This appears to be congruent with assertions that

57

knowledge workers place high value on constantly developing and upgrading their skills (Sutherland & Jordaan, 2004), and with findings by studies in the local context that found that a high value is placed on career development and personal growth opportunities (Nienaber et al., 2009).

The findings showing that opportunities to earn shares or share options and earn commission or variable pay are considered moderately important should be viewed against the inherent predisposition in favour of these rewards of those employees who are able to earn them. Typically, variable pay would be applicable mostly to sales people, whereas shares and share options would most likely be dependent on job level.

6.3.2. Attraction, retention, and motivation

The findings regarding attraction, retention, and motivation show that there are significant differences between rewards that matter to knowledge workers in these three scenarios. This is in agreement with business literature and academic studies on the subject (Horwitz et al., 2003; Nienaber et al., 2009; Bhengu & Bussin, 2012; Kwon & Hein, 2012; Snelgar et al., 2013).

Overall, the findings of the present study show somewhat similar preferences in the scenarios of attraction and retention on most components, whilst they differ notably for motivation. This is in contrast to the study by Nienaber et al. (2009), who found that attraction was the scenario that differed from the other two, but seems to agree with findings by Snelgar et al. (2013) that motivation exhibits the most prominent differences in reward preference.

Findings in the present study agree with those of Snelgar et al. (2013), who stated that base or fixed pay was found to be the most important factor in attraction and retention, but differ from the same author in that it found that base pay and the opportunity to earn incentives and bonuses were very important in motivation, though by a reduced margin.

Considering reward components that are categorized as benefits, the findings show clearly that benefits such as medical plans, amount of leave, and retirement benefits are most important in attraction, slightly less so in retention, but

58

unimportant in motivation. This is congruent with the notion that a competitive total package is a 'hurdle to entry' that diminishes in importance when one considers retention and motivation, as is evident in the findings of Kwon and Hein (2012) and Nienaber et al. (2009).

Flexible working arrangements and work-life balance were shown to be important in all three scenarios, which is in line with findings by Nienaber et al. (2009) (see Table 6, p. 16) and Kwon and Hein (2012), who stated that it was one of the key drivers of attraction in modern firms. The same notion is echoed in contemporary business literature (Johns & Gratton, 2013) which affirms that flexible working arrangements are a critical component in the evolving world of work.

Important differences were illustrated in the importance of learning and development directed and driven by employees based on their individual development and career aspirations. Whilst this present study found that it was in the top ten drivers of attraction and retention, it was in the top five drivers of motivation, alerting us to its overall importance, but also emphasising how crucial it is in keeping employees engaged. This agrees with Snelgar et al. (2013), who found the category *Performance & career management* to be a top driver of motivation. Respondents in the present study showed agreement with that notion, and indicated that performance that is correctly measured and aligned with the company's goals, as well as receiving acknowledgement and recognition for achieving those goals, are important drivers of motivation and retention.

Drawing together the above findings and theory, a proposed competitive rewards model for South African I.T. knowledge workers is proposed, which shows those factors regarded as hurdles to entry into the talent competition, called *Minimum Talent Qualifiers*, followed by the most important factors for respectively attracting, retaining, and motivating IT knowledge workers. The proposed model is shown in Figure 6.1.

The model does not suggest that components should be considered in isolation, or that those listed as the most important in attraction, for example, are unimportant for, say, retention. Rather, it is an attempt at a holistic structuring of the most pertinent rewards for South African IT knowledge workers.

FIGURE 6.1 - PROPOSED COMPETITIVE IT KNOWLEDGE WORKER REWARDS MODEL

6.4. Discussion of findings relating to Research Question 2

Research Question 2: Which demographics play a significant role in determining the different reward preferences for South African IT knowledge workers?

Studies on the influence of demographics on reward preferences appear to be largely motivated by the desire to find meaningful ways of segmenting the knowledge workforce so that more targeted, and therefore more effective reward strategies can be designed (Snelgar et al., 2013, citing Du Toit, Erasmus & Strydom ,2007; Moore & Bussin, 2012).

The present study did find differences in reward preference based on several demographics, but they must be interpreted in light of the usefulness of said differences in providing meaningful segmentation variables.

Whilst it was found that some differences exist between race groups, and even though other authors did suggest investigating race as a segmentation variable (Moore &

60

Bussin, 2012), the differences found here did not prove practically useful. The present study found that Indian respondents indicated a higher preference for basic of fixed remuneration, whilst they showed the lowest preference for the office environment (facilities, décor, and such), which are not really aspects that can be targeted at individual race groups. The only other significant difference showed White/Caucasian respondents indicating less of a preference for training determined and provided by their employer.

Snelgar et al. (2013) found that gender played a role in determining reward preferences, but pointed out that this isn't always the case, citing Paddey and Rousseau (2011), who found no differences between the genders in this regard. He asserted that women place more emphasis on base pay, the quality of the work environment, and work-life balance. This was not evident in the findings of the present study of IT knowledge workers, which shows that women place more emphasis on having performance correctly measured and aligned to the organisation's goals.

The findings related to age group show that younger employees place higher value on learning and development driven and directed by them, as well as training selected and provided by the employer. Findings related to age group are suggested to be related to life stages (Snelgar et al., 2013). It suggests that younger employees are at an earlier stage of their career, where learning and development play an important role in their future career progression. Similarly, the present study found that employees with a tenure of longer than five years consider retirement benefits to be more important, which could also be a reflection of their career's life stage.

Whilst there is a paucity of research in the local context on the influence of tenure on reward preferences for knowledge workers, findings in the present study indicate a minor preference of longer-tenured employees for flexible working arrangements, probably due to these employees having proven and established themselves in the workplace, and expecting more flexibility as a result of longer history with their employer.

Findings also show that employees with longer tenures have a slightly lower preference for training determined and provided by their employer, which probably

61

stems from them being established in the employer's environment, and familiarity with the domain knowledge required to perform their work.

Regarding educational differences, Nienaber et al. (2009) postulated that educational level had an influence on reward preferences, and suggested that the more educated workers have greater confidence in their abilities to afford the benefits they desired, or move to other organisations that would oblige their preferences. Results of the present study show that employees with higher levels of education show less preference for optimal tools and systems, organisational structure, and processes in place to do their jobs. This is likely to be a symptom of employees who are engaged in more functional work relying less on their knowledge capital for the bulk of their performance. They would be more beholden to the organisation's processes and to the systems they rely on for performing their jobs. Employees with higher knowledge capital would possibly see their performance as relying more on the skilful application of said knowledge in order to succeed.

Concerning job roles, comparative studies in the local context are scarce, particularly industry-specific studies such as the present study. Findings of the present study show some differences in rewards preferred by employees with specific job roles. It found that workers in functional areas such as marketing, human resources and finance show a stronger preference for training determined and provided by their employer, whilst those in management and executive positions consider employer-provided training relatively less important. This is possibly due to those in management and executive positions require more self-driven development to perform their jobs, and less domain-specific training, such as that normally provided by employers.

Lastly, employees in management and executive roles show lower preferences for benefits such as retirement and amount of leave, presumably because it is either within their means to acquire such benefits by themselves (as suggested in a different case by Nienaber et al. (2009)) or, possibly, because these benefits have become par for the course, which may be why more senior employees place emphasis on career development and having challenging work.

6.5.   Discussion of findings related to Research Question 3

Research question: Do the components of different reward categories show internal consistency, and, furthermore, is it appropriate to aggregate findings for South African IT knowledge workers up to reward categories, and indeed, to draw comparisons between findings that measure reward preferences on a component level versus those that measure on a category level?

Whilst Moore and Bussin (2012) found that their definition of total rewards categories and their composite components did not demonstrate complete internal consistency, and showed a misalignment between those revealed through factor analysis and the theoretical constructs, Snelgar et al. (2013) found that there was internal consistency between individual items measured and the aggregate categories to which they were theoretically assigned. Although these findings are dissimilar, it illustrates that reward components clustered together based on theoretical constructs such as the WorldatWork Total Reward model (WorldatWork, 2013) do not always show co-variance, and indeed sometimes display internal inconsistency.

Findings in the present study demonstrate a similar issue, with no significant internal consistency demonstrated in the reward components assigned to each of the reward categories, as defined by the adapted Total Rewards Model in Table 4.1. In a similar local context, the work of Nienaber et al. (2009), through factor analysis, identified ten reward categories, instead of conforming to any theoretical construct.

This concern for internal consistency or lack thereof is less valid when studies aim to measure reward preferences overall and across a set of independent variables. It becomes more complex, however, when studies want to further explore cases of dependent sample groups (such as in the case in attraction, retention, and motivation scenarios). Due to the complexity of constructing a suitable measuring instrument to measure a large set of reward components in all three scenarios, most studies in the same context (Nienaber et al., 2009; Snelgar et al., 2013) opted for the approach of measuring such differences on a category level instead, asking respondents to choose one of five or six reward categories in each of the scenarios.

63

Whilst such an approach simplifies the difficulty of assembling a measuring instrument capable of discerning between attraction, retention, and motivation, it has an implicit assumption of intra-category correlation, sometimes comparing findings with those of overall reward preferences that were indicated on the basis of aggregated scores.

This was a consideration when a simplified list of reward components was selected in the research design for the present study. It was decided to keep to a relatively small list of components that would be adequate to cover the most pertinent elements of the total rewards model applicable to this context, and would, at the same time, minimise the reliance on internal consistency of the components with their theoretical parent categories, particularly to demonstrate reliable findings regarding attraction, retention, and motivation respectively.

The lack of intra-category co-variance in the present study may be due to this decision, which resulted in some categories (scales) containing a less-than-suitable amount of items to establish internal consistency. However, since other studies without this design demonstrated similar issues (Moore, & Bussin, 2012; Nienaber et al., 2009), reporting scores and performing subsequent analysis on theoretical rewards categories should be done with care.

This concludes the discussion of findings on the research questions posed in this study, and leads to the following chapter, which presents a summary of findings, recommendations, and a discussion on the limitations of this study.

7. Chapter Seven: Conclusion and recommendations

7.1. Summary of main findings

That it is imperative for companies operating in the modern knowledge-economy to attract, retain, and motivate highly-skilled knowledge workers has been made apparent. For the IT industry, which is at the forefront of the information age, competitive advantage comes from being able to hold on to talented and skilled knowledge workers.

Managers and leaders in the South African IT industry would be well advised to consider that a competitive total package is simply the cost of entry into the war for talent, and must do their best to construct a holistic total rewards package that is suitable to meet the preferences of knowledge workers in this industry.

Minimum talent qualifiers

This study has demonstrated that there are specific rewards that are minimum talent qualifiers — things that IT knowledge workers expect as the basis of any employment relationship. These are: a competitive basic or fixed salary, the opportunity to earn appropriate incentives and bonuses based on their performance, and a working environment that is flexible enough to accommodate the modern nature of their jobs, which includes 24/7 remote access to work systems, discretion in work versus non-work hours, and the ability to structure work to accommodate work-life balance. As a bare minimum, knowledge workers expect their skills to be rewarded with market-related basic remuneration, to benefit financially when their performance translates into profits for their employer, and to have a degree of influence over how, when, and where their work is performed.

Attracting new knowledge workers

Building on the above, attracting new knowledge workers means ensuring not only a competitive total package (fixed salary and benefits) and providing flexible working arrangements, but projecting a positive EVP and being perceived as having a favourable and stable organisational climate. The importance of this

65

public relations exercise must not be underestimated — negative industry talk about the climate at IT organisations will make potential future employees shy away.

Retaining knowledge workers

Once organisations acquire new talent, the competitive base package soon starts to lose its lustre, and holding on to people with the requisite knowledge capital will require significant interest in their personal learning and development, of which they want to be the architects. In addition, it is vital that employees feel that assisting in achieving the organisation's goals is rewarded with adequate acknowledgement and recognition, in both monetary and non-monetary forms. There are more ways than mere money to acknowledge and recognise performance.

Motivating and engaging knowledge workers

The last piece of the holistic Total Rewards Model entails making sure knowledge workers feel motivated to perform, and are fully engaged in their jobs. For motivation and engagement, the most important drivers are: appropriate and aligned performance measurement, and having a clearly defined career path and progression.

Knowledge workers want to feel that their performance is being measured appropriately, in line with factors that are realistically under their control, and clearly aligned with the organisation's or division's goals. At the same time, the very nature of their work and skill requires that they constantly seek to upgrade and enhance their knowledge and advance their individual competence. Failing to provide a clear career path or means of progression for these individuals is the death knell to their engagement in the job, and will eventually lead to attrition.

Attracting and retaining younger employees

The most practically applicable finding of the present study with regards to targeting specific rewards components at a particular demographic relates to employees under the age of 30. These employees place a particularly high value on

66

being provided with the training their employer considers necessary for their role, but also on on-going and self-directed learning and development.

A summary of the simplified total rewards components evaluated in this study, as well as their relative rank of importance, can be referred to in Table 5.1. A model for structuring competitive total rewards in the South African IT industry, proposed in the previous chapter, and relevant to the discussion on attraction, retention, and motivation, is presented once more in Figure 7.1, below.

FIGURE 7.1 - COMPETITIVE REWARDS MODEL FOR SA IT ORGANISATIONS

7.2. Recommendations and implications for managers

It is recommended that managers and leaders in the South African IT sector inspect their organisations' rewards through the lens of the total rewards concept used throughout this study, and that they take stock of whether they have considered all of the aspects required to acquire and hold on to top talent.

The simplified list of rewards components used in this study could provide a basis for investigating whether they are meeting the preferences of their knowledge workers, or for conducting employee surveys of their own. If employers wish to

67

know where to start and what to focus on, the relative rankings determined by this study will provide insight into the importance of different total rewards components.

Leaders in the IT industry should be aware that the war for talent cannot be won on price, and that, whilst most companies espouse values and visions of being meritocracies, valuing their employees, and providing a home for knowledge workers seeking development and career progression, these things cannot be mere platitudes dredged up from human resources manuals.

This study affirms the importance of a holistic total rewards approach that amounts to more than lip service, but, importantly, also dispels any possible misunderstanding regarding whether top talent puts a high price on financial compensation for their skills; they do, and it is expected.

The most actionable recommendation relating to a particular segment of the South African IT knowledge workforce is that H.R. practitioners should tailor career plans for younger employees (under 30), and ensure that training and self-directed learning and development feature strongly. Younger employees show a much higher preference for these rewards, and will likely become the future top talent pool from which the company must draw in order to succeed.

7.3.   Suggested for future research

It would be meaningful to investigate if the simplified/condensed reward components measured can be factor-analysed to determine an appropriate categorisation.

One shortcoming of this study, which should be addressed in the local context, is the type of rating instrument used to measure overall reward preferences. The 5-point Likert-type items ranged from *Unimportant* to *Very important*, but the median value, *Moderately important* is not truly a preference-agnostic point on the scale. Furthermore, the nature of reward preferences means that studies that ask respondents to rate their preferences are likely to be plagued by low variance and positive skewedness towards higher ratings. Realistically, people consider all rewards important to some extent.

A recommendation would be to address this shortcoming by devising a more appropriate measuring instrument, perhaps asking respondents to score reward components out of 10, by enlarging the rating scale to 7 or 10 points, and modifying the interval descriptions, or by forcing pair-wise trade-off questions, which might be more complicated, but would perhaps yield a more accurate real ranking of reward preferences.

Another limitation of this study could be useful to address in future research, namely the response bias introduced by describing the three scenarios of attraction, retention, and motivation to respondents in a self-administered survey. The respondents' understanding of the nature of these scenarios did not always seem evident from random inspection of individual responses, probably due to the various ways in which the wording could be interpreted without having their context explained by an interviewer. The effectiveness of asking human respondents to rank order 10 items in a single list might also be questioned.

Instead, future research should focus on a series of short, descriptive cases that illustrate a scenario representing attraction, retention, and motivation respectively, and ask a respondent to either rank order five or less items, or to answer *Yes/No* to a hypothetical trade-off suggestion. Mini-scenarios could also be

used to make statements about reward preferences, and ask respondents to state their degree of agreement.

7.4.   Concluding statement

This research aimed to deepen understanding of the factors influencing the attraction, retention, and motivation of knowledge workers in the information technology sector, particularly as it relates to their preferences for certain types of rewards in the employer-employee relationship.

The study has met this objective by illustrating the most important total reward components favoured by South African IT knowledge workers, and by illustrating how these influence attraction, retention, and motivation differently.

The war for talent in both the local and the global marketplace will only be won by those who adopt a total reward strategy that is appropriate to the preferences of their knowledge workers and keeps pace with the evolving tends in the world in which we work.

It is recommended that managers and leaders in the sector ensure that their organisations pay more than lip service to a holistic total rewards strategy.

8. References

Barlett, J. E., Kotrlik, J. W., & Higgins, C. C. (2001). Organizational research: Determining appropriate sample size in survey research. *Information Technology, Learning, and Performance Journal, 19*(1), 43.

Beechler, S., & Woodward, I. C. (2009). The global "war for talent". *Journal of International Management, 15*(3), 273-285. doi:10.1016/j.intman.2009.01.002

Bergmann, T. J. & Scarpello, V. G. (2001). *Compensation Decision Making*. 4th edition. USA: Harcourt, Inc.

Bhengu, M. B., & Bussin, M. (2012). The perceived effectiveness of employee share options as a mechanism of talent management in South Africa. *Acta Commercii, 12*(1), 85-93.

Bunton, T. E., & Brewer, J. L. (2012, October). Discovering workplace motivators for the millennial generation of IT employees. In *Proceedings of the 1st Annual conference on Research in information technology* (pp. 13-18). ACM.

Bussin, M. (2002). *Retention strategies*. Randburg, South Africa: Knowledge Resources Publishing.

Cennamo, L., & Gardner, D. (2008). Generational differences in work values, outcomes and person-organisation values fit. *Journal of Managerial Psychology*, *23*(8), 891– 906. http://dx.doi.org/10.1108/02683940810904385

Chambers, E. G., Foulon, M., Handfield-Jones, H., Hankin, S. M., & Michaels, E. G. (1998). The war for talent. *McKinsey Quarterly,* 44-57.

Dess, G. G., and Shaw, J. D. (2001), Voluntary turnover, social capital and organizational performance, *Academy of Management Review*, *26,* 3, 446–456.

de Winter, J. C., & Dodou, D. (2010). Five-point Likert items: T test versus Mann-Whitney-Wilcoxon. *Practical Assessment, Research & Evaluation, 15*(11), 1-12.

Dewhurst, M., Hancock, B., & Ellsworth, D. (2013). Redesigning knowledge work. *Harvard Business Review, 91*, 58-64.

Du Toit, G. E., Erasmus, B. J., & Strydom, J. W. (2007). *Introduction to business management.* (7th ed.). Cape Town: Oxford University Press.

Fagerland, M. W., & Sandvik, L. (2009). Performance of five two-sample location tests for skewed distributions with unequal variances. *Contemporary Clinical Trials, 30*(5), 490-496. doi:http://dx.doi.org/10.1016/j.cct.2009.06.007

Giancola, F. L. (2012). It depends on how you ask them—determining employee reward preferences. *Education, 49*(4).

Giancola, F. L. (2008). Should generation profiles influence rewards strategy? *Employee Relations Law Journal*, *34*(1), 56–68.

Hancock, J. I., Allen, D. G., Bosco, F. A., McDaniel, K. R., & Pierce, C. A. (2013). Meta-analytic review of employee turnover as a predictor of firm performance. *Journal of Management, 39*(3), 573-603.

Harris, S. & Clements, L. (2007). What's the perceived value of your incentives? *Workspan, 02/07. pp. 21–25.* Scottsdale, United States: WorldatWork Press.

Hlalethoa, J. J. R. (2010). *Reward strategy as a staff retention tool at the financial services board.* (Unpublished thesis—Master of Commerce: Business Management). University of Johannesburg, Johannesburg.

Horwitz, F. M., Heng, C. T., & Quazi, H. A. (2003). Finders, keepers? Attracting, motivating and retaining knowledge workers. *Human Resource Management Journal, 13*(4), 23-44. doi:10.1111/j.1748-8583.2003.tb00103.x

Johns, T., & Gratton, L. (2013, January-February 2013). The third wave of virtual work. *Harvard Business Review, 91*, 66-72.

Kwon, J., & Hein, P. (2012). Employee benefits in a total rewards framework. *Benefits Quarterly, 29*(1), 32-38.

McKnight, P. E., & Najab, J. (2010a). Kruskal-Wallis test. *The Corsini Encyclopedia of Psychology*, John Wiley & Sons, Inc. doi:10.1002/9780470479216.corpsy0491

McKnight, P. E., & Najab, J. (2010b). Mann-Whitney U-test. *The Corsini Encyclopedia of Psychology*, John Wiley & Sons, Inc. doi:10.1002/9780470479216.corpsy0524

Medcof, J. W., & Rumpel, S. (2007). High technology workers and total rewards. *The Journal of High Technology Management Research, 18*(1), 59-72. doi:10.1016/j.hitech.2007.03.004

Media, Information and Communication Technologies Sector Education Training Authority. (2011). Sector Skills Plan, 2011-2016. Retrieved 11/01, 2013, from http://www.mict.org.za/downloads/Isett_Seta_Sector_Skills_Plan_2011_2016_Jan_2011_Version_v2p1.pdf.

Moore, A., & Bussin, M. (2012). Reward preferences for generations in selected information and communication technology companies. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, *10*(1), Art. #325, 9 pages. http://dx.doi.org/10.4102/ sajhrm.v10i1.325

Morrell, K., Loan-Clarke, J., and Wilkinson, A. (2004). The role of shocks in employee turnover, *British Journal of Management, 15*, 4, 335–349.

Nienaber, N., Bussin, M., & Henn, C. (2009). The relationship between personality types and reward preferences. *Published doctoral dissertation. Johannesburg, South Africa: University of Johannesburg.*

Paddey, M., & Rousseau, G. G. (2011). The effects of the global recession on the work restructuring levels of managers in the South African automotive industry. *South African Journal of Economic and Management Sciences, 14*(3), 346–360.

Saunders, M., & Lewis, P. (2012). *Doing research in business & management.* Edinburg Gate, Harlow, Essex, England: Pearson Education Limited.

Snelgar, R. J., Renard, M., & Venter, D. (2013). An empirical study of the reward preferences of South African employees. *SA Journal of Human Resource Management, 11*(1).

Stahl, G., Björkman, I., Farndale, E., Morris, S. S., Paauwe, J., Stiles, P., & Wright, P. (2012). Six principles of effective global talent management. *Sloan Management Review, 53*(2), 25-42.

Sutherland, M. (2011). Foreword. In M. Bussin (Ed.), *The remuneration handbook for Africa.* Randburg: Knowres Publishing.

Sutherland, M., & Jordaan, W. (2004). *Factors affecting the retention of knowledge workers.* University of Johannesburg, Johannesburg, South Africa.

Van Blerck, T. G. (2012). *The relationship between executive remuneration at financial institutions and economic value added.* Unpublished MBA thesis. University of Pretoria, Pretoria.

Van der Merwe, S. J. M. (2012). *Remuneration's role in the EVP decision-making process.* MBA dissertation, University of Pretoria, Pretoria.

Von Hagel, W. J., & Miller, L. A. (2011). Precipitating events leading to voluntary

    employee turnover among information technology professionals. *Journal of*

    Leadership Studies, 5(2), 14-33. doi:10.1002/jls.20215

Weiers, R. M. (2011). *Introductory business statistics* (7th ed.) South-Western,

    Cengage Learning.

Wöcke, A., & Heymann, M. (2012). Impact of demographic variables on voluntary

    labour turnover in South Africa. *The International Journal of Human Resource*

    Management, 23(16), 3479-3494. doi:10.1080/09585192.2011.639028

WorldatWork. (2013). Retrieved April 30, 2013, from

    http://www.worldatwork.org/waw/adimLink?id=28330

Appendix 1 – Questionnaire

Survey

Reward preferences for technology workers and their influence on attraction, retention and motivation.

Dear participant,

The following research is being conducted for academic purposes, to better understand the types of rewards preferred by workers in the technology sector in South Africa. In order to do this, you are asked to complete a short survey which should not take more than 20 minutes of your time.

The survey and all data gathered are confidential, and you will not be asked to disclose your name. Naturally, we would like to encourage you to please however, give the questions your due consideration and answer as accurately as possible, to ensure that the research results provide good insights, which may help technology companies improve the way in which they structure rewards for their employees.

Be completing the survey, you indicate that your voluntarily participate in this research. You may withdraw at any time without penalty. If you have any questions or concerns, please contact me or my supervisor. Our contact details are provided below.

Research supervisor name: Dr. Mark Bussin

Research supervisor phone number: 082 901 0055

Research supervisor email: drbussin@mweb.co.za

Researcher name: Wernardt Toerien

Researcher phone number: 082 879 9784

Researcher email: wernardt.toerien@gmail.com

Part 1 of 3 - Demographics

Please provide us with the following information about yourself:

1	Age (in years)		
2	Gender	Male	
		Female	
3	Race	Black African	
		White (Caucasian)	
		Coloured	
		Indian	
		Asian	
4	Length of time employed by current employer	Years	
		Months	
5	What is your highest level of formal education?	High School	
		Diploma	
		Bachelor's Degree	
		Honours Degree	
		Masters Degree	
		Doctoral Degree	
6	What most accurately describes the type of role you currently have?	Administrative	
		Sales	
		Supervisor	
		Operations	
		Middle Management	
		Senior Management	
		Executive	
		Support (technical and operations)	
		Technical Specialist	
		Finance	
		Human Resources	
		Marketing	
		Other (please specify)	
7	What most accurately decribes the type of organisation you work for?	I am a freelancer, contractor or self-employed	
		I work for a small/medium enterprise	
		I work for a corporation or large institution	

77

Part 2 of 3 - Basic reward preferences

These questions are about the benefits, compensation and rewards you receive from your employer. Please indicate how important each of these are to you in your relationship with an employer.

We kindly ask you to consider the items in comparison with each other. Therefore, even though you may think all of the items are important to you, we would like you to indicate how important each item is relative to the others.

#	Question	Unimportant	Of Little Importance	Moderately Important	Important	Very Important
1	Having access to the best medical aid and benefits is:					
2	My guaranteed or fixed salary is:					
3	Being given shares or share options in my company is:					
4	Payment in commission (or variable pay) is:					
5	Incentives like annual bonuses linked to my performance are:					
6	The provision of a retirement benefit such as provident or pension fund is:					
7	Work-life balance and having flexible working arrangements are:					
8	The tools and systems I use to perform my job are:					
9	Being sent on training determined by my employer is:					
10	The office environment (facilities, support, décor, etc) is:					
11	Having opportunities for learning and development which I choose based on my personal aspirations and career development goals is:					
12	The quality of leadership of the company I work for is:					
13	Feeling that my performance is being correctly measured for my job role, and that it is aligned with the organisation's goals is:					
14	Receiving acknowledgement or recognition for achieving the company's goals is:					
15	Having a clear career path set out for me, and management's interest in actively planning my career development is:					
16	The climate and stability in the company - such as rate of change in the organisation - I experience are:					
17	Having access to the latest technology in the workplace is:					
18	The way our company and management are strucctured and the processes I use to perform my job are:					
19	The amount of leave and time-off I am given is:					

Part 3 of 3 - Scenarios

In the following three scenarios, please select the 10 benefits or rewards which are the most important to you in that particular scenario. Your choices can be selected using the drop down boxes provided. In each of these scenarios, please rank your top 10 benefits with 1 being the most important, 2 being second most important, etc.

The three scenarios you will be asked to evaluate are:
"Making me stay with my current employer"
"When considering an offer from a new employer"
"Feeling motivated to perform in my current position"

Question	Item	Rank (1 to 10)
1 To **make me stay with my current employer,** the following ten items are the most important to me. When absent or lacking, they would be most likely to **make me consider looking for other career opportunities.**	Base salary (fixed pay)	
	Commission (variable pay)	
	Opportunity to earn incentives and bonuses	
	Opportunities to earn share options	
	Medical benefits	
	Amount of leave granted by the employer	
	Retirement benefits	
	The employer's organisational structure and processes	
	Having access to the latest technology in the workplace	
	Work-life balance and flexible working arrangements	
	The company's leadership	
	The office environment and access to proper facilities	
	The climate and stability at the potential employer	
	Opportunities for learning and development driven and chosen by me	
	Opportunities for training chosen and provided by the employer	
	Having a clearly defined career path and active career planning with the employer	
	Having my performance measured in ways which are appropriate to my role and aligned with the organisation's goals	
	Being recognised and acknowledged for achieving the organisation's goals	
	Tools and systems I use to perform my job	

79

2	When I am considering an **offer from a new employer**, these ten items are the most important things I look at. These ten factors have the most influence on my decision to accept or reject a new employment contract.	Base salary (fixed pay)	
		Commission (variable pay)	
		Opportunity to earn incentives and bonuses	
		Opportunities to earn share options	
		Medical benefits	
		Amount of leave granted by the employer	
		Retirement benefits	
		The employer's organisational structure and processes	
		Having access to the latest technology in the workplace	
		Work-life balance and flexible working arrangements	
		The company's leadership	
		The office environment and access to proper facilities	
		The climate and stability at the potential employer	
		Opportunities for learning and development driven and chosen by me	
		Opportunities for training chosen and provided by the employer	
		Having a clearly defined career path and active career planning with the employer	
		Having my performance measured in ways which are appropriate to my role and aligned with the organisation's goals	
		Being recognised and acknowledged for achieving the organisation's goals	
		Tools and systems I use to perform my job	

80

3	In my **current position**, I feel **motivated to perform** at my peak by the following ten factors. When these ten items are absent or lacking, I am more likely to do only what is required.	Base salary (fixed pay)	
		Commission (variable pay)	
		Opportunity to earn incentives and bonuses	
		Opportunities to earn share options	
		Medical benefits	
		Amount of leave granted by the employer	
		Retirement benefits	
		The employer's organisational structure and processes	
		Having access to the latest technology in the workplace	
		Work-life balance and flexible working arrangements	
		The company's leadership	
		The office environment and access to proper facilities	
		The climate and stability at the potential employer	
		Opportunities for learning and development driven and chosen by me	
		Opportunities for training chosen and provided by the employer	
		Having a clearly defined career path and active career planning with the employer	
		Having my performance measured in ways which are appropriate to my role and aligned with the organisation's goals	
		Being recognised and acknowledged for achieving the organisation's goals	
		Tools and systems I use to perform my job	

81

Appendix 2 – Results of Wilcoxon matched pairs tests

Quality of leadership

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Quality of leadership & Base pay	43	431.5000	0.501111	0.616294
Quality of leadership & Incentives & bonuses	44	431.0000	0.746892	0.455129
Quality of leadership & Correctly measured performance	44	370.5000	1.452939	0.146242
Quality of leadership & Flexible working & work-life balance	56	600.0000	1.615103	0.106289
Quality of leadership & Retirement benefit	50	402.5000	2.268520	0.023298
Quality of leadership & Acknowledgement & recognition	51	391.0000	2.549583	0.010786
Quality of leadership & Self-directed learning & development	56	387.5000	3.348483	0.000813
Quality of leadership & Tools & systems	53	297.5000	3.700456	0.000215
Quality of leadership & Medical	57	355.5000	3.742193	0.000182
Quality of leadership & Clear career path	67	559.0000	3.623055	0.000291
Quality of leadership & Climate and stability	66	171.0000	5.969662	0.000000
Quality of leadership & Organisational structure & processes	67	153.0000	6.159193	0.000000
Quality of leadership & Access to latest technology	65	183.0000	5.812825	0.000000
Quality of leadership & Amount of leave	72	254.5000	5.945589	0.000000
Quality of leadership & Training from employer	72	233.0000	6.066241	0.000000
Quality of leadership & Office environment	91	122.5000	7.799054	0.000000
Quality of leadership & Shares	95	106.5000	8.067726	0.000000
Quality of leadership & Variable pay	86	100.5000	7.621615	0.000000

Base pay

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Base pay & Quality of leadership	43	431.5000	0.501111	0.616294
Base pay & Incentives & bonuses	48	567.0000	0.215387	0.829465
Base pay & Correctly measured performance	50	563.5000	0.714343	0.475016
Base pay & Flexible working & work-life balance	49	502.5000	1.094202	0.273867
Base pay & Retirement benefit	49	432.0000	1.795487	0.072577
Base pay & Acknowledgement & recognition	53	493.0000	1.969740	0.048869
Base pay & Self-directed learning & development	54	432.0000	2.673473	0.007507
Base pay & Tools & systems	58	466.5000	3.011773	0.002597
Base pay & Medical	62	508.0000	3.284688	0.001021
Base pay & Clear career path	60	418.5000	3.655036	0.000257
Base pay & Climate and stability	74	445.0000	5.077470	0.000000

	N	T	Z	p-value
Base pay & Organisational structure & processes	78	531.0000	5.028069	0.000000
Base pay & Access to latest technology	68	358.0000	4.979938	0.000001
Base pay & Amount of leave	72	360.0000	5.353556	0.000000
Base pay & Training from employer	69	238.5000	5.793599	0.000000
Base pay & Office environment	91	206.0000	7.468568	0.000000
Base pay & Shares	87	76.0000	7.779132	0.000000
Base pay & Variable pay	89	307.0000	6.936823	0.000000

Incentives & bonuses

	Wilcoxon matched pairs test Marked tests are significant at p <.05000		
Pair of variables	Valid (N)	T	Z	p-value
---	---	---	---	---
Incentives & bonuses & Quality of leadership	44	431.0000	0.746892	0.455129
Incentives & bonuses & Base pay	48	567.0000	0.215387	0.829465
Incentives & bonuses & Correctly measured performance	51	602.5000	0.567095	0.570650
Incentives & bonuses & Flexible working & work-life balance	57	709.0000	0.933562	0.350531
Incentives & bonuses & Retirement benefit	53	543.5000	1.522676	0.127841
Incentives & bonuses & Acknowledgement & recognition	52	487.0000	1.839597	0.065828
Incentives & bonuses & Self-directed learning & development	48	325.5000	2.692343	0.007096
Incentives & bonuses & Tools & systems	57	419.0000	3.237672	0.001205
Incentives & bonuses & Medical	58	475.5000	2.942092	0.003260
Incentives & bonuses & Clear career path	62	516.5000	3.225094	0.001259
Incentives & bonuses & Climate and stability	70	440.5000	4.693450	0.000003
Incentives & bonuses & Organisational structure & processes	65	188.0000	5.780151	0.000000
Incentives & bonuses & Access to latest technology	71	321.0000	5.483453	0.000000
Incentives & bonuses & Amount of leave	79	494.0000	5.307358	0.000000
Incentives & bonuses & Training from employer	69	276.0000	5.569389	0.000000
Incentives & bonuses & Office environment	93	209.0000	7.573144	0.000000
Incentives & bonuses & Shares	89	82.0000	7.857369	0.000000
Incentives & bonuses & Variable pay	79	118.5000	7.142452	0.000000

Correctly measured performance

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Correctly measured performance & Quality of leadership	44	370.5000	1.452939	0.146242
Correctly measured performance & Base pay	50	563.5000	0.714343	0.475016
Correctly measured performance & Incentives & bonuses	51	602.5000	0.567095	0.570650
Correctly measured performance & Flexible working & work-life balance	53	671.0000	0.393948	0.693620
Correctly measured performance & Retirement benefit	52	573.5000	1.051849	0.292870
Correctly measured performance & Acknowledgement & recognition	48	449.5000	1.420531	0.155454
Correctly measured performance & Self-directed learning & development	63	680.0000	2.245522	0.024735
Correctly measured performance & Tools & systems	58	540.0000	2.442711	0.014578
Correctly measured performance & Medical	64	653.5000	2.584721	0.009746
Correctly measured performance & Clear career path	66	662.5000	2.829920	0.004656
Correctly measured performance & Climate and stability	69	425.5000	4.675536	0.000003
Correctly measured performance & Organisational structure & processes	66	286.0000	5.235033	0.000000
Correctly measured performance & Access to latest technology	72	507.5000	4.525831	0.000006
Correctly measured performance & Amount of leave	72	410.5000	5.070165	0.000000
Correctly measured performance & Training from employer	77	510.0000	5.034309	0.000000
Correctly measured performance & Office environment	93	313.0000	7.174659	0.000000
Correctly measured performance & Shares	98	303.5000	7.519470	0.000000
Correctly measured performance & Variable pay	84	195.0000	7.091046	0.000000

Flexible working hours & work-life balance

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Flexible working & work-life balance & Quality of leadership	56	600.0000	1.615103	0.106289
Flexible working & work-life balance & Base pay	49	502.5000	1.094202	0.273867
Flexible working & work-life balance & Incentives &	57	709.0000	0.933562	0.350531

84

Pair of variables	Valid (N)	T	Z	p-value
bonuses				
Flexible working & work-life balance & Correctly measured performance	53	671.0000	0.393948	0.693620
Flexible working & work-life balance & Retirement benefit	57	736.5000	0.715069	0.474567
Flexible working & work-life balance & Acknowledgement & recognition	60	798.0000	0.861308	0.389069
Flexible working & work-life balance & Self-directed learning & development	68	886.0000	1.753671	0.079488
Flexible working & work-life balance & Tools & systems	66	793.5000	1.993081	0.046253
Flexible working & work-life balance & Medical	69	859.0000	2.083663	0.037192
Flexible working & work-life balance & Clear career path	66	780.5000	2.076126	0.037883
Flexible working & work-life balance & Climate and stability	66	417.0000	4.398194	0.000011
Flexible working & work-life balance & Organisational structure & processes	74	527.5000	4.633023	0.000004
Flexible working & work-life balance & Access to latest technology	72	502.0000	4.556695	0.000005
Flexible working & work-life balance & Amount of leave	66	284.5000	5.244615	0.000000
Flexible working & work-life balance & Training from employer	75	525.5000	4.749861	0.000002
Flexible working & work-life balance & Office environment	88	204.0000	7.298141	0.000000
Flexible working & work-life balance & Shares	92	248.5000	7.361411	0.000000
Flexible working & work-life balance & Variable pay	89	261.5000	7.122978	0.000000

Retirement benefit

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Retirement benefit & Quality of leadership	50	402.5000	2.268520	0.023298
Retirement benefit & Base pay	49	432.0000	1.795487	0.072577
Retirement benefit & Incentives & bonuses	53	543.5000	1.522676	0.127841
Retirement benefit & Correctly measured performance	52	573.5000	1.051849	0.292870
Retirement benefit & Flexible working & work-life balance	57	736.5000	0.715069	0.474567
Retirement benefit & Acknowledgement & recognition	60	885.0000	0.220848	0.825211
Retirement benefit & Self-directed learning & development	63	874.0000	0.917378	0.358945
Retirement benefit & Tools & systems	55	574.5000	1.638006	0.101421
Retirement benefit & Medical	48	397.0000	1.959000	0.050114
Retirement benefit & Clear career path	65	798.5000	1.790572	0.073363

85

Pair of variables	Valid (N)	T	Z	p-value
Retirement benefit & Climate and stability	77	796.0000	3.582153	0.000341
Retirement benefit & Organisational structure & processes	68	470.0000	4.295579	0.000017
Retirement benefit & Access to latest technology	70	528.500	4.178458	0.000029
Retirement benefit & Amount of leave	74	551.000	4.506423	0.000007
Retirement benefit & Training from employer	79	739.000	4.110025	0.000040
Retirement benefit & Office environment	94	436.500	6.772598	0.000000
Retirement benefit & Shares	95	401.000	6.974584	0.000000
Retirement benefit & Variable pay	88	363.000	6.636565	0.000000

Acknowledgement & recognition

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000		
	Valid (N)	T	Z	p-value
Acknowledgement & recognition & Quality of leadership	51	391.0000	2.549583	0.010786
Acknowledgement & recognition & Base pay	53	493.0000	1.969740	0.048869
Acknowledgement & recognition & Incentives & bonuses	52	487.0000	1.839597	0.065828
Acknowledgement & recognition & Correctly measured performance	48	449.5000	1.420531	0.155454
Acknowledgement & recognition & Flexible working & work-life balance	60	798.0000	0.861308	0.389069
Acknowledgement & recognition & Retirement benefit	60	885.0000	0.220848	0.825211
Acknowledgement & recognition & Self-directed learning & development	58	723.0000	1.025861	0.304958
Acknowledgement & recognition & Tools & systems	60	714.5000	1.476001	0.139944
Acknowledgement & recognition & Medical	64	822.0000	1.457876	0.144876
Acknowledgement & recognition & Clear career path	54	535.0000	1.786620	0.074000
Acknowledgement & recognition & Climate and stability	66	517.0000	3.759386	0.000170
Acknowledgement & recognition & Organisational structure & processes	61	367.0000	4.155236	0.000033
Acknowledgement & recognition & Access to latest technology	65	467.0000	3.956904	0.000076
Acknowledgement & recognition & Amount of leave	74	584.5000	4.325950	0.000015
Acknowledgement & recognition & Training from employer	68	437.5000	4.494165	0.000007
Acknowledgement & recognition & Office environment	87	255.0000	7.021534	0.000000
Acknowledgement & recognition & Shares	91	269.5000	7.217241	0.000000
Acknowledgement & recognition & Variable pay	86	337.5000	6.601093	0.000000

86

Self-directed learning & development

Pair of variables	Wilcoxon matched pairs testMarked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Self-directed learning & development & Quality of leadership	56	387.500	3.348483	0.000813
Self-directed learning & development & Base pay	54	432.000	2.673473	0.007507
Self-directed learning & development & Incentives & bonuses	48	325.500	2.692343	0.007096
Self-directed learning & development & Correctly measured performance	63	680.000	2.245522	0.024735
Self-directed learning & development & Flexible working & work-life balance	68	886.000	1.753671	0.079488
Self-directed learning & development & Retirement benefit	63	874.000	0.917378	0.358945
Self-directed learning & development & Acknowledgement & recognition	58	723.000	1.025861	0.304958
Self-directed learning & development & Tools & systems	66	1023.000	0.527017	0.598182
Self-directed learning & development & Medical	69	1150.000	0.343789	0.731005
Self-directed learning & development & Clear career path	51	578.000	0.796745	0.425600
Self-directed learning & development & Climate and stability	72	834.500	2.690807	0.007128
Self-directed learning & development & Organisational structure & processes	66	603.000	3.210011	0.001327
Self-directed learning & development & Access to latest technology	69	680.000	3.153894	0.001611
Self-directed learning & development & Amount of leave	82	909.500	3.661364	0.000251
Self-directed learning & development & Training from employer	65	483.500	3.849077	0.000119
Self-directed learning & development & Office environment	86	351.000	6.542962	0.000000
Self-directed learning & development & Shares	91	373.000	6.807598	0.000000
Self-directed learning & development & Variable pay	87	474.500	6.092525	0.000000

Tools & systems

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid	T	Z	p-value

87

	(N)			
Tools & systems & Quality of leadership	53	297.500	3.700456	0.000215
Tools & systems & Base pay	58	466.500	3.011773	0.002597
Tools & systems & Incentives & bonuses	57	419.000	3.237672	0.001205
Tools & systems & Correctly measured performance	58	540.000	2.442711	0.014578
Tools & systems & Flexible working & work-life balance	66	793.500	1.993081	0.046253
Tools & systems & Retirement benefit	55	574.500	1.638006	0.101421
Tools & systems & Acknowledgement & recognition	60	714.500	1.476001	0.139944
Tools & systems & Self-directed learning & development	66	1023.000	0.527017	0.598182
Tools & systems & Medical	60	904.000	0.080978	0.935460
Tools & systems & Clear career path	70	1200.500	0.245792	0.805844
Tools & systems & Climate and stability	70	884.000	2.098007	0.035905
Tools & systems & Organisational structure & processes	50	261.500	3.629633	0.000284
Tools & systems & Access to latest technology	58	442.000	3.201461	0.001367
Tools & systems & Amount of leave	65	600.000	3.087757	0.002017
Tools & systems & Training from employer	72	723.000	3.316511	0.000912
Tools & systems & Office environment	83	344.000	6.351648	0.000000
Tools & systems & Shares	89	484.500	6.210615	0.000000
Tools & systems & Variable pay	89	542.500	5.973319	0.000000

Climate & stability

	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
Pair of variables	Valid (N)	T	Z	p-value
Climate and stability & Quality of leadership	66	171.0000	5.969662	0.000000
Climate and stability & Base pay	74	445.0000	5.077470	0.000000
Climate and stability & Incentives & bonuses	70	440.5000	4.693450	0.000003
Climate and stability & Correctly measured performance	69	425.5000	4.675536	0.000003
Climate and stability & Flexible working & work-life balance	66	417.0000	4.398194	0.000011
Climate and stability & Retirement benefit	77	796.0000	3.582153	0.000341
Climate and stability & Acknowledgement & recognition	66	517.0000	3.759386	0.000170
Climate and stability & Self-directed learning & development	72	834.5000	2.690807	0.007128
Climate and stability & Tools & systems	70	884.0000	2.098007	0.035905
Climate and stability & Medical	70	872.5000	2.165308	0.030365
Climate and stability & Clear career path	62	716.0000	1.826385	0.067793
Climate and stability & Organisational structure & processes	55	663.0000	0.896505	0.369984
Climate and stability & Access to latest technology	67	995.5000	0.896394	0.370043
Climate and stability & Amount of leave	65	892.5000	1.176288	0.239481
Climate and stability & Training from employer	68	934.0000	1.460374	0.144188
Climate and stability & Office environment	71	339.0000	5.380316	0.000000
Climate and stability & Shares	86	506.5000	5.873380	0.000000
Climate and stability & Variable pay	85	589.5000	5.424623	0.000000

88

Organisational structure & processes

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Organisational structure & processes & Quality of leadership	67	153.000	6.159193	0.000000
Organisational structure & processes & Base pay	78	531.000	5.028069	0.000000
Organisational structure & processes & Incentives & bonuses	65	188.000	5.780151	0.000000
Organisational structure & processes & Correctly measured performance	66	286.000	5.235033	0.000000
Organisational structure & processes & Flexible working & work-life balance	74	527.500	4.633023	0.000004
Organisational structure & processes & Retirement benefit	68	470.000	4.295579	0.000017
Organisational structure & processes & Acknowledgement & recognition	61	367.000	4.155236	0.000033
Organisational structure & processes & Self-directed learning & development	66	603.000	3.210011	0.001327
Organisational structure & processes & Tools & systems	50	261.500	3.629633	0.000284
Organisational structure & processes & Medical	65	683.500	2.542090	0.011020
Organisational structure & processes & Clear career path	65	670.000	2.630312	0.008531
Organisational structure & processes & Climate and stability	55	663.000	0.896505	0.369984
Organisational structure & processes & Access to latest technology	61	912.500	0.237032	0.812632
Organisational structure & processes & Amount of leave	60	865.500	0.364399	0.715560
Organisational structure & processes & Training from employer	67	1059.000	0.499732	0.617264
Organisational structure & processes & Office environment	79	610.500	4.738014	0.000002
Organisational structure & processes & Shares	85	690.500	4.982064	0.000001
Organisational structure & processes & Variable pay	77	543.500	4.864213	0.000001

Access to latest technology

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Access to latest technology & Quality of leadership	65	183.000	5.812825	0.000000
Access to latest technology & Base pay	68	358.000	4.979938	0.000001
Access to latest technology & Incentives & bonuses	71	321.000	5.483453	0.000000
Access to latest technology & Correctly measured performance	72	507.500	4.525831	0.000006

89

Pair of variables	Valid (N)	T	Z	p-value
Access to latest technology & Flexible working & work-life balance	72	502.000	4.556695	0.000005
Access to latest technology & Retirement benefit	70	528.500	4.178458	0.000029
Access to latest technology & Acknowledgement & recognition	65	467.000	3.956904	0.000076
Access to latest technology & Self-directed learning & development	69	680.000	3.153894	0.001611
Access to latest technology & Tools & systems	58	442.000	3.201461	0.001367
Access to latest technology & Medical	66	626.500	3.059891	0.002214
Access to latest technology & Clear career path	77	1068.000	2.201082	0.027731
Access to latest technology & Climate and stability	67	995.500	0.896394	0.370043
Access to latest technology & Organisational structure & processes	61	912.500	0.237032	0.812632
Access to latest technology & Amount of leave	64	1010.500	0.197281	0.843607
Access to latest technology & Training from employer	75	1351.500	0.388121	0.697927
Access to latest technology & Office environment	74	548.000	4.522585	0.000006
Access to latest technology & Shares	86	766.500	4.753821	0.000002
Access to latest technology & Variable pay	83	755.000	4.485653	0.000007

Amount of leave

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Amount of leave & Quality of leadership	72	254.500	5.945589	0.000000
Amount of leave & Base pay	72	360.000	5.353556	0.000000
Amount of leave & Incentives & bonuses	79	494.000	5.307358	0.000000
Amount of leave & Correctly measured performance	72	410.500	5.070165	0.000000
Amount of leave & Flexible working & work-life balance	66	284.500	5.244615	0.000000
Amount of leave & Retirement benefit	74	551.000	4.506423	0.000007
Amount of leave & Acknowledgement & recognition	74	584.500	4.325950	0.000015
Amount of leave & Self-directed learning & development	82	909.500	3.661364	0.000251
Amount of leave & Tools & systems	65	600.000	3.087757	0.002017
Amount of leave & Medical	77	968.000	2.708829	0.006752
Amount of leave & Clear career path	72	812.500	2.814264	0.004889
Amount of leave & Climate and stability	65	892.500	1.176288	0.239481
Amount of leave & Organisational structure & processes	60	865.500	0.364399	0.715560
Amount of leave & Access to latest technology	64	1010.500	0.197281	0.843607
Amount of leave & Training from employer	74	1330.500	0.307072	0.758788
Amount of leave & Office environment	74	575.000	4.377129	0.000012
Amount of leave & Shares	80	639.000	4.705158	0.000003

90

Amount of leave & Variable pay	79	653.500	4.527870	0.000006

Training from employer

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Training from employer & Quality of leadership	72	233.000	6.066241	0.000000
Training from employer & Base pay	69	238.500	5.793599	0.000000
Training from employer & Incentives & bonuses	69	276.000	5.569389	0.000000
Training from employer & Correctly measured performance	77	510.000	5.034309	0.000000
Training from employer & Flexible working & work-life balance	75	525.500	4.749861	0.000002
Training from employer & Retirement benefit	79	739.000	4.110025	0.000040
Training from employer & Acknowledgement & recognition	68	437.500	4.494165	0.000007
Training from employer & Self-directed learning & development	65	483.500	3.849077	0.000119
Training from employer & Tools & systems	72	723.000	3.316511	0.000912
Training from employer & Medical	74	852.000	2.884865	0.003916
Training from employer & Clear career path	62	557.500	2.937640	0.003307
Training from employer & Climate and stability	68	934.000	1.460374	0.144188
Training from employer & Organisational structure & processes	67	1059.000	0.499732	0.617264
Training from employer & Access to latest technology	75	1351.500	0.388121	0.697927
Training from employer & Amount of leave	74	1330.500	0.307072	0.758788
Training from employer & Office environment	87	1070.500	3.570021	0.000357
Training from employer & Shares	85	825.500	4.390526	0.000011
Training from employer & Variable pay	87	964.500	4.018654	0.000059

Office environment

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000

91

	Valid (N)	T	Z	p-value
Office environment & Quality of leadership	91	122.500	7.799054	0.000000
Office environment & Base pay	91	206.000	7.468568	0.000000
Office environment & Incentives & bonuses	93	209.000	7.573144	0.000000
Office environment & Correctly measured performance	93	313.000	7.174659	0.000000
Office environment & Flexible working & work-life balance	88	204.000	7.298141	0.000000
Office environment & Retirement benefit	94	436.500	6.772598	0.000000
Office environment & Acknowledgement & recognition	87	255.000	7.021534	0.000000
Office environment & Self-directed learning & development	86	351.000	6.542962	0.000000
Office environment & Tools & systems	83	344.000	6.351648	0.000000
Office environment & Medical	88	510.500	6.022839	0.000000
Office environment & Clear career path	85	447.000	6.049024	0.000000
Office environment & Climate and stability	71	339.000	5.380316	0.000000
Office environment & Organisational structure & processes	79	610.500	4.738014	0.000002
Office environment & Access to latest technology	74	548.000	4.522585	0.000006
Office environment & Amount of leave	74	575.000	4.377129	0.000012
Office environment & Training from employer	87	1070.500	3.570021	0.000357
Office environment & Shares	75	1200.500	1.185485	0.235827
Office environment & Variable pay	87	1625.000	1.223161	0.221270

Shares

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Shares & Quality of leadership	95	106.500	8.067726	0.000000
Shares & Base pay	87	76.000	7.779132	0.000000
Shares & Incentives & bonuses	89	82.000	7.857369	0.000000
Shares & Correctly measured performance	98	303.500	7.519470	0.000000
Shares & Flexible working & work-life balance	92	248.500	7.361411	0.000000
Shares & Retirement benefit	95	401.000	6.974584	0.000000
Shares & Acknowledgement & recognition	91	269.500	7.217241	0.000000
Shares & Self-directed learning & development	91	373.000	6.807598	0.000000
Shares & Tools & systems	89	484.500	6.210615	0.000000
Shares & Medical	90	550.500	6.023462	0.000000
Shares & Clear career path	92	524.000	6.288642	0.000000
Shares & Climate and stability	86	506.500	5.873380	0.000000
Shares & Organisational structure & processes	85	690.500	4.982064	0.000001
Shares & Access to latest technology	86	766.500	4.753821	0.000002
Shares & Amount of leave	80	639.000	4.705158	0.000003
Shares & Training from employer	85	825.500	4.390526	0.000011
Shares & Office environment	75	1200.500	1.185485	0.235827
Shares & Variable pay	81	1557.500	0.484953	0.627710

Variable pay

Pair of variables	Wilcoxon matched pairs test Marked tests are significant at p <.05000			
	Valid (N)	T	Z	p-value
Variable pay & Quality of leadership	86	100.500	7.621615	0.000000
Variable pay & Base pay	89	307.000	6.936823	0.000000
Variable pay & Incentives & bonuses	79	118.500	7.142452	0.000000
Variable pay & Correctly measured performance	84	195.000	7.091046	0.000000
Variable pay & Flexible working & work-life balance	89	261.500	7.122978	0.000000
Variable pay & Retirement benefit	88	363.000	6.636565	0.000000
Variable pay & Acknowledgement & recognition	86	337.500	6.601093	0.000000
Variable pay & Self-directed learning & development	87	474.500	6.092525	0.000000
Variable pay & Tools & systems	89	542.500	5.973319	0.000000
Variable pay & Medical	94	718.000	5.711080	0.000000
Variable pay & Clear career path	87	529.500	5.859743	0.000000
Variable pay & Climate and stability	85	589.500	5.424623	0.000000
Variable pay & Organisational structure & processes	77	543.500	4.864213	0.000001
Variable pay & Access to latest technology	83	755.000	4.485653	0.000007
Variable pay & Amount of leave	79	653.500	4.527870	0.000006
Variable pay & Training from employer	87	964.500	4.018654	0.000059
Variable pay & Office environment	87	1625.000	1.223161	0.221270
Variable pay & Shares	81	1557.500	0.484953	0.627710