

**UNIVERSITY OF KWAZULU-NATAL**

**Key Factors to Attracting and Retaining Software Development  
Talent in an I.T. Company in Durban, KwaZulu-Natal:  
Talent Innovation as Competitive Edge in KwaZulu-Natal I.T.  
sector**

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**A dissertation submitted in partial fulfilment of the requirements  
for the degree of Master of Business Administration**

**College of Law and Management Studies  
Graduate School of Business & Leadership**

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## **Abstract**

Once a laidback coastal town, the city of Durban on the east coast of KwaZulu-Natal has in recent decades grown exponentially in population, commercial activity, residential development and social pursuits. The boost of the FIFA 2010 World Cup™ led to massive infrastructure and freeway upgrades, an international airport and trade hub, an award-winning stadium venue that has become the pride of the city, international exposure as the destination of choice for world travellers, global conferences and businesses looking to move into a city ripe for growth, and an explosion of world-class hotels that have welcomed a rush of travellers to the sparkling town.

A few years on and the gains from Durban's exposure as a World Cup Host City, has seen the city become a major business hub on the African continent. Transnet has established key lines into and out of the city, Portnet is building a new cargo bay set to be the largest in Southern Africa and suddenly the coastal town has become a new centre of commerce.

The impact of this to local businesses is that they now face fierce competition for Durban's resources. The company under study in this report held a prime local position for many years as an innovative Oracle software development house and retention of staff was legendary. Today however, the movement of developers is fast in, fast out and the impact on product quality and employee morale significantly affected. Multinational companies are moving into the company's space and luring away prime talent with higher salaries and potential to move to bigger cities and bigger projects.

This study was initiated to assess how other companies across the globe manage similar competitive challenges for scarce resources and evaluate how the company under study is faring in relation to those. Motivation for software developer mobility, and factors which attract, retain and discourage high-performers from software companies were studied. A quantitative study was undertaken amongst software developers in the Durban area to evaluate the effectiveness of their own companies' retention policies and compare these to the company under study. Feedback from participants provided insight into what really attracts and discourages them from selecting an employer of choice. Recommendations were made as to how the Durban company could turn their attrition rates around without resorting to a salary war. These were aligned to the company's corporate vision and goals, to demonstrate the value to be gained from adjusting its current practices to improve

retention of high-performing developers and grab a competitive edge in the Durban software market.

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# **CHAPTER ONE**

## **Introduction**

### **1.1 Motivation for this Study**

The Durban, KwaZulu-Natal Information Technology company portrayed in this study faces a 'Talent War' crisis that threatens to drive up human capital costs and erode its talent base of high-performers.

Once a coastal wunderkind that bucked convention and allowed its founding employees to build the rules of the game, the company has now grown into a corporate rule-based entity that has achieved phenomenal growth locally and abroad – amidst a parallel loss of key employees and high-investment talent; an ever-more demanding work ethos has drained the non-remunerative attraction which initially touted the company as innovative and personally rewarding, and deprived it of a key competitive advantage in the local IT resourcing market.

Moreover, the company's hometown of Durban is in the midst of massive resurgence of commerce, business expansion and infrastructure investment which has seen global corporations set up base in the burgeoning coastal city, increasing further the competition for scarce talent. Strategic intervention is required to consolidate, up-skill and retain key developer talent within the organisation, to safeguard its most crucial asset – its people.

### **1.2 Problem Statement**

A distinct, but not unique, problem has surfaced repeatedly at the software development company under study in this research report: its turn-over of key software development talent has increased significantly and is impacting production schedules, employee morale and knowledge retention within the organisation. This phenomenon has been primarily noted at the Durban office, and a need thus exists to examine the factors prevalent in the Durban ICT sector, to clarify what the underlying cause of this localised attrition is.

The geographic identity of the area under study has grown and changed considerably in recent years and the competition for such talent has accordingly increased. Multinational companies have moved into the region and together with the ease and affordability of travel between commercial hubs such as Gauteng and Durban, now present more options to this scarce skill set, as to the employer they choose to move to or remain with. Given the relative small size of the company under study, it is not feasible to enter into talent wars with rivals based on remuneration alone; it is neither sustainable nor effective in growing loyalty to the organisation - a cornerstone of successful retention strategies.

For this reason, research into non-remunerative strategies that encourage retention is called for. Substantial literature exists on strategies attempted globally at similar software development organisations, but a gap existed in the literature available within this sector specifically in the newly-emerging 'silicon valley' of Durban. This study seeks to produce exploratory research to bridge that gap.

The research question that this study sought to answer was '**Can non-remunerative talent management strategies succeed in retaining high-performing software developers in Durban?**'

### **1.3 Aims and Objectives**

The aim of this study was to identify non-remunerative practices which impact software development employees' decision to join, stay with, or leave a company, and sought to utilise proven successful models to develop a talent strategy to attract and retain innovative software developers, and establish a talent-rich competitive advantage in the local industry.

The following objectives were set in pursuit of this aim:

1. Determine what drives high-performing software developers to and within markets;

2. Evaluate recruitment and retention practices at KZN Software company, against global best practice;
3. Structure an improved Talent Strategy to attract and retain top-calibre employees in a market that is primed for rapid expansion;
4. Align Talent Strategy to corporate vision and growth, and develop as a core competitive advantage in acceleratingly competitive market.

The study seeks to identify non-remunerative practices which impact the IT employee's decision to join, stay with, or leave a company, with the intention of utilising proven successful models to attract and retain innovative software developers, and establish a talent-rich competitive advantage in the local industry.

## **1.4 Population and Sample**

This study focuses on the Durban Software Development industry, specifically in relation to a South African IT Group whose Corporate Head Office sits in the coastal town of La Lucia Ridge, Durban.

Participants were primarily employees, management and graduate interns of the Durban branch, as well as comparative equivalent of consenting branches in other cities (where retention levels are high), and selected stakeholders from competing software development companies in Durban.

The universal population of the business group under study is 457 employees. The Durban arm is the company being studied herein, as attrition rates and competition within the Durban market has been identified as a challenge. The Durban employee count is 145.

## **1.5 Sampling and Data Collection**

Online questionnaires were published and invitations to participate sent to the Durban sample group, to participants in Cape Town and Johannesburg and to consenting respondents from industry competitors in the Durban area.

At a Confidence Level of 95% ( $Z = 1.96$ ), standard deviation of 0.5, margin of error of 5, a sample size in the range of 81 to 107 is acceptable for a quantitative study is

87. The online questionnaire targeted respondents across the Durban office to seek a response rate in line with this. An overall number of 93 participants responded, but only 60 completed all questions of the questionnaire.

## **1.5 Data Collection Methods and Treatment of Data**

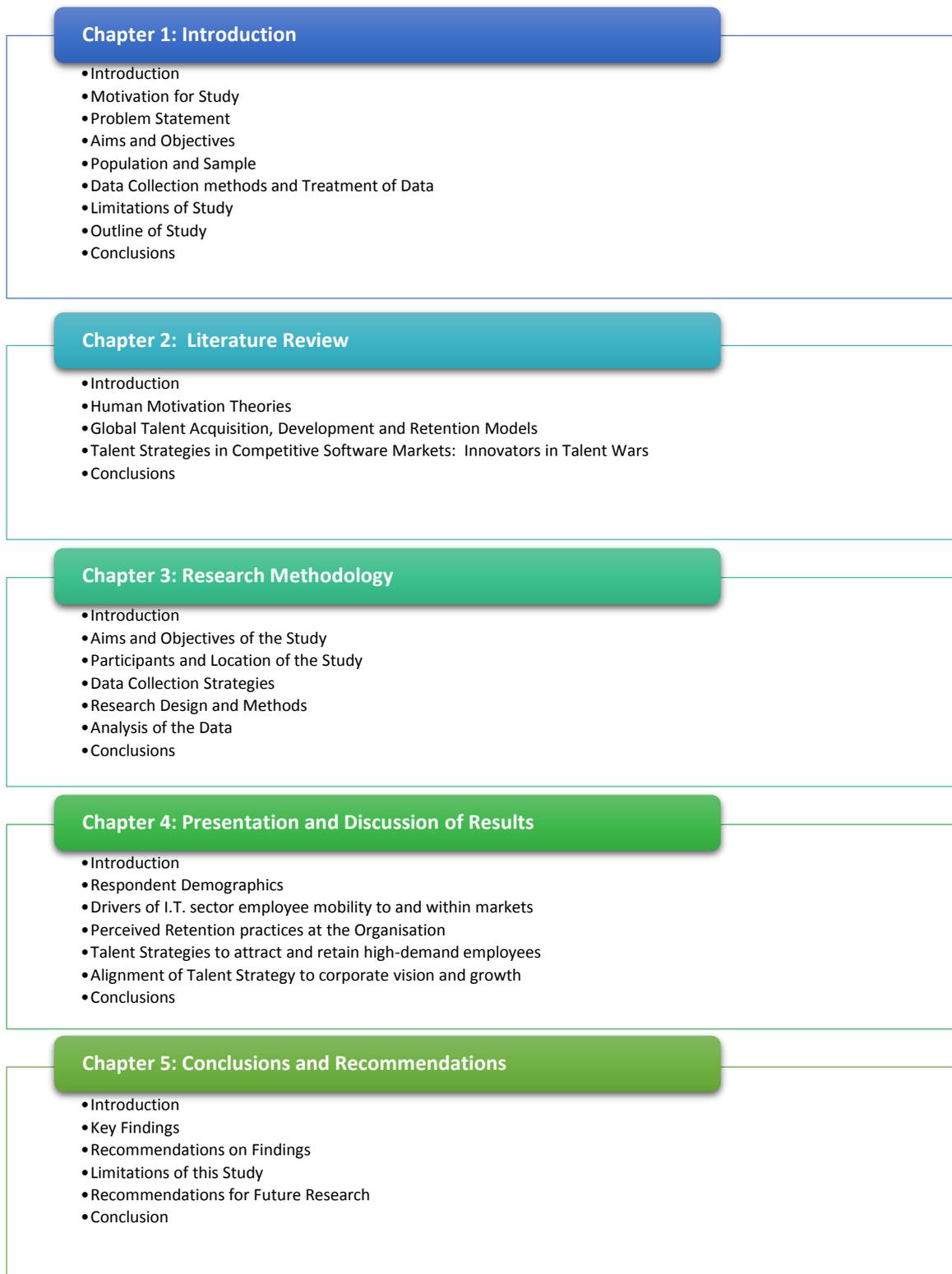
An exploratory deductive approach utilising quantitative research was followed in this study, to yield specific insight into what drives the new generation of developers in the local landscape. Cluster sampling was undertaken with participants approached for feedback via questionnaire. Collated data was analysed using SPSS version 22, to find trends, standard deviations and means, and representative charts were created to present findings.

## **1.6 Limitations of the Study**

This quantitative study was an explorative one and cannot be generalised to all populations within the sector, as it was run over a relatively short period of time, with a limited number of respondents (Sekaran & Bougie 2009). It elicited feedback from respondents without accompaniment of explanation or clarification and there is no way to verify veracity of participants' responses, hence validity is not ensured.

Given the online publication of survey questions without researcher rationalisation, respondents may have interpreted these in varying contexts. Use of the 5-point Likert-type scale may also have been judged differently by different respondents, hence displaying subjectivity from participants. Similarly, in the phrasing of questions deemed relevant to the study, subjectivity of the researcher may have been introduced to the data. This questionnaire included open-ended questions as well, the interpretation of which response is also affected by researcher subjectivity.

## 1.7 Outline of the Study



**Figure 1.1: Depiction of Structure of the Study**

- Chapter 1** This chapter outlines the motivation behind the study, defines required research aim and objectives, explains sampling, data analysis and data handling conducted herein, and states limitations of the study.
- Chapter 2** This chapter reviews research relevant to the area under study, beginning with general human motivational theories, expanding these as they relate to the field of ICT and software development, looks at global talent management practices specific to attraction, development and retention of scarce resources, and investigates the applicability of talent strategies as a means of competitive advantage.
- Chapter 3** This chapter clarifies the research approach taken in the collection of data within this study. It states aims, objectives, participants and location of the study, details data collection strategy and research design and methodology employed, and provides detail on how data was analysed.
- Chapter 4** This chapter presents and discusses results of data collated from survey conducted. It presents demographics of participants, illustrates trends in regard to drivers of mobility within the sampled IT sector, perceptions of employees on work practices and culture at their organisations, discusses their feedback on effective talent strategies, and looks at the alignment of these factors with company goals.
- Chapter 5** This chapter concludes the research study by summarising the key findings and making recommendations on these for implementation at the company under study. Limitations of the study are summarised, and recommendations for future research in this area are made.

## **1.8 Conclusions**

This chapter summarised the structure of the research study conducted, and placed the motivation behind the study in context. Limitations of generalisation of the research findings have been stated, and objectives clarified. It is hoped that this

research will yield insight into the retention strategy currently in place at the company under study, and provide a roadmap of best practice to improve retention statistics. The chapter which follows provides a focused outline of current literature in the field of employee motivation, talent retention strategies used successfully at leading IT and software development companies, and ways in which these can be used to provide growth and competitive advantage to a company in the Durban area.

The next chapter presents an overview of past research and prevalent literature on the subject of factors which impact employee attrition in the workplace, especially those which attract and increase retention of employees within corporate technology environments.

# CHAPTER TWO

## Literature Review

### 2.1 Introduction

The startling statistics of employee mobility and attrition in the global market today, has become a considerable concern of executives. A Harvard Business Review found that a quarter of the highest performers in most companies expressed intentions of leaving their employers within the year (Martin & Schmidt, 2010); twenty percent felt that their personal aspirations differed from that of their employers, and thirty three percent admitted they were not performing to the best of the ability in the workplace. The numbers are alarming given the high costs of recruitment, new employee induction and skilling up, as well as associated loss of revenue during such periods.

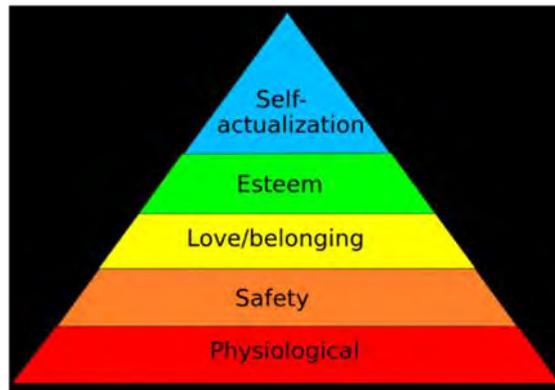
To establish a basis for measuring and predicting employee attraction and retention within organisations, it is essential to first look at what motivates human beings to make the decisions that they do, in everyday life and subsequently in the work environment. In that regard, we first look to human motivational and management theories developed to explain employee and organisational behaviour.

### 2.2 Factors that Drive Movement of Employees to and Within Markets: Human Motivational Behaviour

#### 2.2.1 Maslow's Hierarchy of Needs

Abraham Maslow presented a theory of human motivation in the 1940s (Maslow 1943), which proposed a hierarchical model showing human beings as motivated first by physiological needs of sustenance, which when met, see the individuals progress to seeking personal and financial safety and stability; after which they seek belonging and acceptance on a social level, then seek out respect *from* others and *for* themselves, and then finally, as the most developed individuals (when all

prior needs have been met), seek opportunities to reach self-actualisation and reach their full potential (Robbins et al. 2010).



**Figure 2.1: Maslow's Hierarchy of Needs**

Source: Maslow, A.H. (1943). A theory of human motivation. *Psychological Review* 50 (4) 370–96.

Maslow's theory proposes that the absence or addition of employment factors pertinent to each of the stated needs, will in turn reduce or increase employee satisfaction levels accordingly. His linear development of needs which motivate behaviour has its limitations however, in that while entry-level employees to the market are strongly motivated by physiological needs and a desire for safety and stability, this unidirectional model does not apply to those higher up in the skills matrix or those who have been in the work sector for longer periods of time. In addition, evaluated needs across differing age groups, cultures and economic periods are not catered for within Maslow's model.

Studies also contradict Maslow's theory that individuals seek only one level of the needs pyramid at a time, or that these must be met in that specific order (Hanif et al. 2013), showing that employees seek fulfilment of multiple areas of need from their employers. Remuneration and acceptance are rated as simultaneous high motivators of behaviour, while self-actualisation drivers are found at all levels of the skills matrix.

Maslow's theory can be related to talent management within an organisation, on the following key principles:

- Keeping employees engaged with the goals and desired outcomes of the organisation is crucial to tying in to their need for Esteem and Belonging, and if

effectively managed will align their long-term commitment to the organisation's own goals.

- In managing key employees at the self-actualisation level, it is crucial that employers provide all necessary tools and resources to these group of individuals to meet their need to 'be all that they can be', as failure to do so may see these motivated individuals looking to greener pastures to realise their self-fulfilment needs.

Proponents of Maslow's theory in the work environment, highlight the importance of ensuring sound recruitment and remuneration policies and a sense of camaraderie amongst employees, and places continued emphasis on communicating the importance of employees to the business – that is, securing talent retention by nurturing an ongoing sense of accomplishment and achievement in the workplace (Smith 2014).

In a further expansion of Maslow's theory, Macleod and Clarke propose that employees can 'be moved up' the needs hierarchy by focused effort on increasing levels of engagement with, and from, employees (MacLeod & Clarke 2012). This theory is discussed in detail in section 2.4 hereafter.

### **2.2.2 Herzberg's Two-factor Motivation/Hygiene Theory**

Frederick Herzberg expanded prevalent theory on motivators of employee behaviour in the workplace, with his Dual-factor model in the late 1950s (Herzberg et al. 1959). Herzberg proposed that two *areas* of the employee experience speak separately to their satisfaction and dissatisfaction in the workplace: Motivation (which speaks to *intrinsic* job-related characteristics such as challenging work, achievement, recognition and personal growth), and Hygiene or maintenance (which comprises factors *extrinsic* to the work itself, such as work conditions, company policies, remuneration, job security and status).

This model expounded that the two areas could not be measured in isolation, emphasising that Motivation factors accounted for employee satisfaction levels, while Hygiene/Maintenance levels reflected employee dissatisfaction levels – and contended that the combined assessment of the two scales would yield realistic predictions of employee retention.

Critics of this theory object to its exclusion of personality traits and individual differences amongst employees, and subsequent analyses has shown the separation of satisfaction and dissatisfaction scales as unwarranted (Robbins et al. 2010).

The implications of Herzberg's theory for talent management within organisations are:

- It cannot be assumed that high-performing individuals are actually happy in their work environment, role or company – which may explain the often surprising loss of star performers, who move to competitor companies even when receiving accolades and given fast-track advancement within a company.
- Attention must be paid to administrative and policy-related tasks which impact employee satisfaction, as these could outweigh positive benefits of intrinsic work engagement.

### **2.2.3 Vroom's Theory of Expectancy**

Victor Vroom's Expectancy Theory attempted to address this gap in individual employee motivation levels. He proposed a predictive formula to gauge employee motivation in the workplace, built on the premise that individuals make conscious decisions about the amount of effort they put into tasks, based on their anticipated reward (pleasure) or penalty (pain), that will come from such action (Vroom 1964). He proposed that employees' motivation levels are based upon Expectancy that increased effort will create improved performance, perceived Instrumentality linking good performance to a value benefit ('what's in it for me'), and the Valence or value which the employee attaches to the proffered benefit itself.

To meet such expectations of reward, benefit and relevance, key performance areas, deliverables and 'stretch' goals must be clearly defined, and regularly assessed to maintain motivation levels of high performers.

The implications for talent management in this regard are the following:

- Having the necessary management support, resources, and skill set are integral to guiding an employee's expectancy levels to that of a high-achiever

- if any of these is lacking, expectancy of performance improvement will be thwarted.
- Employees' belief as to expected benefit to be gained from enhanced effort, is informed by clear, outcome-based goals and reward policies, implicit trust in the management team making those outcome/reward decisions, and transparency of the decision process – all of which instil employee confidence in the performance management process.

#### **2.2.4 The Employee Value Proposition Model**

Defining what it is which attracts job market participants to particular employers may be described as a company's 'EVP – Employee Value Proposition' (Collis 2012). Essentially, every company intentionally or otherwise presents a face to the world, of its values, uniqueness, and character traits. Potential employees weigh these claims as what companies say they stand for *i.e.* as their espoused EVP.

Combined with the market brand of the company, EVP is influential in a candidate's initial decision to seek employment within a company, or to decline it. EVP speaks to the broad promise made by companies in regard to total benefits offered to employees who join their staff, a proposal Collis refers to as 'What's in it for me?' (Collis 2012).

A US survey of what companies *think* employees value versus what employees *actually* value (Deloitte Consulting LLP 2011, cited in Erickson et al. 2012), reflected significant misconceptions of what attracts key talent. Their survey rated non-remunerative attraction and found that where companies expected 'Baby Boomers' (45-65 year olds), to be attracted most by package benefits, bonuses and flexible work arrangements, this group actually valued promotions/advancements, management recognition and additional compensation more. Similarly, 'Gen X' 32-47 year-olds were assumed by management to be most attracted by advancement within the company, bonuses, leadership programmes and flexible work arrangements – when in fact what they were found to value most were promotions and financial compensation.

‘Millennials’ (31 year-olds and younger), who were assumed to be attracted by promotions/advancements, customised career planning and bonuses, were found to be driven almost exclusively by prospects of promotion, additional compensation and financial incentives. On the other hand, when asked to rate their most-desirable work culture or ethos within a company, respondents across all age groups cited Work-life balance, Sustainability, and a Fun work environment with Diversity & Inclusion, as the top 3 criteria (Table 2.1).

**Table 2.1: Company Ethos Valued Most by Employees**  
 (Deloitte Consulting LLP 2011, cited in Erickson et al. 2012)

Ranking	Baby Boomers	Generation X	Millennials
1	Work-Life Balance	Work-Life Balance	Sustainability
2	Sustainability	Sustainability	Fun work environment
3	Fun work environment	Diversity & Inclusion	Work-Life Balance
4	Diversity & Inclusion	Fun work environment	Corporate responsibility / Volunteerism
5	Corporate Responsibility / Volunteerism	Corporate responsibility / Volunteerism	Diversity & Inclusion

This suggest that factors which attract candidates to an employer or role, are different to those which keep them there and engaged. Once new candidates join an organisation, their experience of actual company ethos and delivery on promised EVP begins. Keeping EVP promises and expectations met have been shown to influence the length of stay that employees will commit to (Collis 2012).

**Promised vs. Practiced and Perceived EVP**

Expectations by new employees of a company are based on the company’s reputation in the industry as well as its ‘sell’ by recruiters. Should employees experience a different culture or company ethos from that portrayed by the organisation’s Employee Value Proposition (EVP), they are more likely to actively seek alternate employment, regardless of the expected remuneration (Jins & Radhakrishnan 2012). High-integrity EVPs however, can provide organisations with competitive edge that spurs continued growth and development within organisations, even when labour markets and industry competitiveness are rife (Nwokocha & Iheriohanma 2012).

Successful employee engagement that arises from focussed, high EVP talent strategies in turn gives rise to increased productivity, lower attrition, and for the

organisations which practice this, improved industry reputation – which translate in the long term, to continued sustainability in the business sector (Haanaes et al. 2011).

### **Leadership Trust and Recognition**

A 2011 Deloitte global talent survey found that more than 35% of employees around the world cite ‘lack of trust in leadership’, as a reason for leaving companies they had worked for (Erickson et al. 2012), a finding echoed in other studies which show attrition levels quadruple when leadership responsibility is called into question (Doh et al. 2011).

To that end, communication around major events or strategy decisions plays a key role in building and maintaining trust and commitment in employees, by securing ‘buy-in’ and a sense of ‘belonging’ in employees, which translates to higher levels of commitment to the organisation, and higher levels of retention (Erikson 2013).

### **Wellness and Stress Management**

High stress levels are commonplace to software developers, who constantly work to tight deadlines. Investment in activities or outlets which alleviate stress have been shown to increase retention levels within companies who practice this (Masood 2011). Continued engagement and handing over of reins to resources to innovate better ways of achieving the end goal, are critical in managing wellness and curbing attrition in the high-paced software industry (Bersin by Deloitte & Deloitte Consulting LLP 2014).

Highly rated by the employees across the generational spectrum, is the prospect of being offered flexible work practices in their roles – having a choice as to start/end times, working from home/office, and having leeway to attend to family or personal commitments (Grobler & de Bruyn 2011). Such practices are effective only in organisations which practice Outcomes-based management, where employees deliver on goal targets, rather than simply clocking in 8-hour days.

### **Shared Purpose vs. Individual Appreciation**

Google Inc.’s leadership in the talent arena is attributed to its shift in perception of people management. Considerable investment is made by Google in identifying ‘Creative’ culture-fit candidates to join their ranks, and growth is spurred by ‘selling’ goals to employees rather than instructing them on deliverables, a radical

management shift referred to by Dr John Sullivan as the 'Influence model' (Sullivan 2013b). He defines it as a radical shift in executive oversight, where employees set targets, produce roadmaps and develop creative, rather than the traditional approach where the Executive dictate strategic growth, focus and service/product roadmaps.

Google Inc. refers to its employee-driven innovation roadmap as 'investment in 'speculative projects' (Miller & Bilton 2011), a strategy that has seen the corporation make phenomenal leaps in technology and application services, brought to life by thousands of creative minds spurred on by licence to create their own reality.

This investment and recognition of employee uniqueness is echoed in a 2013 study on drivers of employee mobility, which theorised that under-utilisation of unique skills and talents causes employees to leave boundary-driven organisations and join more innovative companies or indeed start entrepreneurial initiatives of their own (Ganco 2013). The resultant loss to the company is not merely that of replacement costs and loss of work output, but, perhaps more valuably, the loss of potential new product innovations and intellectual assets.

Google Inc. founders Sergey Brin and Larry Page expounded the strategy of promoting 'software innovation for the greater good of mankind' further, to combat retention and innovation challenges faced during the 2009 US recession (Finkle 2012). Their approach generated revitalised commitment and passion in their employees, a strategy which paid off in droves in the years that followed.

A 2014 survey of over 2500 business and HR leaders around the globe, speaks to this approach as increasing employee engagement through building 'passion and purpose' (Bersin by Deloitte & Deloitte Consulting LLP 2014), which requires an about-turn in Human Capital management, and a rethink of traditional HR strategy focus.

## **Employee Engagement**

Companies with high employee retention rates are shown to have more 'engaged' employees *i.e.* employees who understand their role in achieving organisational goals and willing take these on, who are proud to be part of the organisation in which

they work and hence openly promote its values and achievements to colleagues, friends and families, and who commit to staying with the organisation (Palmer & Gignac 2012). These employees are often led by managers with particular skill sets that reflect high emotional intelligence (EI), putting forth a case for companies to invest in EI training as a means of strengthening retention patterns, or indeed of promoting leaders who display characteristics of EI (Palmer & Gignac 2012). Managers and leaders with high EI traits of self-awareness, self-regulation, self-control, self-motivation, social skills and empathy), have been shown to be more successful at transformational leadership (Barling et al. 2000). Identifying leaders with high EI may provide a strategic key to managing transformation that is accepted by employees, through the organisation.

Silicon Valley companies tout their ability to provide employees with fun work environments, engaging work culture and a sense of belonging within the organisation – what they refer to as ‘fun, meaning and a future’ – which sets up at the outset, a commitment to remain with the organisation that eager recruits join (Accenture Consulting 2013). Software developers in particular are more likely to make decisions based on ‘fit’ with companies, and research has shown their productivity itself increases when developers are positive about the environment in which they work – impacting not only retention numbers, but the bottom line as well (Graziotin et al. 2014).

### **Employee Satisfaction**

Remuneration remains a key factor in attracting new candidates to software development companies (Jins & Radhakrishnan 2012), however while studies have shown that Employee Rewards are linked to Retention levels within a company, they have also been shown to have no impact whatsoever on Employee Satisfaction – the latter factor (employee satisfaction), being what drives productivity and creativity within organisations (Terera & Ngirande 2014). Essentially, employees receiving rewards are more likely to stay on, but not to be more productive or innovative. This latter gap is costly to IT companies, as innovation is key in driving sustainability, growth and competitive edge. The finding that rewards are unrelated to productivity emphasises that the remuneration/reward model is not influential in driving organisational success and sustainability (Terera & Ngirande 2014).

More innovation is required to translate companies' investment in human capital to commensurate high output in terms of competitive edge, than simply monetary measures.

In highly competitive talent markets, candidate attraction based solely on monetary gain will lead to rapid mobilisation of employees to higher-paying jobs, creating likely unsustainable salary wars – and to the antithesis of talent innovation: anti-trust, non-competitive behaviour amongst giant corporates to artificially fix salaries and close off competition and employee development (Barrett & May 2014).

To a large extent, corporate culture defines 'Quality of Work Life' for employees in an organisation; a concept which has been shown as key to influencing retention or encouraging exit of key employees, impacting satisfaction, productivity and longevity retention of employees (Celia & Karthik 2012). The correlated impact of company culture on attrition and retention rates is a theme that repeatedly surfaces in attrition studies (Ratna & Chawla 2012), (Tillott et al. 2013), (Dwivedi et al. 2014), yet few local software development companies rank Company Culture as pertinent to the bottom line.

Noting the factors which motivate employee action and decisions to join, stay with, perform well, and/or leave a company, we look to ways in which successful organisations have harnessed such employee behaviour and utilised this to grow their talent base. The next section of this chapter thus looks at talent recruitment and retention models in the workplace.

## **2.3 Global Talent Acquisition, Development and Retention Models**

With the competition for skilled resources increasingly intense, many organisations have implemented talent management models to attract and retain core competencies and build competitive advantage.

### **2.3.1 Purple Squirrel Head-hunting**

To establish superiority in software markets, some organisations have sought to focus recruitment and development efforts on outstanding industry performers or

'purple squirrels' (Sullivan 2012), (Cullen 2012). The theory behind this approach is that acquiring these rising stars will fast-forward innovation and bottom-line growth of companies who succeed in luring them. Sport and entertainment industries use this approach to lure high-performers away from competitors, and predictably, initiate soaring salary wars for contested talent.

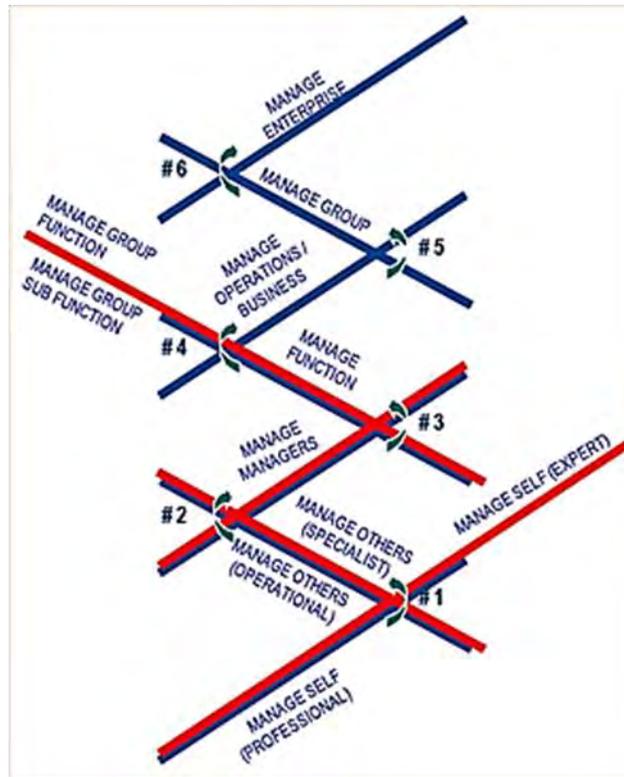
Referred to as the original 'purple squirrel' persona was Tony Fadell (Sullivan 2012), who pioneered the invention of the MP3 player while employed at Philips. His innovative product was revolutionary in the consumer music world, and Philips enjoyed considerable success. Fadell's fame however, soon brought him to the attention of rival media companies, and Apple successfully recruited him away from Philips. Against the lure of Apple's financial clout and blue sky development model, Philips failed to retain Fadell. On moving to Apple, Fadell brought to life the Apple iPod, which was a product market Apple had not previously been exposed to – and launched a multi-billion dollar industry that continues to thrive today.

The shortfall to this approach in a commercial enterprise however, is that such salary wars are not sustainable in the long-term, and will see the loss of such 'stars' away from employers as easily as those employers first brought them over originally. These high-performers move around so often that they rarely build long-term commitment to company goals, and are more focused on trying new things than learning organisational values (Charan et al. 2011). In addition, such innovators are few and far between, and basing a talent management strategy on these elusive prodigies alone, is neither sustainable nor recommended for long-term growth. An alternate model of nurturing high achievers rather than cold-recruiting them, is better advised.

### **2.3.2 Building a Talent Leadership Pipeline**

Steven Drotter proposed a novel *internal* talent sourcing model comprising a six-stage development path, called the Leadership Pipeline (Drotter & Charan 2001). This model proposes that a natural leadership hierarchy develops in organisations based on skills and leaderships traits, and cautions that every employee who is promoted from one hierarchy level to the next, must be given appropriate skills

training, priorities guidance, management time and mentoring, in order to be successful at what they do. This process thus requires targeted identification and development of potential task/team successors at every level throughout the organisation, in order to capacitate them as they transition internally within the organisation, from one leadership level to the next.



**Figure 2.2: Drotter's Six-stage Talent Leadership Pipeline**

Sources: Drotter, S.J. & Charan, R., 2001. Building Leaders at every Level: A Leadership Pipeline. *Ivey Business Journal*, May/June 2(1), pp.1–5.

Drotter's pipeline model depicts six stages in the progression of talent within the organisation:

**Passage 1: from Managing Self to Managing Others**

Drotter identifies employees who have proven planning, negotiation, collaboration and punctuality skills, who produce good results and 'buy-in' to the company culture and goals, as ideal candidates to be considered for level 1 First-Line Manager roles. Training and up-skilling at this passage is crucial to transitioning from doing what they were good at, to effectively delegating to others and managing team output. If

this mind shift is not managed, many first-time managers fail, become frustrated and have seeds of dissatisfaction set in.

### **Passage 2: from Managing Others to Managing Managers**

Managers at level 2 are meant to focus solely on management tasks (not individual technical output), and to coach or mentor level 1 reporting managers to develop these skills as well. One of the hard-learned responsibilities at this level is identifying first-line managers' who display resistance to managerial work – which may mean acknowledging that *'the software designer who would rather design software than manage others cannot be allowed to move up to a leadership role'* (Drotter & Charan 2001), and making the difficult decision to return these employees to their technical role, if they appear not to be deriving satisfaction from the new management role – failure to do so will simply block the leadership pipeline and cause resentment amongst mismatched employees.

### **Passage 3: from Managing Managers to Managing a Function**

Functional managers delegate considerable responsibilities to reporting managers, and must learn an entirely new skill set – that of cross-functional collaboration, consideration of other functional unit requirements, needs and constraints, team-playing and internal competition for resources. Functional managers are required to develop long-term strategy and innovation to meet organisational goals.

### **Passage 4: from Functional Manager to Business Manager**

Level 4 managers are almost entirely autonomous in their strategising and decision-making, a freedom that natural organisational leaders relish – this of course is coupled with complete accountability for their decisions as these affect bottom-line numbers and are visible to the entire organisation. At this level communication skills are paramount, and time must be set aside to simultaneously plan and improve immediate bottom-line deliverables as well as medium-term and long-term business strategies, which is a skill that requires maturity and careful mentoring.

### **Passage 5: from Business Manager to Group Manager**

Drotter differentiates a group manager as one who manages, supports, inspires and values the *success* of other managers' businesses. This distinction is key to ensuing an effective leadership pipeline, as managers who try to usurp power or

decisions from their reporting managers trigger resentment and block the succession pipeline. Level 5 managers must master skills to manage and deploy capital in the best interests of the group strategy and goals, to be able to identify and develop functional managers who are ready to become business managers, to develop *Portfolio* strategy (*i.e.* decide on whether to acquire, merge, divest of companies to ensure current and future earnings), and to objectively assess core capabilities from a global perspective.

### **Passage6: from Group Manager to Enterprise Manager**

CEOs fall into the level 6 category of Enterprise Manager, and must ideally have progressed through previous levels in order to fully grasp, enable and not clog the pipeline below him or her. At this level, full delegation of product and service management must be delegated to direct reports, with CEO focus remaining purely on operating at a global level. A distinct shift from strategic thinking to visionary thinking, must occur at this level.

### **2.3.3 Advantages of a Talent Leadership Pipeline**

- If a defined talent pipeline exists, organisations can plan succession and mentorship strategies that have concrete measurables and targets, and which employees across the organisation can aspire to and work toward (Charan et al. 2011).
- Gaps in performance levels of managers can be clearly seen, and thus appropriately addressed.
- Organisations' HR divisions can use such pipeline modelling to craft specific training required to fill identified skills gaps, rather than rolling out generic training and development courses across the organisation.
- Employees' state of readiness to transition to the next leadership level can be measured objectively, rather than based on past performances.
- Defined transitions inevitably improve selection, development and retention choices, as a consistent results-based standard is upheld – past practices such as basing promotion choices on personal preferences, relationships or past experience are removed.

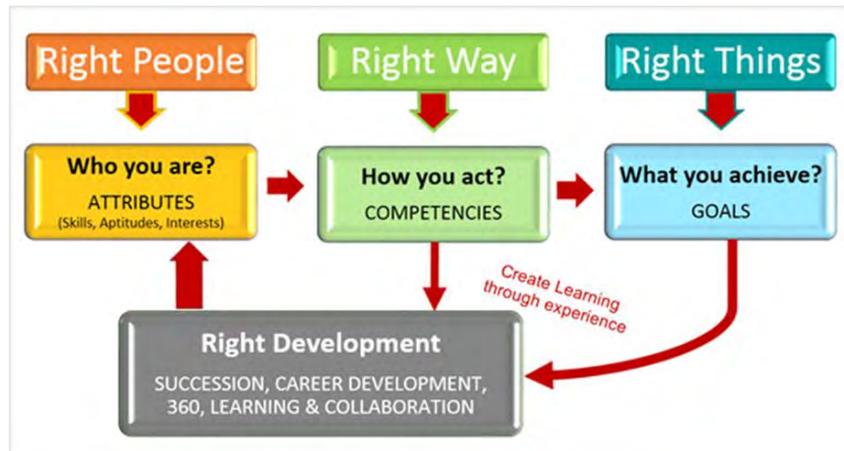
- An articulated talent pipeline can serve as a diagnostic tool to identify mismatches between individuals' capabilities and their leadership level, prompting remedy or removal of the individual before it impacts retention and results.
- Ensuring that talent passes through the defined pipeline ensures that succession develops at the right speed, with the pipeline identifying when someone is ready to move to the next leadership level.
- Having a living succession pipeline reduces the time needed to hastily prepare an individual for new or vacated leadership positions, and helps ensure minimal wasted time on jobs that duplicate skills.

In contrast to short-term purple squirrel head-hunting, a Talent Pipeline strategy ensures that 'star' high-performers and effective managers are developed internally, throughout the organisation. Employees have a clear career path to strive toward, objective measurables exist to develop them further, and costs associated with acquiring and upskilling of external hires reduce drastically.

#### **2.3.4 Massmart Talent Retention Case Study**

In a review of the greatest threats facing companies in the global market, Massmart HR executive Pearl Maphoshe cited Talent Management as the single greatest strategic challenge facing the market (more than competition, debt, rising costs and technological advancement) (Maphoshe 2013).

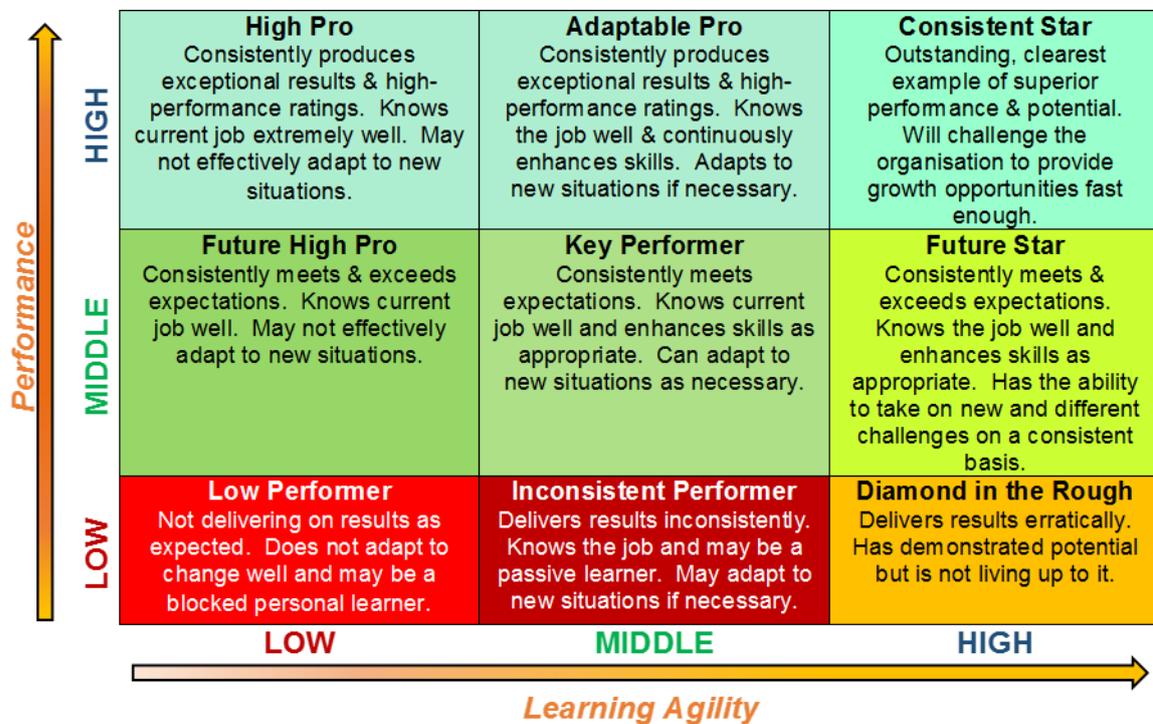
To address this challenge Massmart embraces Drotter's Leadership Pipeline, continuously assessing, identifying and developing employees for best-fit into the six stages of talent leadership roles, and ensuring a pipeline of the right people at the right time, delivering the right activity outputs.



**Figure 2.3: Massmart's Talent Management model**

Source: Maphoshe, P., 2013. Talent Management at Massmart. , p12

By focusing on talent development as a key driver of success, Massmart has established a solid people foundation that supports its long-term expansion and growth strategies. The importance of talent management in ensuring corporate growth and success is increasingly gaining prominence, with management of Talent in large organisations being considered as equal to and directly impacting on, the financial and business strategies of global companies (Jim Hemerling et al. 2007).



**Figure 2.4: Massmart's Performance Management Model**

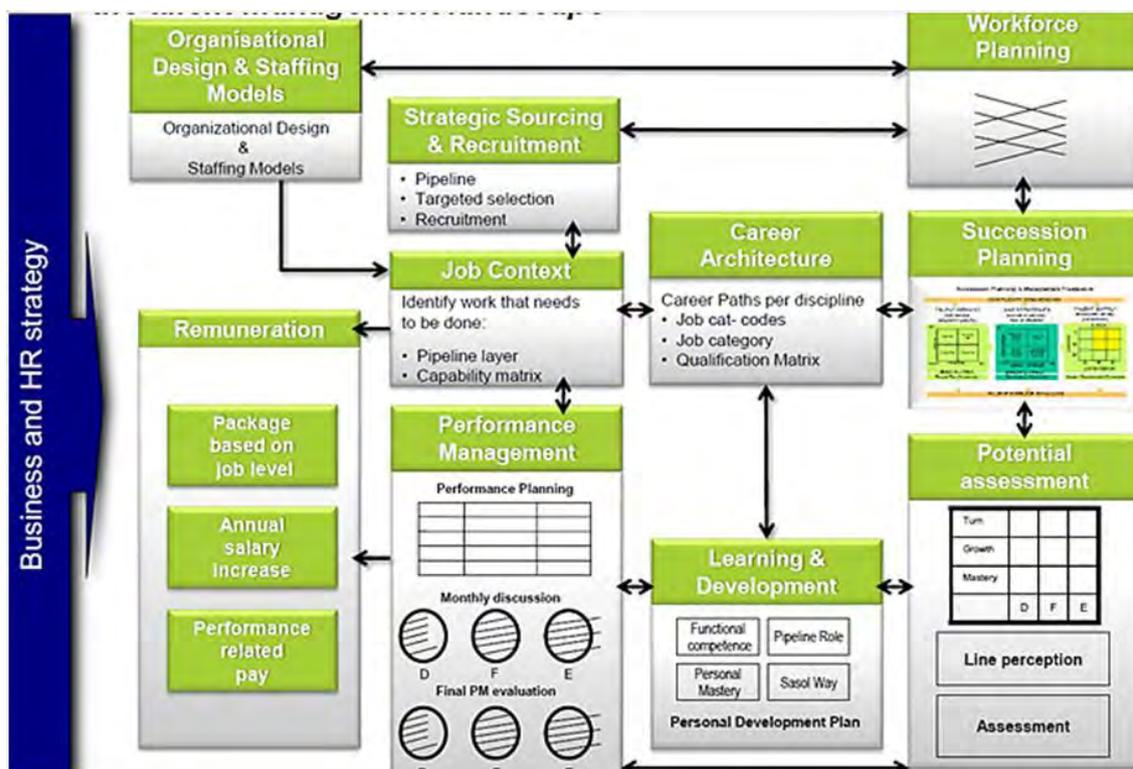
Source: Maphoshe, P., 2013. Talent Management at Massmart. , p12

Massmart regularly assesses performance and learning ability of employees, to gauge strong performers, and manage poor performers to the next level, or to exit scenarios (Refer Figure 2.4).

### 2.3.5 Sasol Talent Development Case Study

Sasol’s talent retention and development strategy also follows a pro-active Succession Pipeline model – which links directly to the company’s business strategy and is supported by annual EVP-fit assessments which in turn are informed by **Entry**, **Exit** and **Stay** surveys (Hofmeyr & Venter 2011).

Sasol’s business strategy cycle incorporates scheduled talent development assessment events, which collate measured feedback from business units and functional groups, on strength and depth of talent pipeline throughout the year (refer Figure 2.5).

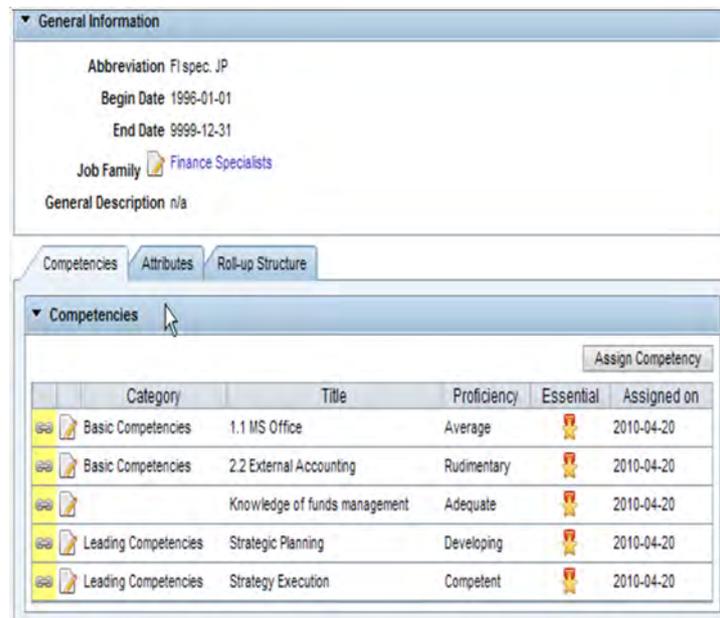


**Figure 2.5: Sasol’s Business-Integrated Talent Management Processes**

Source: Hofmeyr, H. & Venter, W., 2011. Executing Sasol’s Integrated Talent Management Landscape. In H. Hofmeyr & W. Venter, eds. 55th Annual IPM Convention. Rustenburg (Sun City, North West Province): Sasol, pp. 1–36.

The organisation’s career-pathing, talent development and regulatory goals are interwoven to ensure talent development and retention, as well as succession planning. In many companies, such activities are left to the Human Resources unit or to the individual business unit themselves, resulting in an organisation with varying-ly-rated and vastly differently remunerated personnel.

Sasol’s employee performance management assessments are transparently based upon defined output categories rated in terms of proficiency level (*viz.* Rudimentary, Adequate, Average, Developing, Competent), delivered via a SAP talent management interface (refer Figures 2.6 and 2.7), that is consistent across roles throughout the organisation.



**Figure 2.6: Sasol’s Job Description-linked Performance Evaluation tool**

Source: Hofmeyr, H. & Venter, W., 2011. Executing Sasol’s Integrated Talent Management Landscape. In H. Hofmeyr & W. Venter, eds. 55th Annual IPM Convention. Rustenberg (Sun City, North West Province): Sasol, pp. 1–36

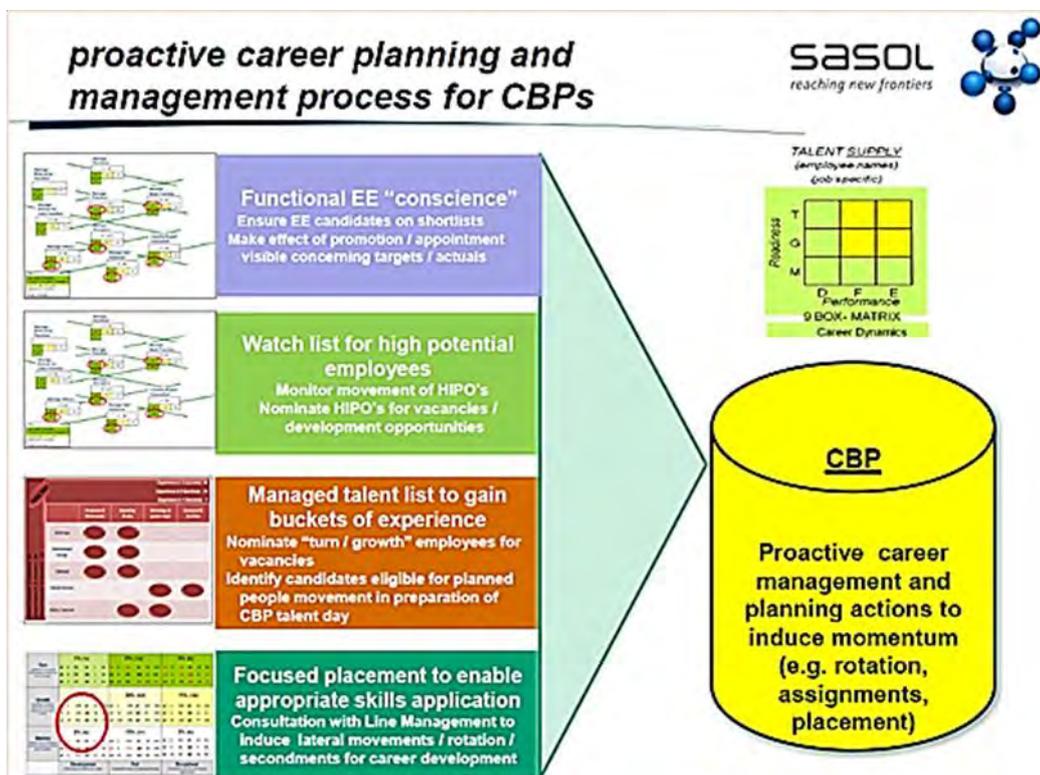
Talent progression measurables are standardly assessed via this tool, which reduces considerably management time-cost ratio typically associated with performance management and planning.



**Figure 2.7: Sasol's Visual Performance Management tool (SAP ITM)**

Source: Hofmeyr, H. & Venter, W., 2011. Executing Sasol's Integrated Talent Management Landscape. In H. Hofmeyr & W. Venter, eds. 55th Annual IPM Convention. Rustenberg (Sun City, North West Province): Sasol, pp. 1–36.

Further to their integrated business objective-driven talent management approach to resourcing, Sasol also manages Career Development as a core activity at board level (Figure 2.8).



**Figure 2.8: Sasol's Core Business Process (CBP) Pipeline Plan**

Source: Hofmeyr, H. & Venter, W., 2011. Executing Sasol's Integrated Talent Management Landscape. In H. Hofmeyr & W. Venter, eds. 55th Annual IPM Convention. Rustenberg (SunCity, North West Province): Sasol, pp. 1–36

The placement of career development planning at senior /executive level down, emphasises to employees their own growth potential should they decide to remain with the company, and ensures that all senior managers are aware of and actively grooming successors to step in whenever resources leave – thereby minimising the impact of attrition.

Such significant investment in talent retention and assessment displayed by key players on the South African corporate landscape, such as Massmart and Sasol, indicates the value attributed to People Strategies by successful corporates. Performance assessment and career planning are not passive HR processes in these forward-moving companies, but rather form the basis of their competitive business strategies.

With this overall picture of Talent Management across all industries in mind, the following section focuses on the specific talent market of application software development.

## **2.4 Talent Strategies in Competitive Software Markets: Innovators in Talent Wars**

With the city of Durban burgeoning amidst massive infrastructure investment, multinationals are setting up shop in the metropolis in droves and upping the competition for critical skills. The expanded playing field has left local companies hard-pressed to fork out higher remuneration to stave off competition from new market entrants and higher-paying conglomerates in South Africa's economic hubs of Gauteng and Cape Town. A salary war is unsustainable, eats into profits and ultimately impacts the costs of doing business. On the other hand, the threat of losing critical skills is growing by the day in the coastal city. What is needed is a rethink of company values and drivers: what is causing employees to leave? What do they value enough to make them stay?

### **2.4.1 The Software Development Talent Market**

The fundamental, revenue-generating asset of software development companies is their talent base, rendering talent attraction and retention core to company growth and sustainability (Martin 2014). While other sectors of the economy reflect fluctuating resource demand in response to external markets, the job market for software developers remains a 'Talent Paradox' (Erickson et al. 2012) - niche, hotly-contested and disparate from overall labour markets and unemployment levels.

Akin to Durban's emerging corporate persona, was the inception and subsequent explosion of growth of Silicon Valley in the US since the 1970s (Hoefler 1971). A prime example of software development powerhouses in close proximity, the resulting intense competition for highly-skilled resources in Silicon Valley provides an interesting backdrop to the talent strategies under study.

The region itself falls within an area of Northern California around San Francisco Bay, spanning across San Jose, Santa Clara, Palo Alto, Redwood City, San Francisco and Fremont. It was so-named in the 1970's in a series of editorials referring to the unusually high concentration of electronics and computer companies in the area – both products whose circuitry /semi-conductors are silicon-based (Hoefler 1971),.

Like-oriented software giants rapidly migrated to the IT hotspot in the years which followed, and competition for skilled developers rapidly became a crucial strategic focus of all corporate inhabitants of the valley.

In a recent survey of IT professionals employed across US Silicon Valley titans such as Google Inc., Apple Inc., Oracle, Cisco Systems, HP and Yahoo, seventy percent report that their companies' HR divisions 'pay strong attention' to attracting, recruiting, and retaining the best talent in the industry(Harris & Alter 2014). These corporations recognise that the flow of sought-after skills in and out of their doors is inevitable, hence invest considerably in HR Talent acquisition and retention strategies, to secure competitive edge in the ongoing tussle for the best of the best. The surveyed respondents (Harris & Alter 2014), displayed extraordinary allegiance to their employers – on closer examination however, it emerged that what they were expressing was in fact commitment to their *work* (to the extent that it offered them an opportunity to change technology or the *world*), and to their *co-workers*.

Evoking the '3Ps' concept of 'People' and 'Planet' as linked intrinsically to these organisations' 'Profit'(Coates 2011), this reality echoes the triple bottom line tenets of conscious capitalism. Silicon Valley it would seem, has found the perfect balance between making people happy, keeping employees engaged, and raking in profits that stream from the happy marriage of the two.

#### **2.4.2 The Silicon Valley Anti-trust Scandal**

Against a backdrop of inspiring resource innovations and corporate culture, sobering revelations to the courts must be seen to question the validity of Silicon Valley innovators. Startling anti-trust allegations initiated against almost all Silicon Valley giants(United States District Court: Northern District of California - San Jose Division 2013b), have emerged in recent years, calling into question the validity of these powerhouses' touted talent polices.

Repeated antitrust litigation has been brought against Intel Corp., Adobe Systems Inc., Apple Inc., Google Inc., Pixar, Intuit Inc. and Lucasfilm Ltd., with internal correspondence further implicating Microsoft, Novell, Oracle, Sun Microsystems,

Intel Corporation, IBM Corporation (Barrett & May 2014), eBay (Streitfeld 2014), (Federman et al. 2011) and others- claiming that the respondents set up an oligopoly starting as early as 2005 to artificially suppress salaries, share salary information and punish exiting employees so as to keep recruitment costs down (United States District Court: Northern District of California - San Jose Division 2013a).

Disney's Lucasfilm Ltd. and Pixar while denying the charge, distributed a \$9 million US dollar settlement to their own employees, and an additional \$11 million US dollars to employees of the remaining defendants. Much more damning was Google Inc. and Apple Inc.'s agreement to settle with affected parties in January 2015 at over \$400 million US dollars; the final settlement amount is still before the courts.

While such practices blatantly contravene an employee's right to progress and to earn livelihood in their chosen area of skill, it is alarming that non-compete clauses in employment contracts are still prevalent and indeed increasing in frequency in such scarce skills industries (Bishara et al. 2015). Large pockets and deniability aside, these companies have no legal standing in their actions.

Relevant US law frowns upon anti-competitive behaviour and the restriction of worker re-employment in the corporate world, weighing the validity of such non-compete clauses against the enforcing company's '*protectable business interest, the purpose of the restriction, the scope (in time and geography) of the restriction, and the potential harm to the employee and the public*' (Bishara et al. 2015). Clearly, the industry collusion which kept their combined employees' salaries repressed and punished employees who approached other companies within the scheme, falls far beyond such a test of legal reasonableness. Over and above lawfulness, an ethical line in the sand must be drawn between protection of intellectual property or 'trade secrets', and restriction of employee mobility (Schieck 2014).

Veracity and extent of these appalling charges notwithstanding, these practices taint considerably the reputation and credibility of these corporates in relation to their stated retention strategies. Nevertheless, employee surveys and corporate reputation rankings of these organisations still reflect a high level of desirability amongst IT job-seekers. For the latter reason, this study continues its focus on

talent strategies espoused at these and other leading software development houses.

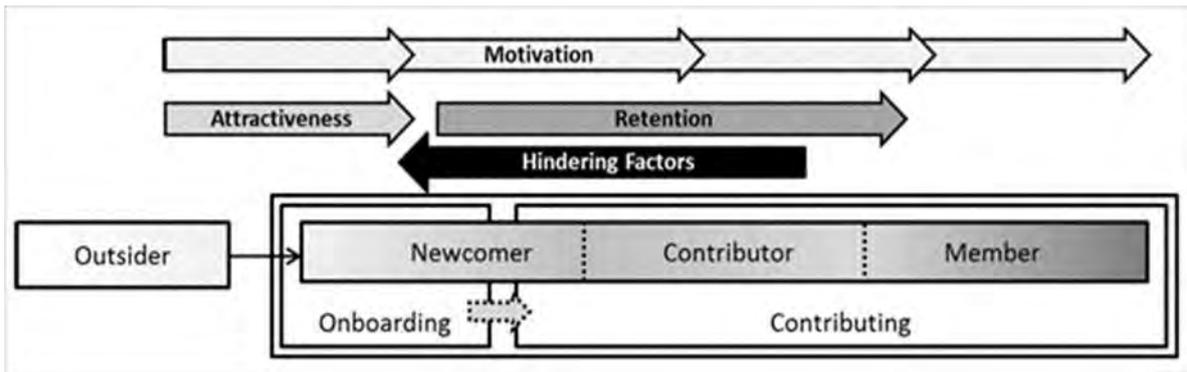
### **2.4.3 Software Talent Management: Global Best Practice**

The software developer market is a narrow but highly-contested one, in which conventional candidate assessment techniques are ineffective – indeed it is the creative mind set that organisations seek, rather than paper certifications and staid industry experience, especially when one considers that the most innovative developers are self-taught in ever-changing technologies and applications which evolve faster than academic programs and certifications can (Campaign Asia-Pacific 2014). Moreover, academic qualifications of developers show no correlation to retention or attrition behaviours (Schilling et al. 2012).

The traditional approach to recruitment, as an outcome owned predominately by the Human Resource department, is increasingly proving insufficient to attract best-fit employees in the IT sector, indicating that collaborative effort between business leaders, IT managers and HR is required to produce staff whose commitment and retention levels are high enough to warrant their take-on within these environments (Kim 2012).

Once employed, narrowing down what it is that helps retain talent and discourage mobility amongst software development ‘creatives’ is considered by some researchers to be a paradoxical concept (Erickson et al. 2012). Studies on factors and levels of engagement which impact this talent group have revealed that independence of thought, and a sense of achievement as well as of contribution to the ‘big picture’ of improving the world in which they work/live, drives retention and productivity more strongly than monetary reward (Steinmacher et al. 2014).

In the model below, a defined stage of attraction, engagement and inclusion sees new employees either progress to become productive senior contributors, or hindered by organisational factors /values which influence an exit decision, or worse, a loss of motivation – both of which negate the considerable investment made in recruiting, skilling up and developing resources to the level required.



**Figure 2.9: Model of Software Developer Life Stages Within an Organisation**

Source: (Steinmacher et al. 2014)

Retaining skilled talent once they've reached the salary ceiling of their current role requires innovative, forward-thinking from managers. Often a well-placed, diagonal career move from a technical path to a managerial one, will enable an organisation to retain high performers who may otherwise leave the organisation in search of improved remuneration (Joseph et al. 2012). Such a movement may yield new ideas and improved, incentivised behaviour from other employees, however fit of the Technical mind-set with that of a number-crunching management role is of paramount importance if the move is to be successful and sustainable.

#### **2.4.4 Talent Strategies that Attract and Retain High Performers**

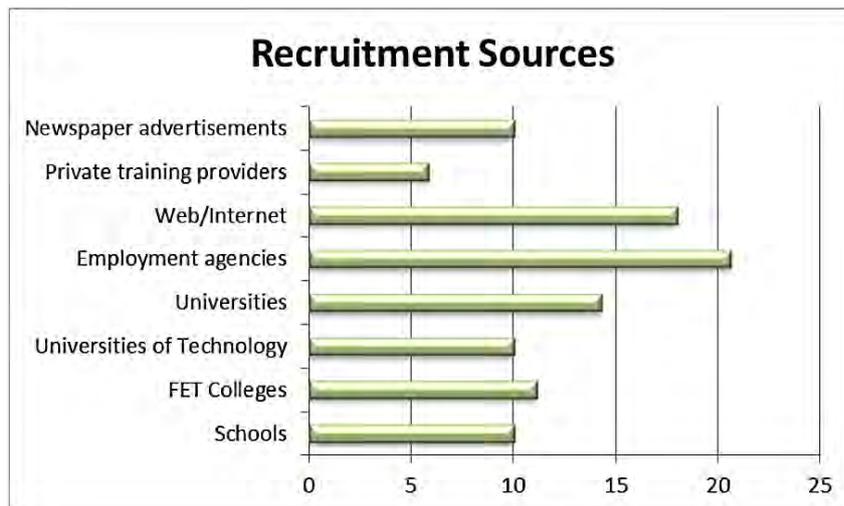
Traditionally, corporations entrenched a top-down approach to strategy and product development, from Management plans to Executive boards for approval, then back to Management to roll out, to Business Units to execute, to business analyst to scope, to customers to review – and then finally months later, to the development team to build. High-performing talent that drives IT innovation at global giants are repeatedly reported as disdainful of bureaucracy, red tape and prolonged decision-making (Harris & Alter 2014) – why would one spend millions on creative talent assets and then dictate what these resources do?

The key is allow employees to innovate, to drive the evolution of products and technology, as this will promote greater ownership, ensure commitment for the long-run, and allow decisions to be made faster.

## 2.4.5 Novel Recruitment Approaches

Research indicates that the longevity of employee retention within a company is established during the recruitment phase – with high-performing interviewees often not translating into high-performing or long-staying employees, and proposing that significant time and thought be taken to compile an ‘ideal’ candidate in terms of values, personality traits and passions rather than paper skills in order to find the true best-fit candidate for roles (Jins & Radhakrishnan 2012).

Noted trends in candidate preferred recruiting channels have been seen over the years, with the software development skills set becoming so specialised that recruiting agencies have become the norm in seeking such talent – an extremely costly exercise for small- to medium-sized enterprises.



**Figure 2.10: JCSE Recruitment Channel Prevalence**  
Source: (Schofield 2013)

Corporate giants in the IT world are known for innovative recruitment practices and the underlying success these show in producing committed, best-fit employees who remain with the organisation. Google’s investment in people profiling, and out-the-box candidate assessments are renowned, and other industries are doing the same – with Heineken for example, conducting interviews out of the office, in novel, engaging ways, and making YouTube videos of their unconventional culture to attract creatives and millennials (Chahal 2013).

Such practices also yield surprising ‘people’ talents or warning signs about candidates, that enable interviewers to assess culture fit over and above that of academic or technical fit, before taking the decision of employment (Chahal 2013). Seeking ways to retain core talent through innovative employee engagement models is an unconventional but intuitively efficient practice to follow, which may save organisations massively in terms of recruitment investment and attrition reduction.

*Recruitment marketing* is taking hold in software industries, as long-practiced by organisations such as HP, IBM, Google, Cisco, Microsoft and Apple – where the company brand is treated with as much marketing strategy as product brands under its umbrella are (Bersin by Deloitte & Deloitte Consulting LLP 2014). Through the use of innovative subject blogs, campaigns and sponsorships, such marketing investment can work toward attracting resources whose creative fit matches that of the company – and bypassing cost-intensive employment agencies whose fees are lost when employees leave.

#### **2.4.6 Software Developer Mobility**

Organisations refer to employee Mobility as the strategic movement by business, of skilled resources to specific ‘wanting’ business/operational areas, as and when needed (Mullaney 2014), however the term also includes the self-elected movement of employees *out* of organisations. While both definitions speak to resources whose fit is seen best-utilised outside of their current roles, the former internal or intra-organisational movement is one of efficient management of resources, while the latter reflects a loss in capital investment, more so if the exiting employee represents a scarce resource or takes with him/her key product knowledge, client confidence or competitive advantage (James & Mathew 2012).

For the purposes of this study, the ‘mobility’ of IT resources refers to their readiness and propensity to switch between roles, employers and industries. Burgeoning demand for IT skills in every industry of the economy has created a unique talent siphon in the labour market where sought-after high-performers move significantly

more between employers than most other non-IT employee types, displaying loyalty to their IT role rather than to an employer (Joseph et al. 2012).

Studies of the niche software development market show that *non*-remunerative inducements are key to both attracting and retaining high-performing talent (Sullivan 2013a). Socially-rewarding incentives such as the opportunity to make a difference and to innovate without boundaries are among those which have seen companies such as Google Inc. rated as the most desired employers of choice to a new generation of career-seekers (Miller & Bilton 2011). Studies also show that employee commitment is linked to a sense of 'ownership' of the organisation's culture, purpose and identity, and when these are lacking talented employees are highly likely to seek alternate employers regardless of conventional remunerative or development enticements (Olckers & Du Plessis 2012).

Core skills retention is essential to building sustainability and competitive edge in the industry. The sense of connection employees feel with the overall goals and culture of the organisation, and the *clearer* they see their own contribution thereto, the more committed they are to remaining and performing within their roles, or within new roles in the organisation (Lueneburger 2012). In larger organisations, management-level strategies to retain and develop core resources are often inefficiently or not at all communicated to or acted on, by middle or lower management – which leads to disgruntled high-performers on the ground, and greater incidences of mobility (Linhartová & Urbancová 2012).

## **2.5 Talent Innovation as a Competitive Advantage in High-Demand markets**

Retaining high-performers is key to establishing competitive advantage in any business sector (Doh et al. 2011). While great leaders inspire great things, the key to maintaining and growing great businesses lies in attracting a stellar cast of resources to make those radical ideas a reality. Companies who attract the brightest developers therefore hold a competitive edge over others in the industry, in their

capacity to produce innovative, desired products much faster and of higher quality than others are able to (Klein 2014).

A Harvard Business Review of leading economies over generations, details the shift in corporate giants from natural resource producers to today's 'creatives' focus, defining more than half of the top-50 market cap companies in the US in 2013 as being talent-based *i.e.* having revenues generated purely from the creativity and ingenuity of its employees (Martin 2014). Indeed, performance outcomes are not always linked to education, certification or experience levels, implying that an entirely new, largely untapped market of potential software development talents pools exist, than are being mined (Fernández-Aráoz 2014). Alternate resource pools such as that of video-gamers, present an innovative source of talent-rich creative for the scarce-skilled technology sector (Bay 2014).

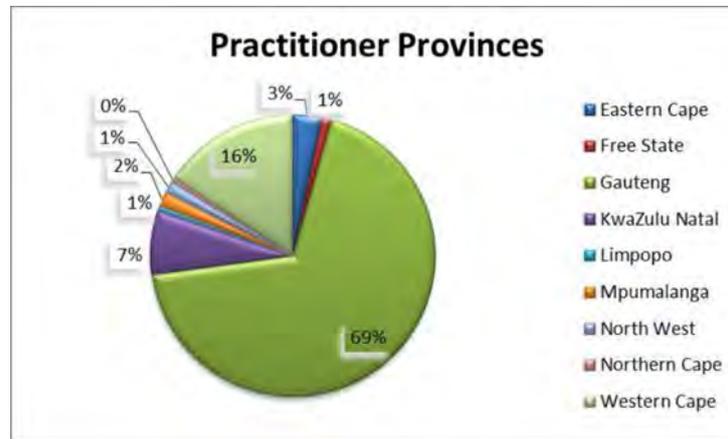
The culture reported at IBM in the 1960s was one which recognised its people (engineers, designers, creatives, etc.), as its unique advantage, and utilised its employee talent base to drive success and maintain competitive edge in the global market (Martin 2014). This 'talent' strategy was adopted and further magnified in later decades by companies such as Apple Inc., Microsoft and Google Inc. who have repeatedly ranked in the top-5 highest market cap companies globally (Martin 2014). This talent culture in turn, must translate to a strong focus on the building of effective teams in order to grow talent advantage into competitive advantage (Fernández-Aráoz 2014).

A change in business mind-set is called for, to facilitate the success of novel talent approaches that cascade and aligns business strategy, corporate culture and talent development to produce a single organisational machine that hums in synch from top-down and establishes in its efficiency, the ultimate competitive advantage over rival companies (Stahl et al. 2012).

For leadership and longevity in competitive markets, it is vital that organisations acknowledge this crucial factor when assessing their talent strategies.

## 2.5.1 Local Talent Market

Gauteng remains a talent magnet for mobile high-performers in the ICT sector, holding 69% of the talent market in 2013/4, followed by Western Cape (16%), and in third place, KwaZulu-Natal with 7% of the talent market (Schofield 2013).



**Figure 2.11: Distribution of ICT Talent in South African Market**  
Source: (Schofield 2013)

This is further exacerbated by the discrepancy in salaries across SA cities, with Gauteng developers in the Oracle stack (which is the problematic skill group under study in this research effort), commanding salaries of 30% to 42% higher than that of Durban Oracle developers (Figure 2.12).



**Figure 2.12: Median Oracle Developer Salary per SA City**  
Source: (Payscale Inc 2015)

Likewise, the age groups of the market at hand has become well-defined, with the majority of this scarce skills set group falling in the 26 to 45-year old age group – and thus calling for a new strategy to inform and innovate talent attraction and retention initiatives (Schofield 2013).



**Figure 2.13: JCSE ICT Age Distribution 2014**  
Source: (Schofield 2013)

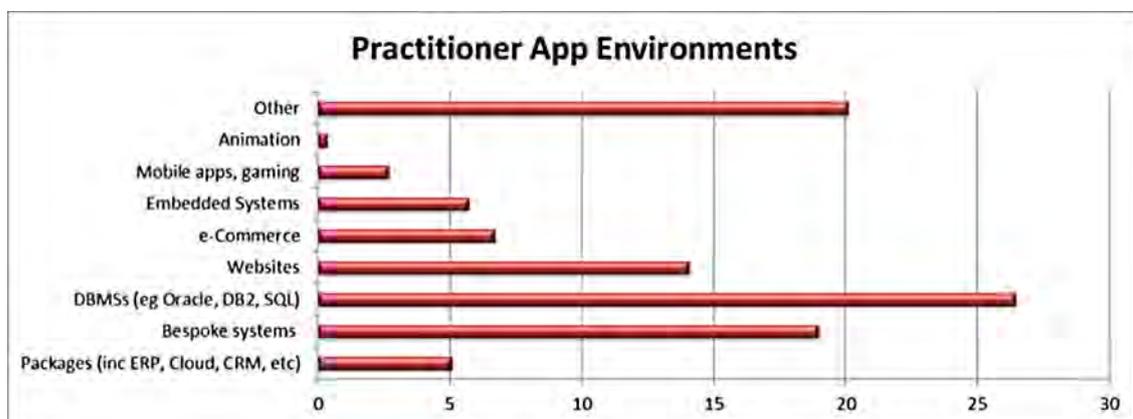
Local ICT skills surveys show that software application development skills were the highest-demand scarce skill set in South Africa in 2009 and 2010, matched in 2011 by the high demand for Business Intelligence/Knowledge Management (BI/KM) skills, and overtaken by a growing demand for Software as a Service (SaaS) skills in the years since (SETA 2012).

SaaS skills resurfaced as priority skills in 2014, with application development and BI/KM skills remaining in the top-5 list of required scarce skills (Schofield 2013).



**Figure 2.14: JCSE Scarce Skills Needs Prediction 2015**  
Source: (Schofield 2013)

While the Durban software solutions company studied in this research effort has expanded phenomenally through acquisitions and subsequent take-on of new technologies, its core technology platform has been that of Oracle database applications. The 2013 talent market landscape indicated that this scarce skill was in fact sought after throughout SA, this further impacting retention efforts at this coastal company (Schofield 2013).



**Figure 2.15: South African Application Technology Prevalence 2013**  
Source: (Schofield 2013)

## 2.5.2 Development and Training

Building a corporate reputation for developing high-performers fosters a desirable employer status in competitive talent markets, and instil a sense of trust/loyalty in employees. Selecting the most effective form of development training is crucial in this respect. Recent surveys have shown that in-house mentoring of is one of the most valued and preferred development channels of I.T. high-performers, from development to management tracks (Fig. 2.16 herein).



**Figure 2.16: JCSEICT Preferred Development Channels**

Source: (Schofield 2013)

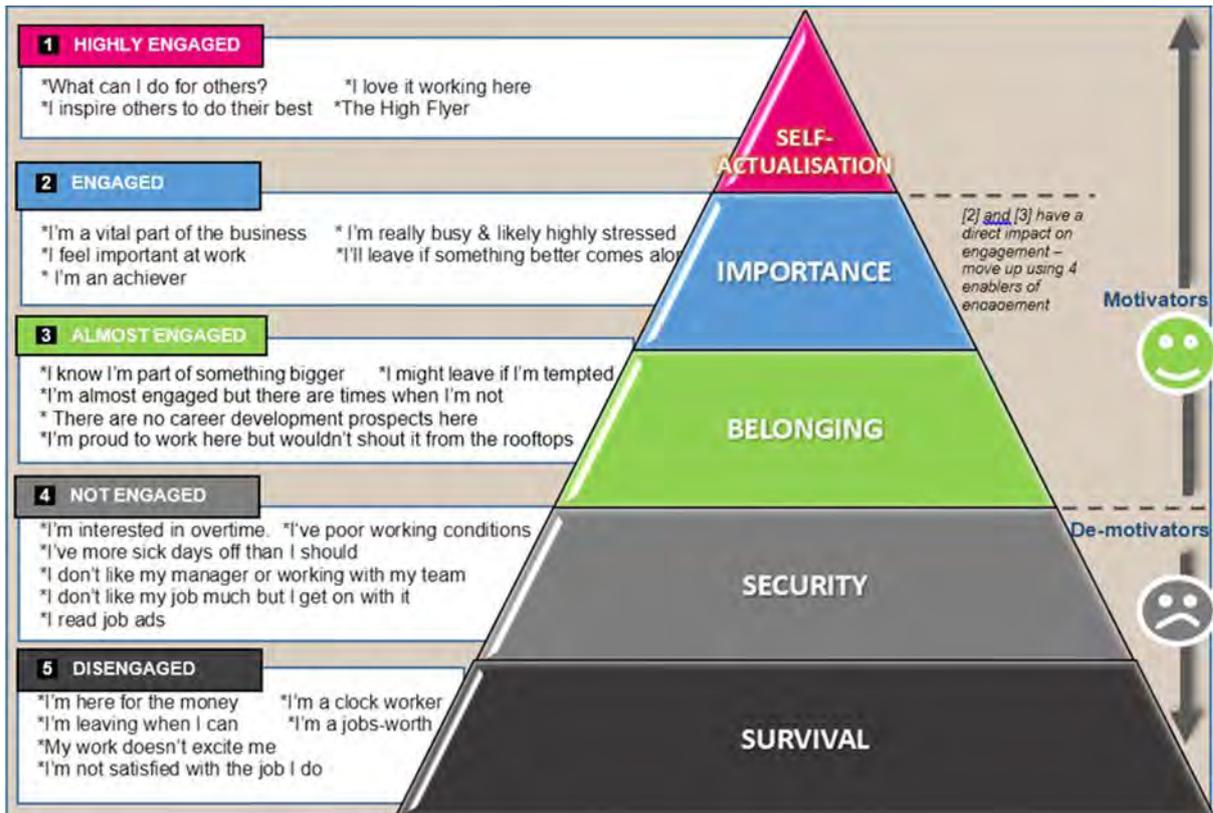
## 2.5.3 Enabling Employee Engagement

Supporters of Maslow's theory further propose that employees can be 'moved up' the Needs hierarchy through four key *employee engagement enablers*(MacLeod & Clarke 2012). Placing these in context, we look to Smith (Smith 2014), who further aligned employee attitudes to Maslow's hierarchy, to demonstrate levels of engagement as they affect employee development (refer figure 2.17 below).

The noted four key employee engagement enablers(MacLeod & Clarke 2012), are:

### i. **Creating a strategic narrative**

These researchers suggest that the history, challenges, plan of action and growth, and 'living story' of the company, must be shared with employees to grab their buy-in.



**Figure 2.17: Employee Engagement per Maslow's Hierarchy of Needs**

Source: Smith, S., 2014. How Maslow's Hierarchy of Needs influences Employee Engagement. *HRzone*, pp.1–3. Available at: <http://www.hrzone.com/community-voice/blogs/steve-smith-0/how-maslows-hierarchy-of-needs-influences-employee-engagement> [Accessed April 18, 2015]. Retrieved from (Smith 2014).

MacLeod proposes that clearly articulating this narrative lets employees see how their own work fits into the company's continuing success story, and must be continually repeated to all in order to instil a sense of ownership in staff. But this isn't something you can simply put up on your intranet in order to encourage employees to invest in it. In their research paper, MacLeod and Clarke cite an example of a company who asked employees to put up diagrams of innovative solutions to reaching the company's goals to a timeline pasted on the wall, which engendered personal initiative, intra-company information sharing, and social camaraderie when staff gathered around to look at what others were doing.

## ii. Engaging Managers

Macleod and Clarke warn against trying to engage staff *without first engaging managers* as this will achieve limited results – managers who are themselves not motivated or engaged will be highly unlikely, and very probably averse, to motivating or engaging their own teams. Likewise, employees' own motivation and

engagement often hinges on how they feel towards their bosses. Engaged managers are espoused to be those who *'focus their people and enable them to get the job done, treat their team members as individuals; and coach and stretch people'*. The researchers contend that when managers build improved relationships with team members as individuals, those employees contribute more to the goals and growth of the company.

### **iii. Giving Employees a Voice**

Communication sessions and publications are not considered giving employees a voice – rather, *listening* to them is. Surveys too, are noted as gathering data on what employees think of the company, but do not express *why* they feel that way. Clarke points out that employee insight is crucial in helping management to see where things are working and where they're going wrong – noting that most post-crisis enquiries reveal a single common finding: *'somebody knew before the event that something was going to go wrong'* but *'they didn't speak up or they weren't listened to'*.

If employees feel their voice is being heard and is valued, they will speak up when they spot an inconsistency and be more inclined to share new ideas, while consistently seeing their opinions/ideas listened to will increase their engagement in their work and in the company as a whole.

### **iv. Ensuring Organisational Integrity**

While corporate communication sessions and espoused corporate values may speak to ideals of inclusion and transparency, many companies fail when they enact the 'do as I say, not as I do' mentality. If an organisation's 'wall-mounted' values are not reflected in day-to-day behaviours of its CEO, directors or managers, employees interpret it as merely a 'corporate spin exercise' and a feeling of distrust develops.

Those few companies who actually do 'live' their values and align management behaviour to espoused values, create trust amongst employees. If innovation is touted in an organisation's credo, it must actively be seen to recognise and encourage employees trying new ways of doing things, whether or not they succeed. Not doing so will merely stifle employees' inclination to try something novel again.

## 2.5.4 Retaining Talent

In a bid to retain employees who have outgrown or are dissatisfied with their roles or management teams, companies often redeploy them to alternate teams and roles within the organisation. However, such lateral moves rarely succeed in the long-term often, with nearly 40% of internal moves of high-performing employees ending in failure (Martin & Schmidt 2010).

Authors of the above study red-flag the following common *misconceptions* of management which impact retention of staff:

- **Relating Current performance to future Potential** – top talent has to be continually engaged and challenged to produce increased output, and should be continually tested against to gauge future results;
- **Inaccurate Assessment Criteria** – three distinct areas should be measured: **Ability** (assessment of intellectual, technical and emotional skills to handle increasingly complex challenges), **Engagement** (level of personal connection and commitment the employee feels toward the company and its mission); and **Aspiration** (desire for recognition, advancement and future reward as well as the degree to which the employee's personal goals align with the company's goals for him/her);
- **Assumption that high-performers are engaged** – if not continually recognised, challenged with stimulating work, and provided with opportunities to prosper, high-performers quickly become disenchanted and open to the prospect of job-hopping;
- **Downward delegation of Talent Management** – identified high-performers should be mentored and guided as potential corporate assets by senior management, not first-line managers, as relegating their development to line managers may restrict the scope of their exposure and focus purely on current skills rather than future skill sets.
- **Shielding High-performers from failure** – organisations usually place high-performers in low-risk new positions to gradually introduce them to complex scenarios and reduce business disruptions. This can be counter-productive to the goal of talent building, creating a mediocre-performing talent base, and not pushing high-performers to stretch themselves.

- **Expecting High-performers to accept less in times of constraint** – while great leaders may buckle down and share tough times for the sake of the company, high-performers are a different category of employee; they expect higher remuneration, reward and bonuses linked to performance, regardless. If their personal remuneration is threatened, high performers are likely to switch to companies who can reward as per their expectations. The message to management is that if all employees are being treated equally, then not enough is being done to reward and retain high-performers.
- **Failing to link High-performers to Corporate Strategy** – high-performers are often very aware of their organisations' financial and growth prospects, with their level of engagement being closely linked to confidence in management strategies. To further engage these assets, management should draw these innovative thinkers into strategic planning areas, to cement their buy-in to medium- and long-term strategy, and to provide a direct link between their output and the targets of the organisation as a whole.

## 2.6 Conclusion

This chapter introduced scenarios faced by software development companies globally, in the retention of high-performers within highly competitive talent markets. Studies illustrated the motivation of software developers to move rapidly within industries to be a global phenomenon, and narrated ways in which leading organisations have succeeded in stemming such attrition or movement, have been compared with similar studies conducted within the local South African market.

Comparison of retention challenges across industries has shown that distinct factors contribute to the movement of employees, regardless of the area of expertise in which these companies operate. Behavioural motivations such as Maslow's hierarchy of needs have been shown to mimic employees' behaviour in the workplace as well, and key behaviours identified as signalling intent of these resources. Employee engagement has been identified as a leading indicator of future mobility of employees, and if recognised early by management and

addressed in a manner that encourages growth not constraint, the loss of high-performers and investment of time by management, can be curbed.

Durban's burgeoning position as a key growth hub for multinational IT companies can be seen as akin to that experienced by Silicon Valley companies in recent decades. The literature reviewed showed that research in this particular KZN niche is lacking, yet is crucial to the continued existence of companies such as the one under study.

A four-fold investigation was thus pursued, to look at prevalent mobility motivation, current retention policies, best-practice retention strategies, and use of these within an organisation to gain competitive edge.

The next chapter looks at the empirical study which was undertaken to provide such research data, for the Durban software development talent market.

# **CHAPTER THREE**

## **Research Methodology**

### **3.1 Introduction**

This study focused on the factors affecting attraction and retention of software developers in the Durban region of KwaZulu-Natal. Chapter three details the research approach taken in the elucidation, collection and analysis of data, as assessed against research best practice and current literature in this area.

The areas below specify the design of the research project, the overall aim and objectives of the study, its participants and their geographic location, the approach adopted in gathering research, including sampling methods, data analysis tools and validation, as well as conceded limitations of the research itself.

### **3.2. Aims and Objectives of the Study**

#### **3.2.1 Aim of the Study**

The aim of this study was to identify key factors impacting the attraction and retention of software developers to/within an IT company in Durban, with the goal of utilising talent innovation to create competitive edge in the local industry.

#### **3.2.2 Objectives**

The objectives of this study are:

- i. To determine what drives I.T. sector employees to and within markets;
- ii. To evaluate current recruitment and retention practices at the Durban application software development company, against global best practice;
- iii. To propose an improved Talent Strategy to attract and retain top-calibre employees in a market that is primed for rapid expansion;
- iv. To align Talent Strategy to corporate vision and growth, and develop as a core competitive advantage in accelerating competitive market.

### **3.3 Participants and Location of the Study**

This study focused on the Durban software development industry, specifically in relation to a South African IT Group whose Corporate Head Office was located in Durban. Participants of the study comprised employees, graduate interns and management of the Durban branch, comparative participants from Johannesburg and Cape Town offices, as well as selected stakeholders from competing/complementary software development companies in Durban.

The employee roles targeted in this research, were:

- Graduate/Intern
- Trainee Developer
- Junior Developer
- Senior Developer
- Team Lead
- Manager
- Senior Manager
- Executive.

### **3.4 Data Collection Strategies**

Data obtained in this study was received from respondents sampled in the following manner:

#### **3.4.1 Sampling**

**Cluster sampling** was undertaken with participants based primarily in the Durban office of the software development group, employees from the Johannesburg and Cape Town offices, and participants from the local industry.

A sample 'cluster' constitutes 'a group of population elements as a sampling unit', rather than a sample unit which represents an element of a larger population (Ahmed & John Hopkins University 2009). This approach is often primarily selected for reasons of economy, cost-efficiency and practicality. The most common reason for utilising cluster sampling lies in its economy of implementation, geographic reach

and feasibility. That said however, it is acknowledged that such a targeted sampling approach is constraining in terms of the diversity of its application, and standard errors are known to be higher than other sampling approaches given the same population size (Ahmed & John Hopkins University 2009).

### **3.4.2 Sampling Methods**

**One-stage sampling** was conducted, wherein all elements within the selected cluster were included in the sample group. An online questionnaire was distributed to the sample group, to elicit feedback from key stakeholder groups within the Durban company, its Cape Town Group subsidiary, as well as consenting respondents from the software development industry in Durban.

### **3.4.3 Sample Size**

While the universal population of the business group under study comprised four hundred and fifty seven (457) employees at the time of the study, it was primarily the Durban arm of the company with total employee count of one hundred and sixty one (161), that was being studied herein, as attrition rates and competition within the Durban market had been identified as a challenge.

The specific population being studied at this entity is the software development division (developers, project managers, business analysts, testers, administrators, support teams and management), which represents the sample population of this study - the Durban software development population numbered one hundred and five (105) employees, the Johannesburg subsidiary five (5) employees, the Cape Town office three (3) employees, and the local software development industry eight (8) participants. In total, one hundred and twenty one (121) participants were approached.

At a Confidence Level of 95% ( $Z = 1.96$ ), standard deviation of 0.5, margin of error of 5, the acceptable sample size for a quantitative study is 81 to 107. The online questionnaire targeted respondents across the Durban office and surrounding locality to ensure a response rate in line with this.

### 3.5 Research Design and Methods

In selecting a research approach, the merits of both quantitative and qualitative analyses were considered (refer Table 3.1 below).

**Table 3.1 Contrast of Quantitative and Qualitative Research Methodologies**

Quantitative Approach	Qualitative Approach
Considered a 'hard' science	Considered a 'soft' science
Objective	Subjective
Deductive reasoning to synthesise data	Inductive reasoning to synthesise data
Focus: concise & narrow	Focus: complex & broad
Tests theory	Develops theory
Basis of knowing: cause-effect relationships	Basis of knowing: meaning, discovery
Basic element of analysis: numbers & statistical analyses	Basic element of analysis: words, narrative
Single reality that can be measured & generalised	Multiple realities that continually change with individual interpretation

Given the preliminary stage of analysis required for the issue identified at the organisation under study, it was decided that a quantitative research approach was best suited hereto. Quantitative analysis yields cause-and-effect relationships, and provides statistical trends to allow measurement of prevalent reality based on objective results. For these reasons and given the defined research period of this study, a quantitative research approach was selected.

A **deductive** approach utilising quantitative research was followed in this study, so as to yield specific insight into what drives the new generation of developers in the local landscape. Data was elicited from current/past employees & industry players utilising a questionnaire, and analysed to establish causal/relationship trends.

#### 3.5.1 Description and Purpose

A web-based (online) survey was elected for this body of research, based on its advantages of ease-of-use and ease of follow-up with regard to reminding recipients to participate therein, its quick transfer to statistically analysable spreadsheet data,

as well as the fact that all target population members of this study are fully computer literate. The unavoidable drawback of an online survey remains – respondents can almost instantaneously decide not to respond or not to proceed with their response, as no one-on-one commitment is established with the researcher (Archer 2007).

The quantitative approach utilised herein is referred to as primarily *post-positivist* knowledge development, as it is based on cause- and-effect reasoning, the use of specified variables, research questions, and hypotheses/theory testing (Creswell 2003). In keeping therewith, the online survey is a predetermined instrument which studies participants in context, and interprets collated responses to yield statistical data to substantiate change, reform or further analysis of the population (Creswell 2003).

### **3.5.1.1 Construction of the Instrument**

Literature reviews and secondary data analyses were conducted to establish the suitability of the chosen instrument of data collection utilised in this research – namely, the online web survey. Given the geographic locality of the target population, the need for a high response rate and the anonymity assured by such an instrument, the online web survey proved to be the most appropriate instrument for this purpose. The survey was constructed to address specific areas of the research objectives and was founded on key employee attraction, attrition and engagement theories established by contemporary academic literature on the subject.

The language chosen was English, as all participants of the sample population are fluent therein, and the survey was developed in the following manner:

- Secondary data and literature were scoured and ‘touch points’ analogous to the stated research objectives of this study, were identified;
- Careful sifting of the literature in terms of relevance and applicability to the ultimate aims of the research resulted in a concise set of employee engagement theories and concepts that spoke to the objectives desired in terms of the sample population;

- Consultations with academics and peers were held to test the readability, applicability and thoroughness of the survey questions, and to accurately place these in correlation to each research aim;
- These questions were then published online in random sequence so as to preclude researcher subjectivity in the eliciting of participant response, and further tested for ease of use and clarity.
- Final published survey questions were revised per pre-testing feedback, and the final version published online.
- The targeted population sample was then individually invited to participate therein, by providing a URL link to the online survey via a personalised email explaining the purpose of perceived benefits of the research effort.

#### **3.5.1.2 Recruitment of Study Participants**

The participant pool was selected based on a high-demand software development skillset, within a specific geographic locality. Permission to approach this defined participant pool for feedback was obtained from the company executive before the survey was finalised. Due consideration was given to ensuring that no ethical boundaries were breached, through the use of informed consent requests following explanation of the scope and objectives of the study, and by assuring participants that all feedback was collated under assurance of anonymity – a key advantage of online web surveys.

The online survey was launched on QuestionPro.com, and its URL distributed to selected respondents, who were required to accept the stated terms of participation in order to proceed with the survey itself.

#### **3.5.2 Pretesting and Validation**

Pre-testing of the online questionnaire was conducted by professionals in the fields of management and information technology, whose backgrounds and experience are similar to the selected survey participants.

### 3.5.2.1 Pretesting

The online web survey served as the primary instrument of data collection in this study. The significance of ensuring the validity of responses and the context in which questions were perceived and answered, was thus of prime importance in ensuring that subsequent interpretation of data was accurate and fit-for-purpose (Norland 1990). Pre-testing was essential for the purpose of ensuring that all respondents perceive, understand and frame their answers to the questions in the same way, and that the survey instrument provided them with the means and ability to fully answer as they wish (Collins 2003).

For this study, the questionnaire was pre-tested on 10 respondents who matched the profile of employees at the Durban IT company being studied. All pre-testers reported successful completion and singular understanding of the survey questions, and the survey was thus extended to its recipient audience.

### 3.5.2.2 Validity

Validity testing was used to determine the existence /measure of built-in error in the measurement instrument (Norland, 1990), and was pre-tested using a panel of testers familiar with the field being studied. Validity in research gathering was tested in a number of ways (Mora 2011):

- **Content validity** (ensuring questions reflected the issue under study and did not preclude key related subjects);
- **Internal or Construct validity** (ensuring questions asked actually explained the desired research outcome);
- **External validity** (establishing the extent to which results could be generalised to the target population represented by the sample *i.e.* the representativeness of the sample);
- **Face validity** (the extent to which respondents viewed the survey as measuring what it purported to measure *i.e.* perceived transparency of the research aim);
- **Construct validity** (the extent to which an outcome or measure predicted a subsequent outcome).

These constructs were used to establish the validity of the questionnaire utilised in this research – it was established that the questionnaire did measure what it was intended to, was representative and appropriate for the sample/population under study, and covered adequately each area of interest to the researcher.

All survey responses were exported to a spreadsheet and analysed as a Statistical Package for Social Sciences (SPSS) database, based on pre-determined scores assigned to each possible response, by the researcher.

### **3.5.3 Administration of the Questionnaire**

Permission to conduct this research was obtained prior to the commencement of the study, and was granted in the form of a Gatekeeper's letter authorising the research to continue, through the use of an online survey. An email was sent directly to selected participants with a direct link to the survey and an explanation of its anonymity, purpose and intended research outcome.

## **3.6 Analysis of the Data**

Questionnaire response data was recorded, coded, categorised, and processed using nVIVO software to interpret trends and findings. Quantitative analysis of respondent data was undertaken utilising SPSS and nVIVO statistical tools.

The known advantages of quantitative analysis of research data included its large respondent scope or sample size reach, which facilitated generalisation of results across a larger population, as well as researcher impartiality in analysing quantitative data which in turn translated to objective and accurate statistical results.

It was acknowledged that the shortcomings of quantitative research were inherent herein, in that participant responses may not have reflected the full or true response to the question at hand (rather only its closest match), and structural bias could have resulted in false representation of responses to reflect preconceived views. However, pre-testing by IT professionals outside of the scope of the population under study established no underlying bias or ambiguity in the survey questions or construct.

Feedback from respondents was invited in the form of multiple choice questions weighing demographics, Likert-type questions measuring extent of agreement/disagreement with key scenarios, and open-ended questions that invited feedback.

### **3.6.1 Likert Scale Considerations**

Likert scaling is a bipolar scaling method which measures positive or negative responses to a statement. A distinction is made below, between Likert Scale and Likert-type questions (the latter form of which has been used in this study).

The Likert scale was developed as a means of translating attitudinal responses into quantitative data (Likert 1932), by combining a set of questions requiring a rating of extreme negative to extreme positive, to represent a distinct attitude or personality trait when these are combined.

Questions presented and analysed as Likert-type items on the other hand, comprise stand-alone questions, which are not analysed as a group, but individually, using mode, median and frequency statistical tools as appropriate (Boone & Boone 2012).

While Likert-type data collation provides a swift measure of general agreement or disagreement on a stated topic, its detractors note that Likert scales may present the following disadvantages in its use:

- Central Tendency Bias: where respondents shy away from selecting 'extreme' response options;
- Acquiescence Bias: where respondents agree with statements based on the particular manner in which they have been presented;
- Social Desirability Bias: where respondents seek to present themselves or their organisation in a more favourable light than is the actual case.

Nevertheless, ensuring robust sampling and appropriate statistical tools are contended to provide sufficient statistical reliability to overcome such bias (Sullivan & Artino 2013). Supporters have also shown that Likert-type analysis of ordinal data converted to numbers and treated as interval data, does lend itself to producing parametric testing for the purpose of calculating means and frequencies (Geoff 2010).

For these reasons, Likert-type questions were used in this research as the most suitable means of identifying patterns in attitudinal traits of the software development resources under study.

### **3.7 Conclusion**

This chapter outlined the purpose of this research study, its overall aims and objectives, and the empirical research methods used to obtain data in pursuit of these objectives.

The participants selected for this study were defined, their geographic location established, and the approach utilised in sampling and ensuring validity and representivity of this sample were clarified. The chapter also identified proposed strategy for assimilation, analysis and interpretation of the data hereby gathered, including software simulation and analysis programmes utilised.

The next chapter presents an overview and analysis of the data obtained via the above process. It was envisioned that the outcome of this research would elucidate areas which require strategic attention or demand complete overhaul of current practices within the Durban company under study, to attract and retain talent that drives the company's vision, and increases its competitive edge in a fast-growing city where talent is highly sought-after.

# CHAPTER FOUR

## Presentation and Discussion of Results

### 4.1 Introduction

This chapter presents the results obtained in the course of this research effort, collated over a three-week period. The total population of software development resources under study was 121. The survey was administered to 95 individuals who responded to the questionnaire, 60 of whom completed all areas of the questionnaire, denoting a sample success rate of 63%.

Respondents targeted in this study comprised business analysts, graduate interns, software developers, software development team leads, managers and executives. Of actual respondents, 55% comprised software/support developers, 9% management, and 7% software team leads and graduate interns, respectively. Software testers and Project managers comprised 4% each. Business analysts contributed 1% to the respondent tally, while respondents categorised as 'Other' contributed to 11% of respondents. This last category comprised senior user experience designers, marketing, business intelligence data modellers, and systems architects. Collated data was then analysed using SPSS version 22. The results of this questionnaire are presented per stated research objective, in graph and tabular form in the pages which follow.

### 4.2 Respondent Demographics

For the purposes of this study, the names of companies have been withheld.

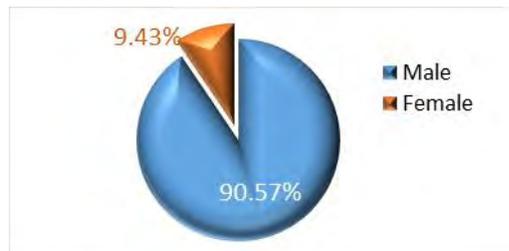
**Table 4.1: Demographic Profile of Respondents**

Employer		
	Company A Dbn	68.5%
	Company A Cp	7.4%
	Company A Jhb	5.60%
	Company A Pta	0.0%
	Company Ter	1.9%
	Company 3P	1.9%
	Company Cyb	3.7%
	Company Drv	1.9%
	Company Eth	1.9%
	Company Pvt	3.7%
	Company Tbr	1.9%



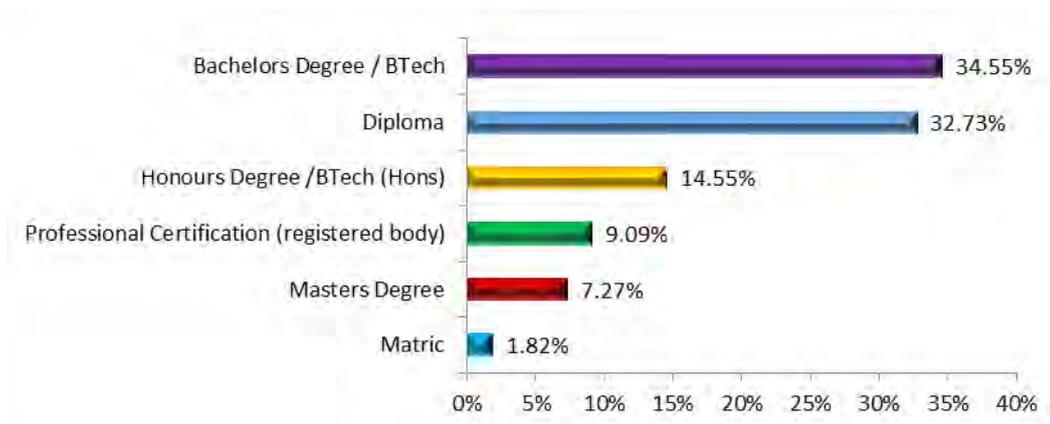
**Figure 4.1: Age Distribution of Respondents**

Results indicated that about two-thirds of the participants (65%) were between the ages of 24 years and 39 years old (Figure 4.1). This matches the findings of the JCSE’s survey of the South African ICT industry(Schofield 2013), which identified this scarce skills set group as falling in the 26 to 45-year old age group (Schofield 2013)



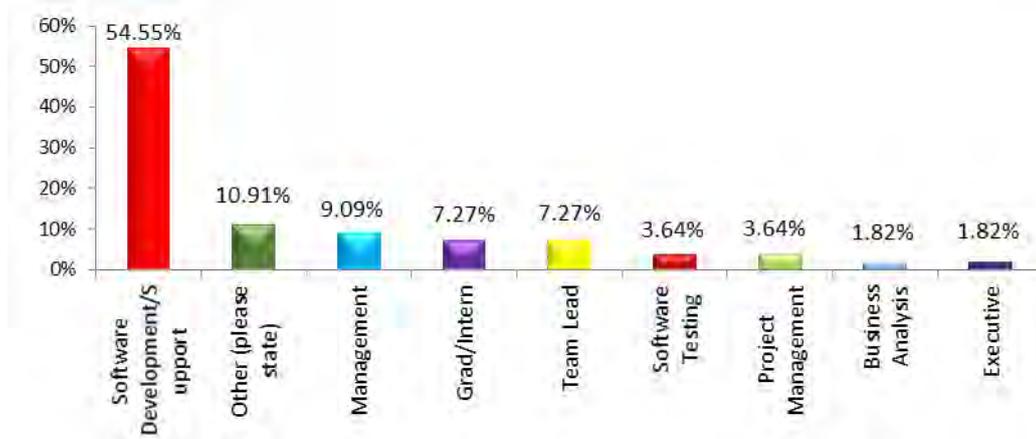
**Figure 4.2: Distribution of Gender**

Almost all software development resources surveyed, were male (91%), indicating a typical target market for talent focus, and a gap in that of gender targeting.



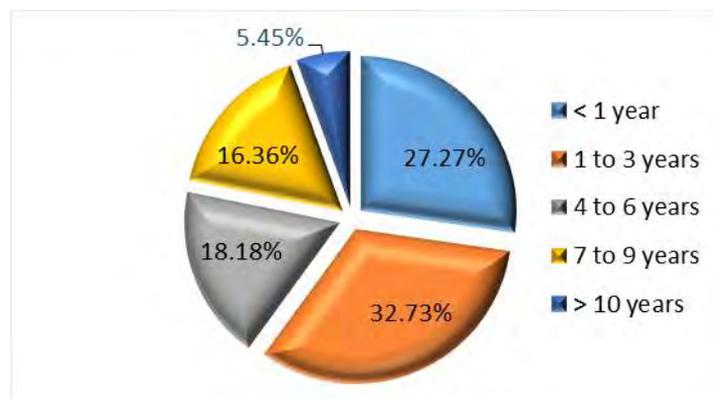
**Figure 4.3: Highest Level of Education of Respondents**

Respondents' educational levels were noted as over a third (35%) holding Bachelor degrees, a third holding Diplomas. The main target market is thus a skilled professional set that qualifies as a scarce skill set group (FASSET 2014).



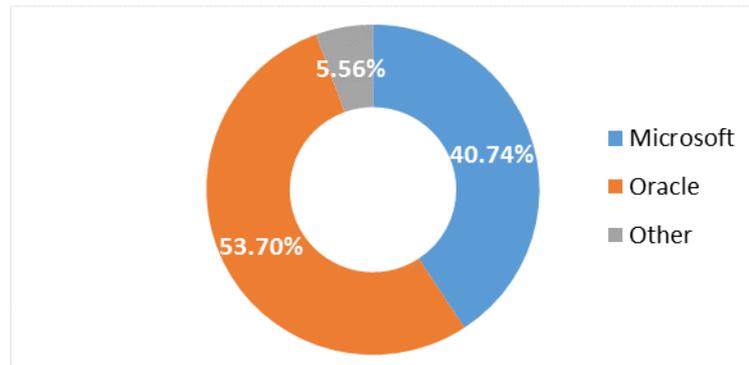
**Figure 4.4: Distribution of Current Role within Organisation**

An analysis of the roles held at the time of survey revealed that more than half of all participants (55%) were employed as software development and/or software support resources. Business analysts and Executive members were noted as comprising less than 2% each, of the respondents (Figure 4.4).



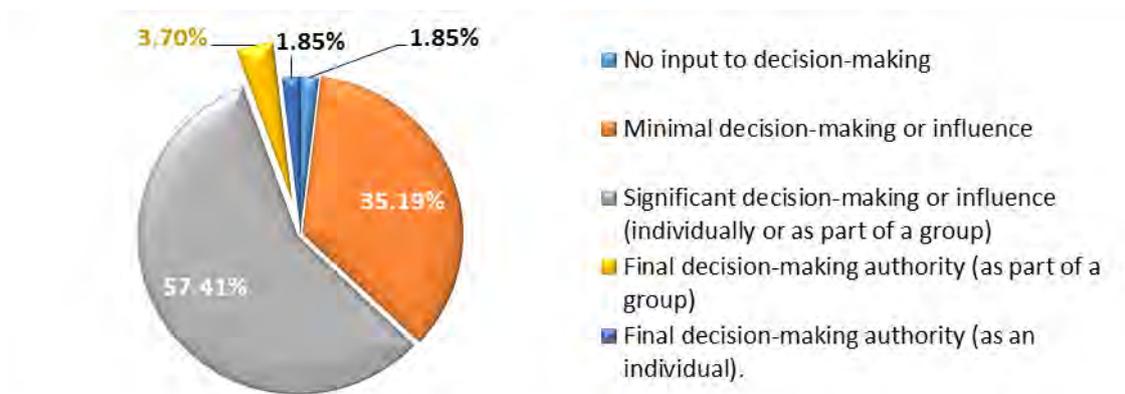
**Figure 4.5: Tenure (years) in Current Role Within Organisation**

A third (33%) of respondents indicated they were at their present company for 1 to 3 years, and only 5% were working at their company for more than 10 years (Figure 4.5), which is indicative of a significant problem with retention. The above numbers imply 38% of employees have left the company in the last 3 years, 56% have left the company in the last 6 years. It implies that over 57% have left the company in the last 3 years, in keeping with the JCSE finding that Gauteng pulls a large portion of the ICT scarce skills talent in SA (Schofield 2013).



**Figure 4.6: Predominant Technology in Current role**

More than half of all participants surveyed (54%), worked on Oracle software platforms or technologies in their current role (Figure 4.6). This presents the company with considerable skills risk from competitors, given the considerably higher remuneration rates offered to this skillset by Gauteng software development companies (30% - 42% more than that of Durban companies (Payscale Inc 2015)).



**Figure 4.7: Level of Decision-making Authority on Work Output**

Of the software development resources surveyed, **less than 4%** reported having any final decision-making authority on their work output (Figure 4.7). It makes this apparent that 96% have reduced or no decision-making powers, which speaks to low engagement levels by the companies surveyed and indicates a likelihood that role stagnation or frustration may arise (Steinmacher et al. 2014).







#### 4.4 Perceived Retention Practices at the Organisation

Nine 5-point Likert-type statements (1 point for strongly disagree to 5 points for strongly agree), were presented to participants to gauge their rating of specific performance measures pertinent to their organisations. First observations of each statement across all companies surveyed, is presented in Figure 4.12 and Table 4.2 which follow. From an overall perspective of all companies surveyed, responses were largely positive with regard to performance measures, standards and growth paths across companies (Table 4.2).

However, the converse assessment shows that between 10 - 36% of respondents disagreed with the quality of performance measures at their organisations. Almost all respondents indicated that commendations and high performance ratings were valued highly by them, but that their companies did not implement these in fair or equal measures. High performers whose output is not consistently linked to reward are likely to resent such practice, and more likely to look elsewhere for higher-performance companies who meet their aspirations by rewarding above-average performance (Martin & Schmidt 2010), (Maphoshe 2013).

##### 4.4.1 Perception of Organisations' Measures of Performance

When measured as average across all companies, participants' statements indicated retention practice was good. For example, 71% mentioned that their organisation has high performance standards, 79% reported that teamwork is encouraged throughout their organisation (Table 4.5).

**Table 4.2 Level of Disagreement or Agreement with Performance Measures Across Organisations (%)**

Statements (all companies combined)#	SD	D	Don't know	A	SA	Mean	stdev
Innovation in work process is highly-valued in my work environment.	3.77	11.32	16.98	<b>50.94</b>	16.98	3.66	1.02
Creativity in is highly valued in my work environment.	3.77	13.21	18.87	<b>52.83</b>	11.32	3.55	0.99
Poor performance is effectively addressed throughout my organisation.	5.66	26.42	30.19	<b>35.85</b>	1.89	3.02	0.97

Statements (all companies combined)#	SD	D	Don't know	A	SA	Mean	stdev
Senior management is held accountable for achieving results.	3.77	11.32	22.64	<b>47.17</b>	15.09	3.58	1.01
My organisation has high performance standards.	3.77	13.21	11.32	<b>54.72</b>	16.98	3.68	1.03
People are held accountable for achieving /not achieving goals.	3.77	22.64	22.64	<b>43.40</b>	7.55	3.28	1.03
We measure job performance to ensure all staff are achieving results.	5.77	11.54	25.00	<b>48.08</b>	9.62	3.44	1.02
Teamwork is encouraged throughout my organisation.	3.77	7.55	9.43	<b>60.38</b>	18.87	3.83	0.96
Performing above set KPI targets is rewarded in my work environment.	9.43	7.55	37.74	<b>41.51</b>	3.77	3.23	0.99
Innovation in work process is highly-valued in my work environment.	3.77	11.32	16.98	<b>50.94</b>	16.98	3.66	1.02

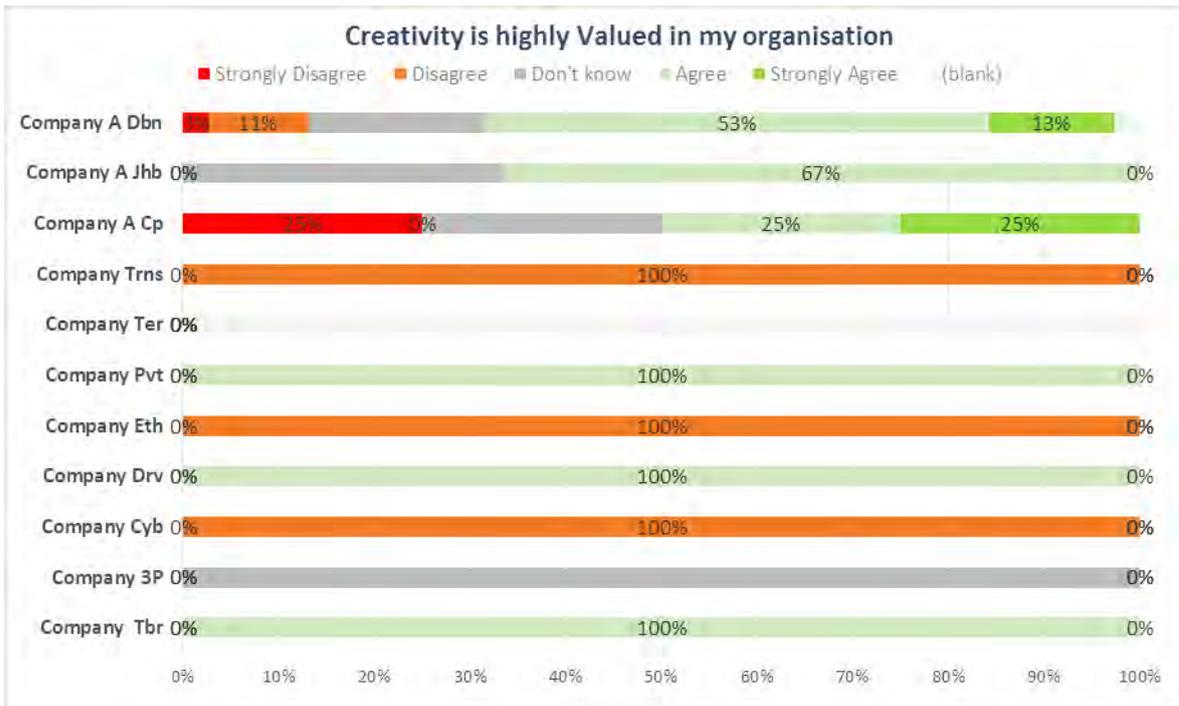
#SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree, stdev = Standard Deviation

However, when analysed per company, a distinct difference in rating of companies' performance measures was noted. This analysis is presented in the figures which follow.

#### i. Perceived Value of Creativity

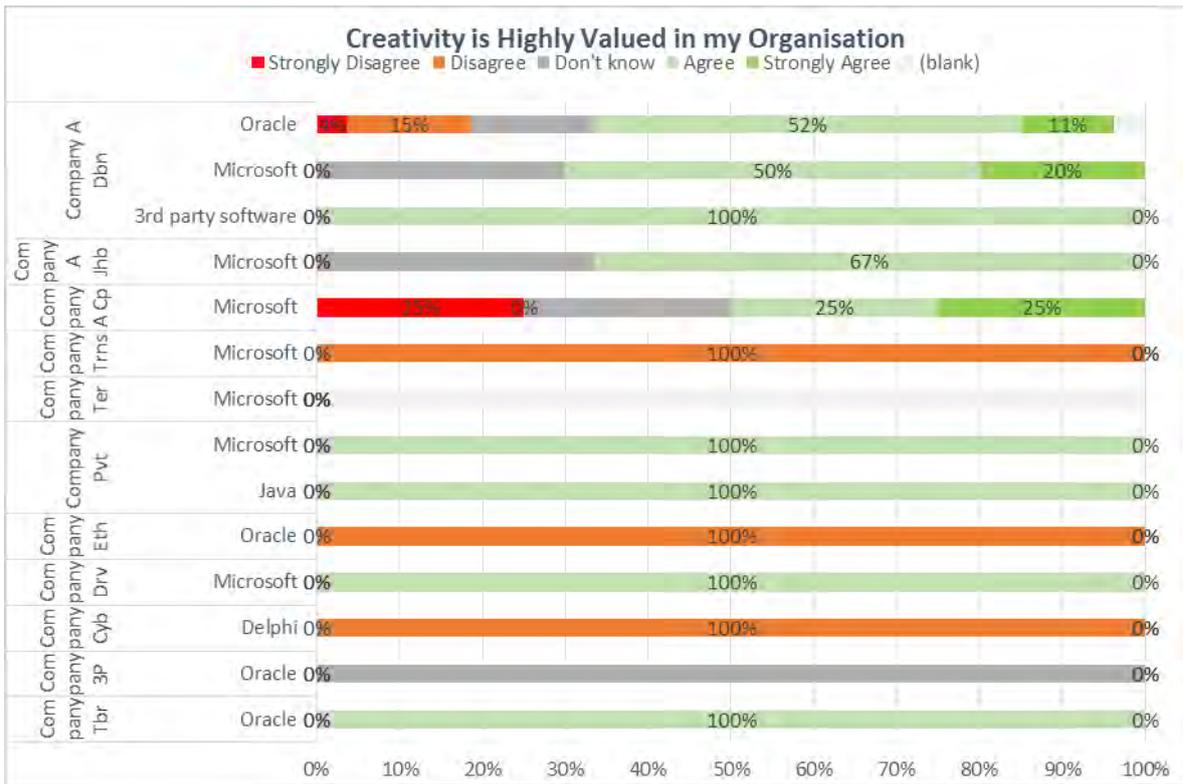
Respondents expressed general agreement that creativity was valued by the organisation (53%), but showed stark contrasts in the rating of its performance measures per company, with only 13% of Company A Dbn indicating that they felt creativity was highly valued. For this reason, respondent feedback was then further investigated per technology stack, to learn more about the discrepancy (Figure 4.13).

Company A Cp displayed starker contrast – a quarter of all employees extremely disagreed with the statement, a quarter agreed with it, and a quarter agreed strongly! Company A Jhb showed no negative perception of creativity as valued by the organisation (67% agreeing that creativity was valued). Results indicate that employees are not equally engaged at Company A, and that standardisation of performance measures may be required.



**Figure 4.12: Perceived Value of Creativity Within Organisation (%)**

A breakdown of perception of value appreciation per technology stack (Figure 4.13), at Company A Dbn revealed that 70% of Microsoft technology employees reported creativity as valued by their organisation, while the Oracle technology stack showed strong contrast: 19% of its Dbn employees contended that creativity was not valued by Company A Dbn. This seems to indicate that employee engagement and performance reviews are not uniformly measured nor implemented across Company A Dbn.



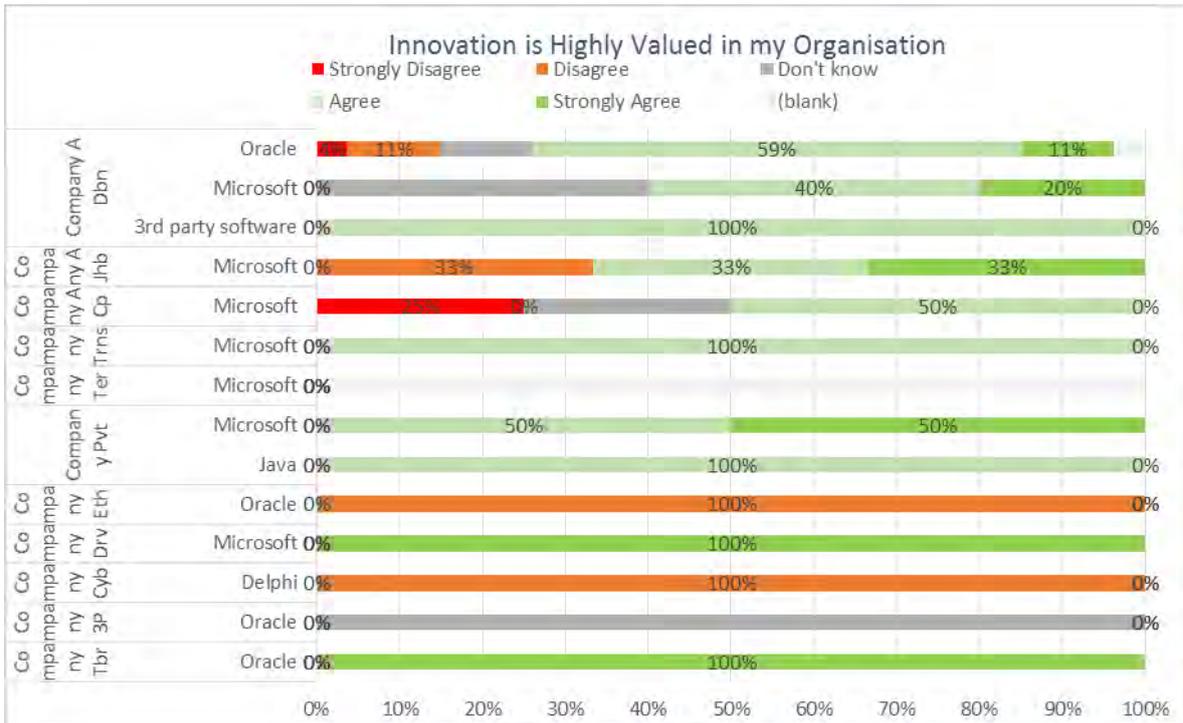
**Figure 4.13: Perceived Value of Creativity per Technology Stack**

Company A Cp respondents revealed 25% felt their organisation did not value creativity. Companies Drv, Tbr and Pvt were unilaterally highly-rated in terms of their appreciation of Creativity of employees. A look at the practices encouraged at these companies is worth noting, and mentioned in chapter 5.

Employees of Companies Eth, Trns and Cyb unilaterally rated their organisations as not valuing creativity in their review of performance. It is noted that the first two companies are in fact municipal organisations, and the third is a software development company affiliated with a national department.

Subsequent analyses are presented per technology stack, for more insight.

## ii. Value of Innovation



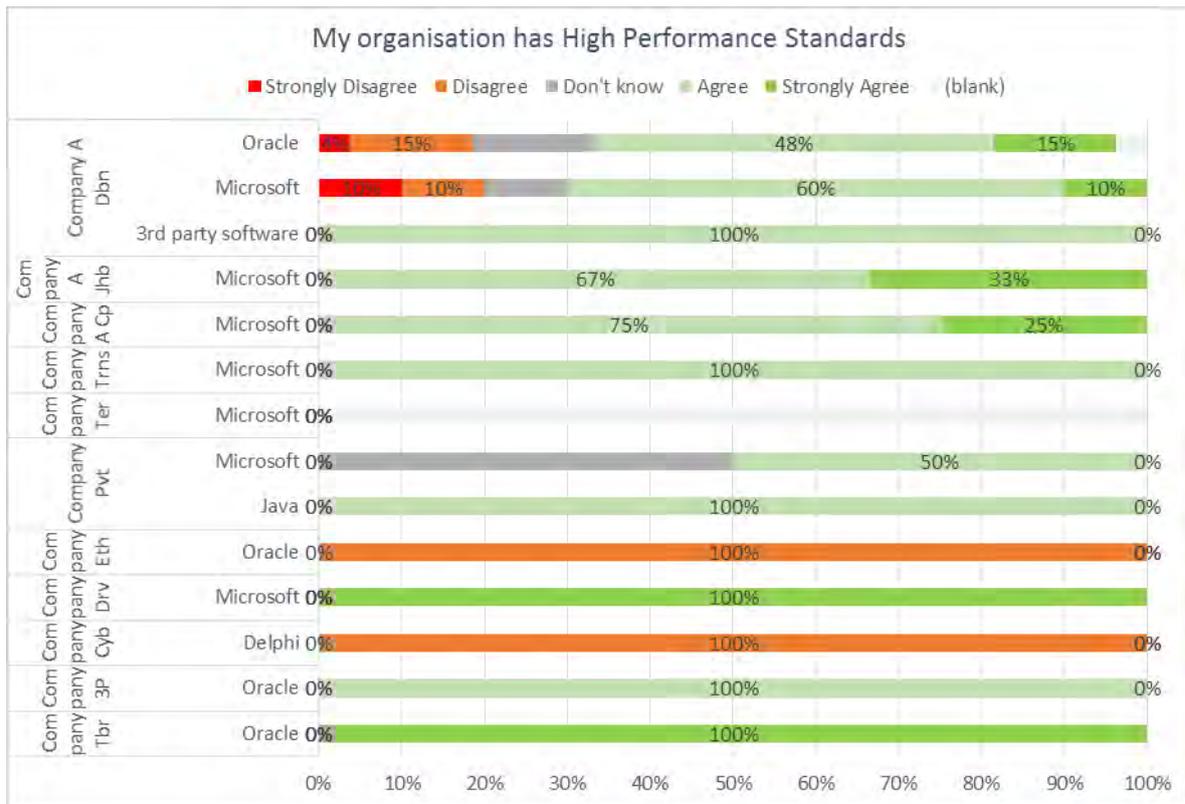
**Figure 4.14: Perceived Value of Innovation per Technology Stack**

Fifteen percent of Company A Dbn respondents on the Oracle technology stack voiced disagreement with the statement the innovation was valued by the organisation, while the Microsoft team respondents voiced positive acceptance of the value of innovation (20% in strong agreement). This discrepancy indicates again that the teams experience differing performance measures at the organisation.

Feedback from Company A Jhb respondents display equivalent agreement/disagreement with the value of Innovation at their company. Half of Company A Cp respondents expressed general agreement of the value of innovation at their company, while Companies Drv, Pvt and Tbr again showed only positive feedback on this question.

Eth and Cyb again reflected disagreement with the statement, a trend noted on all performance questions.

### iii. Perceived Performance Standards at Organisation



**Figure 4.15: High Performance Standards Within Organisation**

Performance standards were questioned by respondents of Company A Dbn with 19% denying the statement on the Oracle stack, and 20% indicating similar on the Microsoft stack. The proportion of detractors is significantly high enough to warrant follow up by the company, especially as Company A Dbn was the only company to rate high disagreement from its employees.

Company A Cp reflected agreement with high performance standards at their organisation, while Companies Drv, Tbr, 3P, Trns, and Pvt all reported in the positive (agreement that high standards were practiced at their organisations).

#### iv. Perception of Employees being Held Accountable for Goals

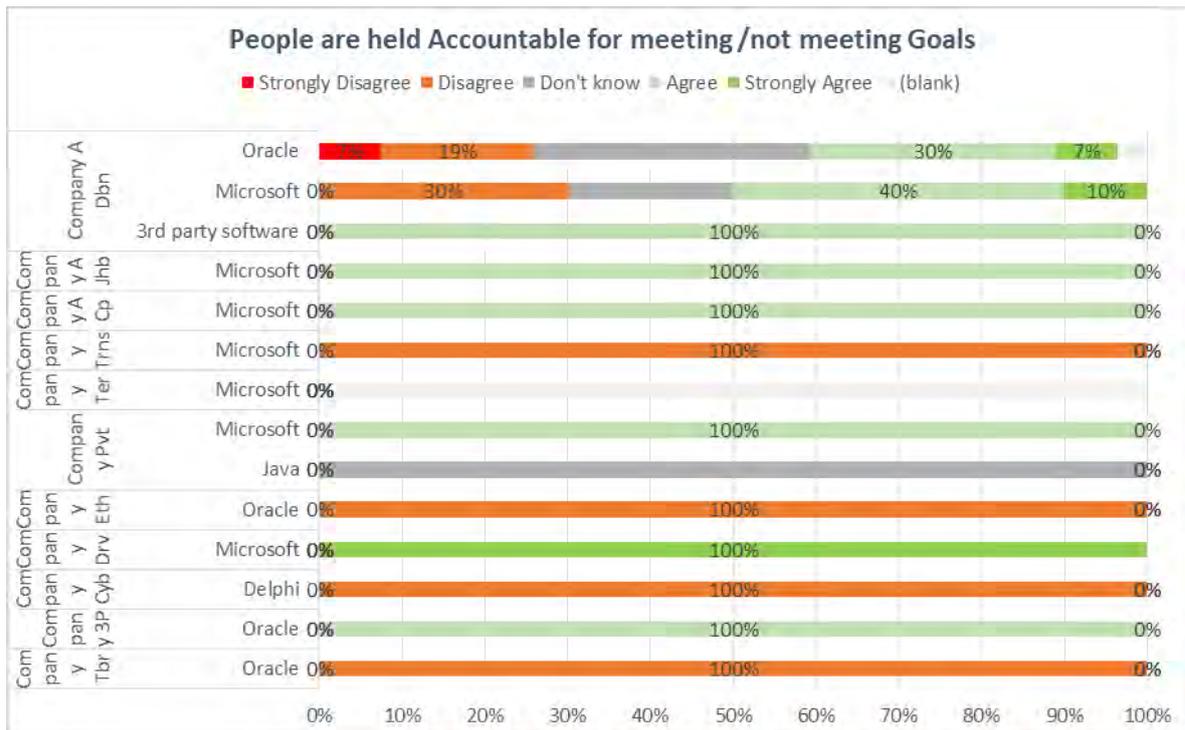
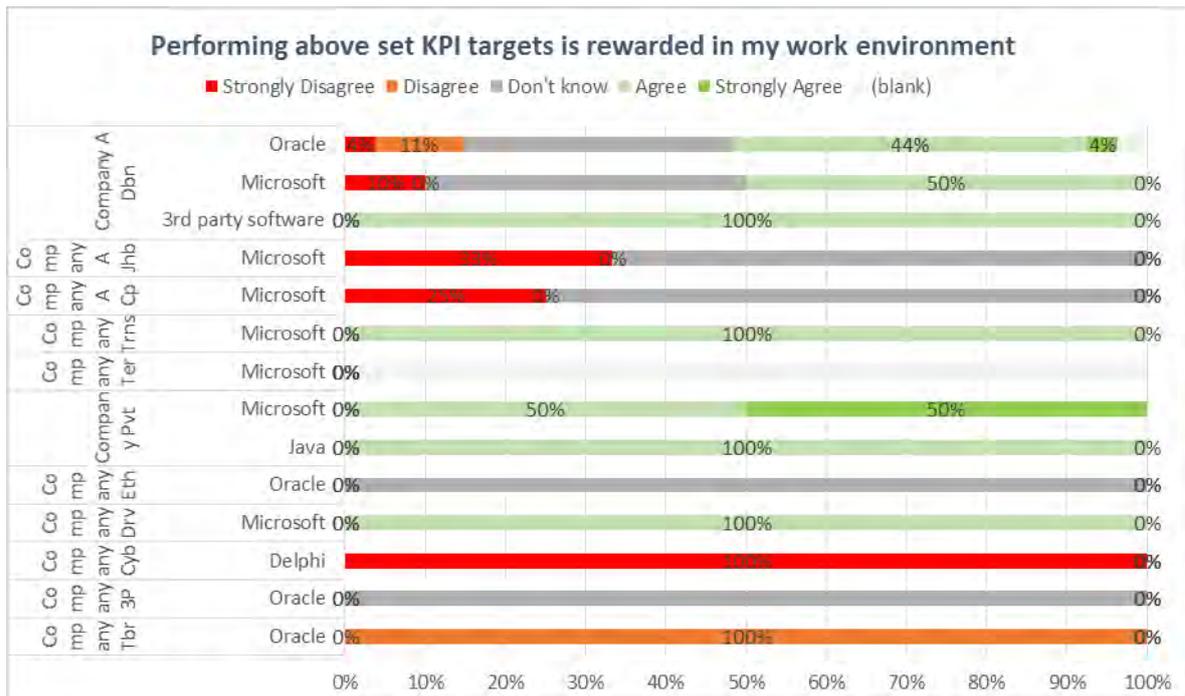


Figure 4.16: Accountability at Organisation

Over 25% of Oracle team employees at Company A Dbn voiced disagreement on accountability of non-performers at the organisation, while 30% voiced the same on the Microsoft teams.

This indicates a clear indication that accountability is not seen as sufficiently upheld at Company A Dbn, in contravention with the company's espoused Values - which speaks to a breach of the organisation's integrity as perceived by employees (MacLeod & Clarke 2012).

**v. Perception that Above-KPI Performance is Rewarded at Organisation**



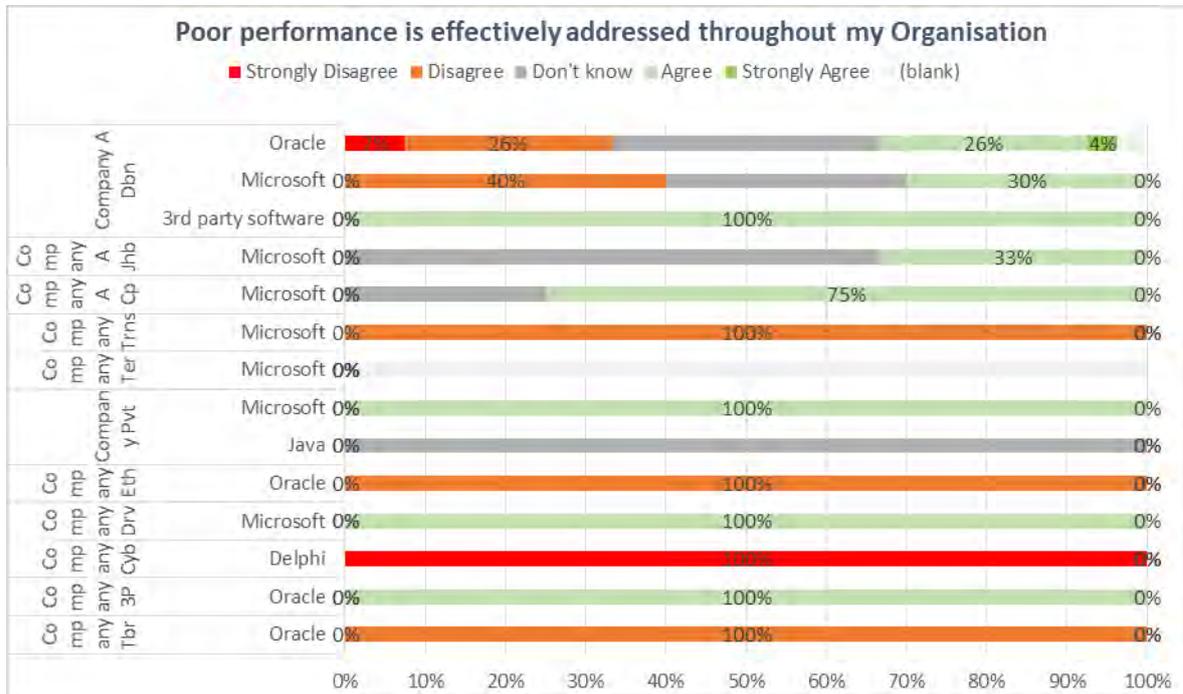
**Figure 4.17: Linking of above-KPI Scores to Rewards**

Fifty percent of respondents at Company A Dbn felt that employees were rewarded for performing above KPI target. Of concern is the implication that 50% do not feel that increased performance is rewarded by their organisation, across all technology teams.

No respondents from Company A Jhb or Cp felt that above-KPI performance was related to reward.

Companies Tbr and Cyb again reported negatively on this question. On the other hand, all employees from Companies Drv, and Trns and Pvt reported that their organisation linked reward to outperformance on KPIs.

**vi. Perception that Poor Performance is effectively addressed is Organisation**



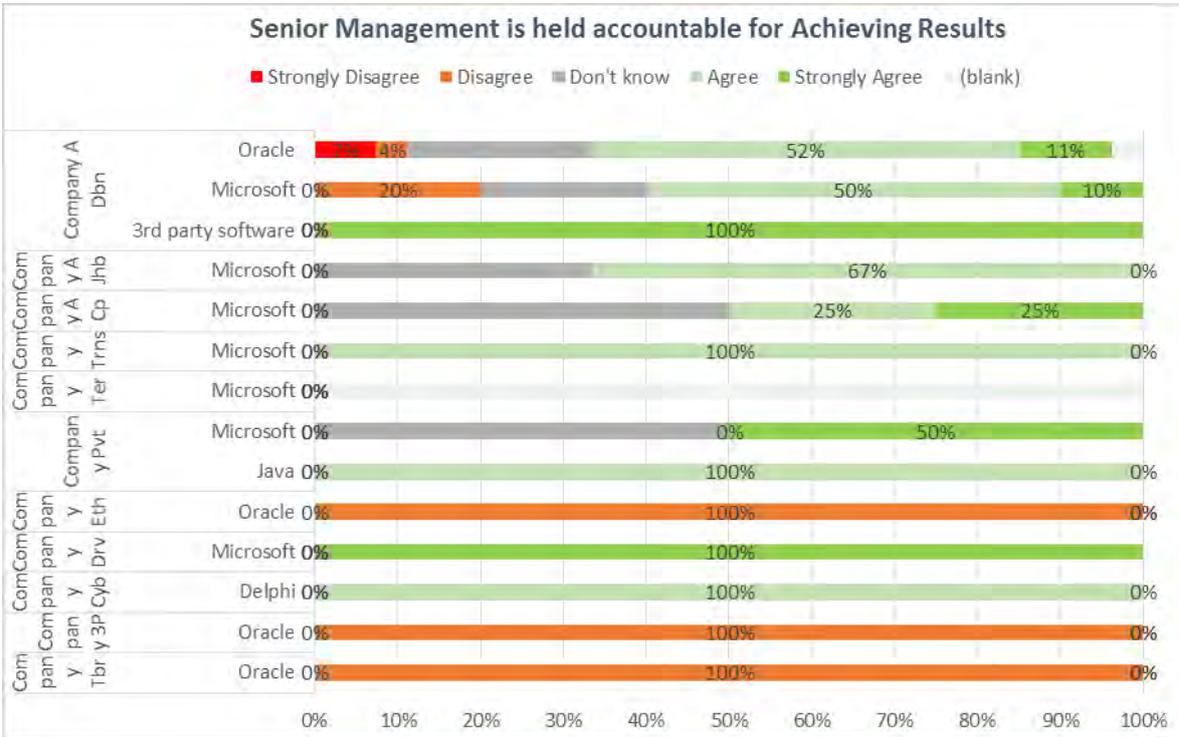
**Figure 4.18: Poor Performance Repercussions**

Unlike earlier questions, this statement elicited significantly more negative responses - with most participants reporting disagreement.

Of Company A Dbn’s employees, over two-thirds did not express agreement that poor performance is effectively addressed in the organisation – an alarming proportion, which is likely to de-motivate existing high-performers who are faced with such inaction (Harris & Alter 2014).

Notable exclusions were participants from Company A’s Jhb, Cp and 3<sup>rd</sup> party software contractors, as well as Companies Drv and Pvt, who expressed agreement that their organisations effectively addressed poor performance.

**vii. Perception that Senior Management is Accountable for Achieving Results**



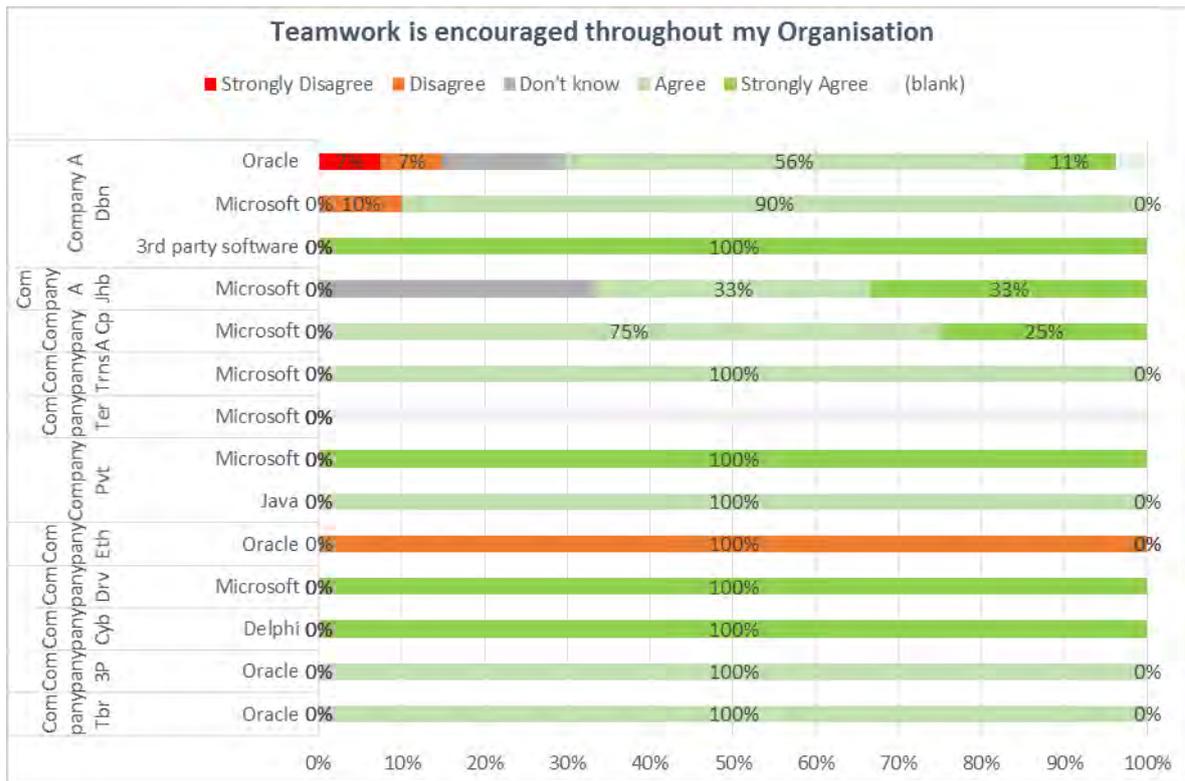
**Figure 4.19: Accountability of Senior Managers**

Company A Dbn showed the highest dissensus with this statement, amongst the Company A group. This implies that around 40% of Company A Dbn employees surveyed appear to have lost trust or faith in their leadership, a key contributor to talent attrition (Erickson et al. 2012).

Companies Eth, 3P and Tbr also expressed disagreement with senior management accountability in their organisations.

All other companies indicated senior management accountability to be strong.

### viii. Perception that Teamwork is Encouraged in Organisation

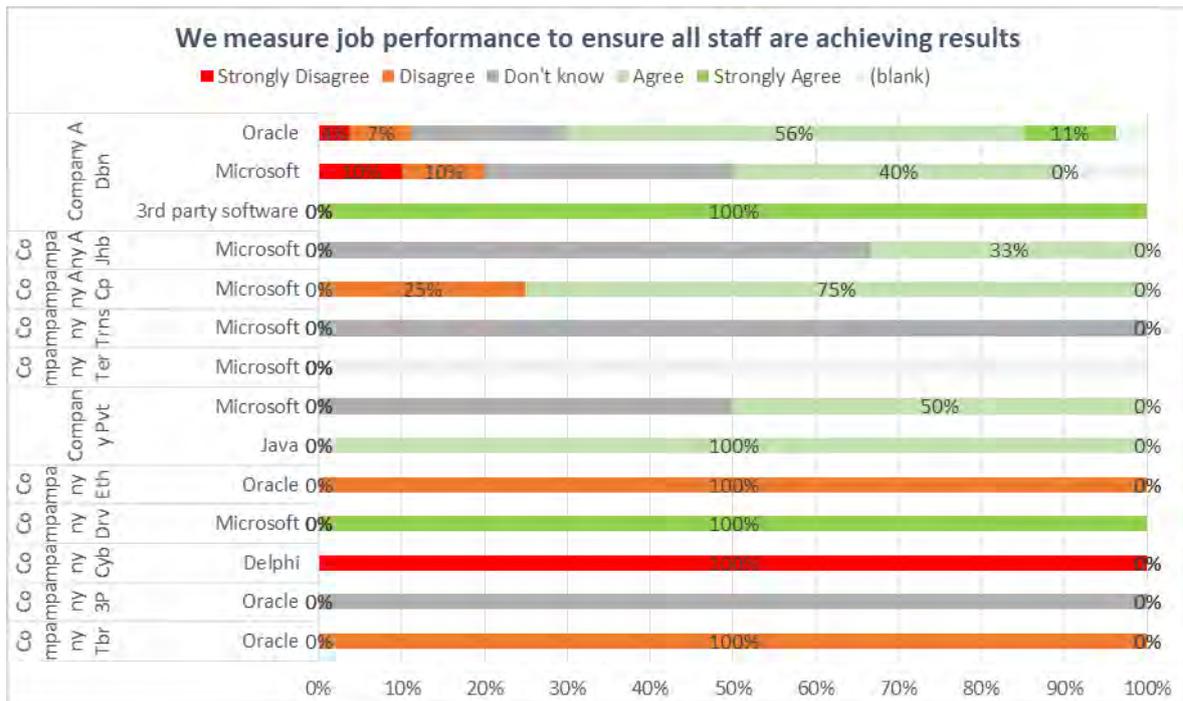


**Figure 4.20: Teamwork Encouragement**

Lack of encouraged teamwork was reported by participants from Company A’s Dbn office only, with 33% of Dbn Oracle respondents indicating lack of teamwork in their work areas.

This is concerning as a lack of teamwork stifles growth, breeds dissention and reflects a lack of engagement across teams, reflecting a lack of shared purpose and diminishing potential output of the company as a whole (Bersin 2012).

**ix. Perception that All Staff are Equally Measured on Job Performance**



**Figure 4.21: Equality of Performance Measures**

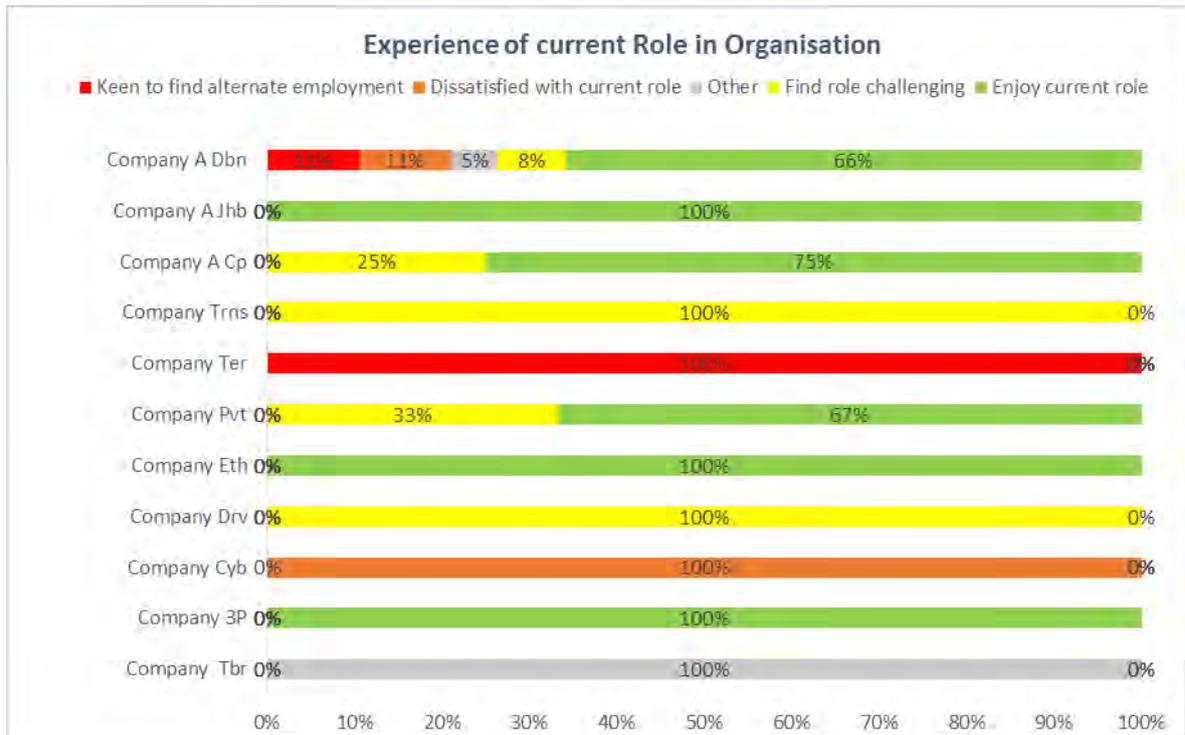
With the exception of Companies Drv, Pvt and Company A Dbn’s 3<sup>rd</sup> party software resources, all other participants of the survey expressed disagreement with the standardisation and delivery of company-wide job performance measures.

Company A Dbn respondents reported 33% to 60% of respondents not expressing a perception that staff were equally measured as to performance, indicative of a significant need to re-assess the performance measures practiced at the company.





This result was further interrogated per responding company, and yielded results shown below:

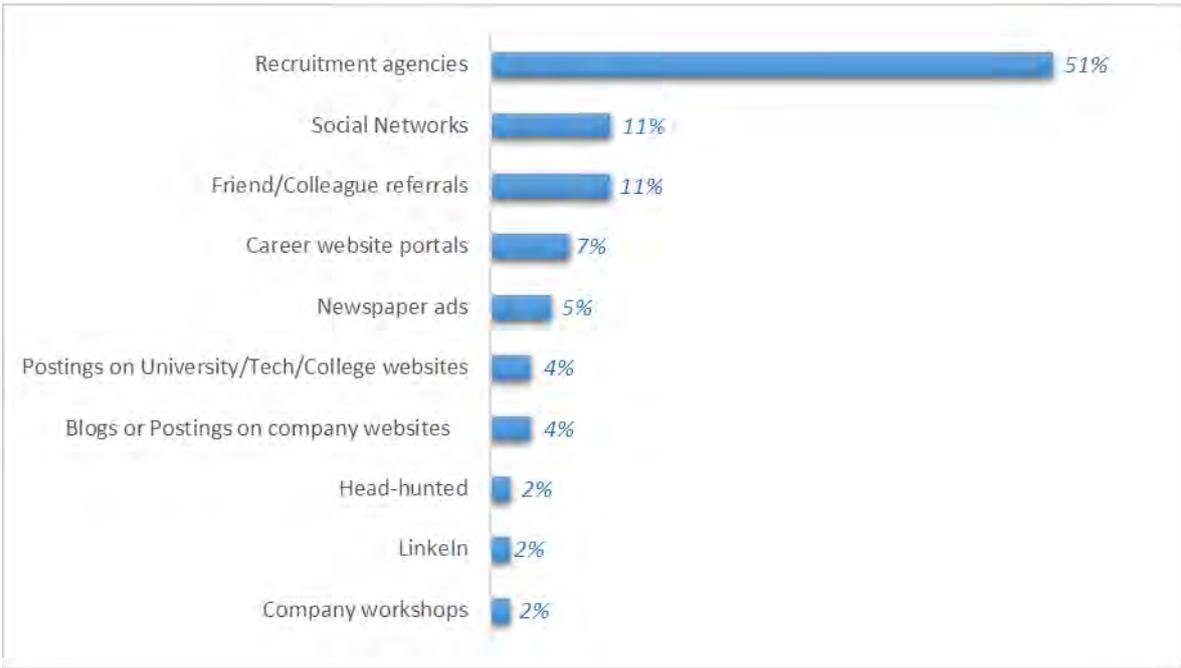


Of Company A offices, only the Dbn entity reported dissatisfaction and intention to leave the company, with sentiment echoed by 22% of Company A's surveyed Durban employee contingent.

## 4.5 Talent Strategies that Attract and Retain High-Demand Employees

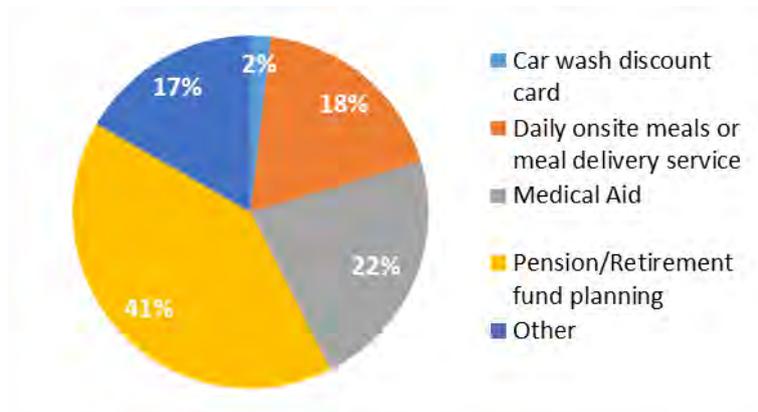
### 4.5.1 Talent Procurement Channels

Half of the participants (51%) mentioned that they used recruitment agencies whereas 11% reported using social network to look for the jobs (Figure 4.25).



**Figure 4.25: Channel Most-often Used to Look for Job Opportunities**

When asked what they would value most as a company benefit, 41% indicated pension/retirement fund planning followed by medical aid (22%) (Figure 4.26).



**Figure 4.26: Company Benefits Most Valued**

#### 4.5.2 Perception of Training and Resourcing

Participants were asked to rate levels of training and information provided. There were three statements in this section. Results across all companies and all participants on average showed the majority of the participants (>77%) agreed or strongly agreed with the three statements. For example, 83% positively reported that they had resources, knowledge and training they need to execute their job well,

and 81% positively indicated that the necessary information systems are in place and accessible for them to get their jobs done (Table 4.3).

**Table 4.3: Level of Training and Information provided within Organisations (%)**

Statements <sup>#</sup>	Rating						
	SD	D	Don't know	A	SA	Mean	stdev
I have the resources, knowledge and training I need to execute my job well.	3.77	5.66	7.55	<b>60.38</b>	22.64	3.92	0.94
I have all the information I need to do my job effectively.	5.66	9.43	7.55	<b>62.26</b>	15.09	3.72	1.03
The necessary information systems are in place and accessible for me to get my job done.	5.56	7.41	5.56	<b>68.52</b>	12.96	3.76	0.97

<sup>#</sup>SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree, stdev = Standard Deviation

Organisation-level analysis however, revealed that Company A Dbn was the only employer whose respondents answered in the negative – with 18% of their employees not indicating agreement that resources, training and knowledge required for execution of their role, had been provided by the company.

Company A Dbn was also the only company whose employees (30%) did not indicate agreement with the statement that they had all the information they needed to perform their job effectively. Likewise, 24% of Company A Dbn employees did not indicate agreement with the statement that necessary information systems were in place and accessible, to enable them to get their jobs done.

All other companies' employees replied positively in varying degrees, to this question, indicating that training, and provision and sharing of information and resources is an area of concern specific to Company A Dbn. Withholding core information and skill fosters perceptions of exclusion and lack of transparency, which eats away at employees' assessment of organisational integrity and reduces their loyalty or sense of belonging within the organisation (MacLeod & Clarke 2012).





a strong solutions focus in their organisation, supported by an understanding of customer environments and technology (Table 4.4).

**Table 4.4: Rating of Values as Practiced Across Organisations**

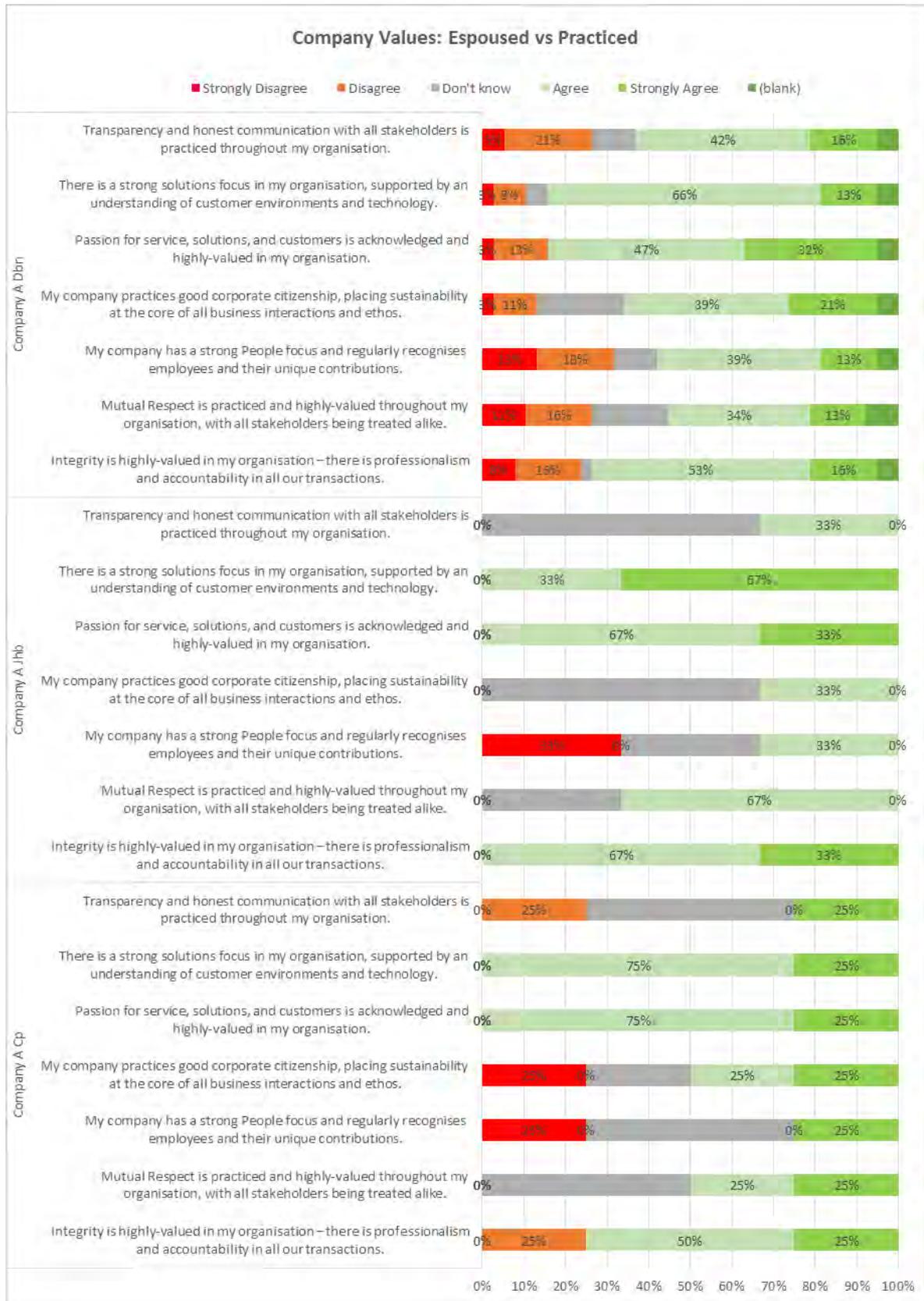
Statement <sup>#</sup>	Rating						
	SD	D	Don't know	A	SA	Mean	Stdev
Integrity is highly-valued in my organisation – there is professionalism and accountability in all our transactions.	5.66	15.09	1.89	<b>58.49</b>	18.87	3.70	1.12
Passion for service, solutions, and customers is acknowledged and highly-valued in my organisation.	1.89	13.21	0.00	<b>52.83</b>	32.08	4.00	1.02
Transparency and honest communication with all stakeholders is practiced throughout my organisation.	5.66	18.87	15.09	<b>43.40</b>	16.98	3.47	1.15
Mutual Respect is practiced and highly-valued throughout my organisation, with all stakeholders being treated alike.	9.62	13.46	19.23	<b>42.31</b>	15.38	3.40	1.19
There is a strong solutions focus in my organisation, supported by an understanding of customer environments and technology.	3.77	5.66	7.55	<b>66.04</b>	16.98	3.87	0.90
My company has a strong People focus and regularly recognises employees and their unique contributions.	15.09	15.09	13.21	<b>37.74</b>	18.87	3.30	1.35
My company practices good corporate citizenship, placing sustainability at the core of all business interactions and ethos.	3.77	9.43	22.64	<b>43.40</b>	20.75	3.68	1.03

<sup>#</sup>SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree, stdev = Standard Deviation

This was further analysed, specifically in regard to Company A's practiced Values. Conflict in employees' perception of delivered People Focus was apparent at all of Company A's offices. Company A Cp reported concerns about good corporate citizenship.

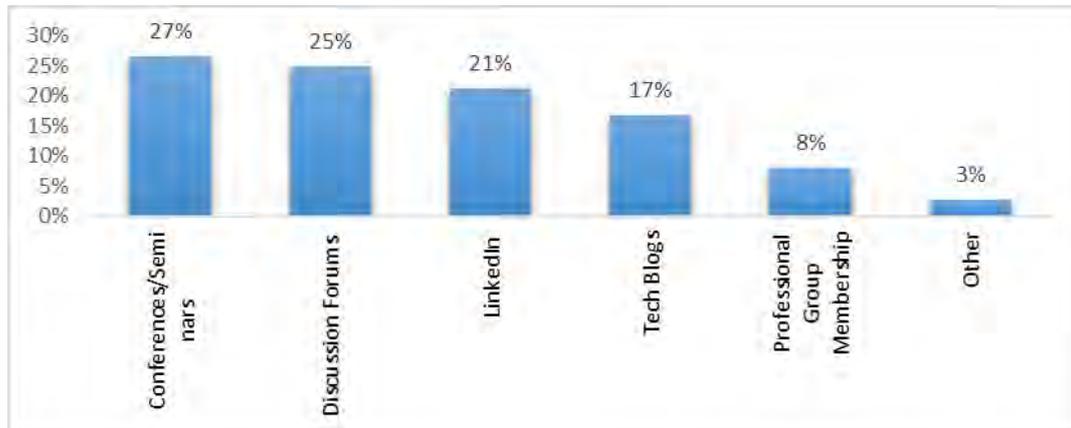
Company A Dbn was by far the most concerning, as every one of Company A's espoused values of Integrity, Passion, Transparency, Mutual Respect, Solutions Focus, People Focus and Good Corporate Citizenship, were reported as lacking in practice. This finding again emphasised the breakdown of trust and faith in leadership at the organisation, and raises a red flag that employees' perception of corporate integrity was low, a circumstance that negatively impacts likelihood of such resources remaining with the company (MacLeod & Clarke 2012)(Jins & Radhakrishnan 2012), reduces their engagement hence performance levels over

time, and impacts considerably on sustainability of the organisation (Haanaes et al. 2011).



**Figure 4.30: Company A Values: Espoused vs Practised**

## 4.6.2 Preferred Means of Networking



**Figure 4.31: Most Effective Methods of Networking**

Results had showed that more than a quarter (27%) of the participants indicated that conferences/seminars were the most effective, followed by discussion forums (25%), for networking (Figure 4.31). This indicates that for the target market being pursued, active participation in Technical conferences and forums will likely raise the profile of the organisation and keep employees more engaged with continued innovation and improvement of product lines – an area that is receiving minimal attentional most of the companies surveyed – with the exception of Companies Drv and Trns, who repeatedly show high engagement in this study.

## 4.6.3 Perceived Quality of Work Experience

Table 4.6 summarises overall participants' rating of quality of their work experience. It was found across all organisations, that all the statements had a mean score of 3.11 or higher from 5-point Likert-type ratings. This meant that more participants agreed or strongly agreed to all the statements. For example, 47% participants strongly agreed that receiving maximum performance ratings gave them a sense of personal satisfaction, 93% positively mentioned that receiving commendations on work output gives them a sense of personal satisfaction, and 92% positively indicated that they understood how their work directly contributes to the overall success of their organisations (Table 4.13).

**Table 4.6: Rating of Quality of Work experience (%)**

Statements <sup>#</sup>	SD	D	Don't know	A	SA	Mean	StDev
I enjoy my work environment.	3.64	14.55	1.82	56.36	23.64	3.82	1.07
I identify with the vision and identity of my organisation.	1.82	9.09	7.27	61.82	20.00	3.89	0.90
I understand how my work directly contributes to the overall success of the organisation.	1.89	3.77	1.89	56.60	35.85	4.21	0.82
I understand my organisation's strategic goals.	1.82	9.09	9.09	61.82	18.18	3.85	0.89
Receiving maximum performance ratings give me a sense of personal satisfaction.	1.82	1.82	10.91	38.18	47.27	4.27	0.87
Receiving commendations on work output gives me a sense of personal satisfaction.	1.82	0.00	5.45	49.09	43.64	4.33	0.75
My organisation has a defined technical skills development path to measure and enable growth.	9.09	20.00	20.00	40.00	10.91	3.24	1.17
My organisation has a professional development path to facilitate growth within the organisation.	10.91	25.45	18.18	32.73	12.73	3.11	1.24
My managers guide my skills development roadmap.	7.27	14.55	29.09	41.82	7.27	3.27	1.04
I am encouraged to learn from my mistakes.	1.82	7.27	10.91	61.82	18.18	3.87	0.86
There are Non-value-adding processes in my work environment that impede my efficacy /work output.	5.45	23.64	20.00	41.82	9.09	3.25	1.09

<sup>#</sup>SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree, stdev = Standard Deviation

Findings were then further analysed to gauge employee's experience at Company A in particular. Company A results however, (Figure 4.34), showed all Company A offices reporting as most significant the *lack* of a professional development path as impeding personal and professional fulfilment, followed by lacking technical skills development paths, and the fact that non-value adding processes existed in daily tasks. Poor perception of work life and culture is shown in research to have a high correlation with attrition rates (Ratna & Chawla 2012), and to strongly influence productivity and tenure of employees (Celia & Karthik 2012) This is reflected in the high attrition rates being experienced by Company A Dbn.

Manager's not guiding employee skills development path was cited by all sites. Employees of Company A Dbn reflected the most disagreement in understanding the organisations' strategic objectives and how their own roles contributed to this – indicating disengagement and low employee commitment in terms of 'ownership' of the organisation's culture, purpose and identity – a phenomenon which has been shown to cause talented employees to seek alternate employers(Olckers & Du Plessis 2012).



**Figure 4.32: Quality of Work Experience**

## **4.7 Conclusion**

This chapter detailed the data collated from participants approached in this study. Such data was analysed across participating companies, and further interrogated to the level of individual companies and technology stacks to reveal underlying factors influencing talent attraction, retention and attrition.

Industry and company-level trends revealed commonly recurring issues being experienced by respondents, and red-flagged areas of concern that require attention from senior management, in order to stem the loss of talent from organisations.

The chapter which follows will discuss in detail the implications of these results and their impact on talent retention at the primary company under study, and make recommendations as to how to address these findings.

## **CHAPTER FIVE**

### **Conclusions and Recommendations**

#### **5.1 Introduction**

The long-term sustainability and growth curve of any organisation is highly dependent on the skills set, commitment and performance of its resources. More so in the ICT industry, where skills are in high demand and competition for top-performers great, the ability of a company to attract the right people, engage and motivate them to their full potential, and retain their talent as a corporate asset and competitive advantage, are crucial to financial success.

This study was motivated by an identified high rate of attrition of software developers and key development resources at Company A Dbn. The research conducted elicited feedback on the reasons for such movement, and gauged perceptions of employees as to the desirability of the company as an employer. Given Durban's geographic characteristics and the burgeoning commercial boost it is currently undergoing, the study included employees from other Durban ICT companies, and from other Company A cities, as a control /comparative measure.

The objectives of the study sought to identify the factors affecting retention within the industry and across Company A, and to quantify employees responses in order to correlate these with established current literature in the field, with the aim of proposing an improved talent strategy that would stem the loss of high-performers and give Company A Dbn a competitive edge in the market.

#### **5.2 Key Findings**

The findings of this research have been addressed per research objective set out at the start of the project.

### **5.2.1 Determination of What Drives High-performing Software Developers to and Within markets**

The study found that industry perception and image of the company attracts a large number of employees to the company. Company A invests significant time and finances in crafting public marketing initiatives such as web postings, media announcements and commentary by the CEO, hosting software partnership events such as Oracle road shows, and in recent years, in holding career days and internship programmes at ICT colleges and universities to attract newly-qualified IT graduates. This approach has been proven successful by the study, as the majority of respondents were attracted to their company based on its standing in the public eye.

With regard to why they leave the organisation, recurring themes were that of stagnation, lack of growth, dissatisfaction with organisational culture and management disengagement. Company A has been under a protracted acquisition path in recent years, and feedback from employees indicates that they feel undervalued in the process, with management attention focused outward, not in – in contrast with the organisation's stated corporate value of people-focus.

The promise of improved salary and growth opportunities at larger companies presents an ever-present challenge to local companies, but the non-remunerative aspect of retention is within the reach of these organisations. Playing to the unique attractions of the coastal town is key in balancing the lure of big-city money; Durban has a sparkling ocean, sunny days and laid-back culture in social circles – the discrepancy in Company A Dbn is that the culture practiced within its walls is quite different. Clean desks, formal attire, rules on where to eat and how to act negate the benefits gained outside the office from living in the seaside town, and influence employees' decision to leave the company significantly.

Respondents were vociferous in their listing of efficiency-draining processes within the organisation, citing protracted processes (such administrative applications *Sciforma* and *ITSM* time-logging) at Company A Dbn, the company's policy of no eating allowed at desks, and internet constraints, as examples. A third or more of

employees at all office of Company A reported that considerable non-value adding processes existed at their company, indicating an urgent need for efficiencies to be re-assessed and process changes made at the organisation.

### **5.2.2 Evaluation of Recruitment and Retention Practices at Dbn Software Development Company, against Global Best Practice**

The proportion of employees with tenure of less than 6 years at Company A Dbn indicates that retention practices at the organisation are in need of attention. Especially given the limited market of IT professionals in the Durban area, retaining and further developing those who join the organisation is crucial to company growth and innovation.

The statistics reveal that just under a quarter of all employees surveyed at Company A Dbn, are dissatisfied with their role or keen to seek alternate employment. This is alarming as it indicates the high attrition rates are continuing, if not escalating, at the organisation.

The software development sector is in essence a field where innovation and ingenuity is a highly-valued and highly lucrative skill. Resources who display these skills are sought after, but their retention can lead to hugely profitable changes in the direction of a company's growth, such as the ingenuity of Tony Fadell who changed the music habits of the world with conception of the MP3 player at Phillips, and of the iPod at Apple (Sullivan 2012). Respondents of this survey however, indicated that innovation and creativity carried little weight especially with regard to those employed in the Oracle sector of Company A Dbn. Rigidity and 'do as I say' mentality was reported as quashing initiative. This fits into the revised Maslow hierarchy, at the 'Almost engaged' level of not being engaged enough to know what the big picture is or not proud to be employed at the organisation – an ideal, optimally-performing achiever would be at the 'Highly engaged' level, loving working at the company, feeling that they inspire others, and continually improving their output (Smith 2014).

Employees of Company A Dbn expressed strong dissatisfaction with the inequality of performance measures, the lack of rewards linked to high KPIs, and the lack of accountability against undelivered goals by both managers and staff. This indication that the organisation's retention and mentoring/development practices are lacking is borne out by the continual movement of employees out of the business.

The overwhelming theme reiterated by respondents as to what kept them on at employers of choice, was that of work environment and culture. It is a concept long grasped and practiced by giants in the IT talent wars, such as Google, Microsoft and Facebook, whose approach to creating a work 'life' for employees has broken the conventional mould of office-ruled jobs, and created spaces free of conformity which encourage and promote innovation in all things (Martin 2014).

Such company culture defines 'Quality of Work Life' for employees in an organisation; shown as key to influencing retention, or if lacking, to encouraging exit of key employees by impacting satisfaction and productivity of employees (Celia & Karthik 2012). The correlated impact of company culture on attrition and retention rates is a theme that repeatedly surfaces in attrition studies (Ratna & Chawla 2012), (Tillott et al. 2013), (Dwivedi et al. 2014).

That significant numbers of Company A Dbn employees identify an inflexible work culture as a concern, is telling; if thought is not directed toward developing a corporate culture that attracts and retains developers of high calibre, the company may need to rely more and more on remunerative incentives only; a policy that is impossible to maintain in the long run.

The study quantified a proportion of 22% of employees at Company A Dbn, whose experience at the entity has resulted in an expression of dissatisfaction with their current role, with half this number keen to find alternate employment. The organisation is likely therefor to continue losing investment made to date in resourcing and up-skilling these mobile resources.

### **5.2.3 Talent Strategy for Attracting and Retaining Top-calibre Employees in Market Primed for Rapid Expansion**

Almost two-thirds of all respondents were between the ages of 24 and 39 years' old, which indicates that a defined workplace culture and environment that speaks to this generation of developers, will be an investment long called for, and key to moulding the company as an employer of choice in the Durban area.

The majority of ICT respondents reported using recruitment agencies to select employment, which is Company A's primary source of talent supply. Social networks however, present a keen opportunity for the company to set up social network groups and blogs that would attract the attention of such personnel. Referrals from current employees are encouraged at Company A, with incentives offered for introducing new recruits who remain at the company for at least six months – an effective tool for employees who enjoy their role and are keen to invite colleagues on board.

For the information-devouring developer set that comprise this sought-after target group, online discussion forums and conferences are seen as 'oracles' of current knowledge, and attract new talent at an exponential rate. Attendance at such events is also sought after, hence active company participation in Technical conferences and forums will likely raise the profile of the organisation, keep employees more engaged, and spur continued innovation and improvement of product lines – an area targeted for growth at Company A, and which few Durban competitors currently lead.

That said, Company Drv is also a private company, not listed as Company A is, but with strong revenue from online applications, who is focused strongly on keeping its employees at the leading edge of technology and software advancements, thereby instilling a culture of engagement and providing a sought-after work culture. The success of this strategy is reflected by the phenomenally high rating of Company Drv in this study, as a desirable employer of choice in the Durban region.

Employees at Company A Dbn expressed strong dissatisfaction with the lack of defined career paths within the organisation, indicating that no clear goals or deliverables are outlined to help them advance within the company, and creating a sense of stagnation and frustration that leads to considerable loss of talent, or apathy from employees who see no incentive in increasing performance year on year.

The disconnect between new employees such as the graduate interns in their first two years, and those who have been with the company for more than four years is distinct – a scenario influenced in no small means by the fact that interns have a tightly laid-out and monitored action growth plan, regular assessments, paid-for training and certification exams and mentors from various parts of the business. Employees who join the company outside of this programme however, have very little idea of any growth path to pursue.

The risk to business of losing these resources after time and expense has been expended in their skilling up and familiarisation with the company's environments, clients and custom applications is significant. Progress is halted and set back each time an established developer leaves the company, clients are nonplussed at the frequent loss of star performers, and the costs of recruitment (given that the bulk of this involved recruiting fees), is enormous. The costs of having this cycle of attrition continue far outweigh the costs likely to be incurred by high-level executive investment in bringing about drastic change to the culture of the company that is feeding this mobility.

The concepts raised by relevant literature in this area, and corroborated by participants of this study, are not contrary to Company A's stated vision, values and growth targets promoted on its business plans and charters. It is a shift in culture that is called for, one that is required as a new generation of developers with a new sense of purpose and expectation have entered the marketplace.

#### **5.2.4 Aligning Talent Strategy to Corporate Vision and Growth, as Competitive Advantage**

Company A's vision, mission and strategy are built on the *expectation of a strong, motivated, high-performing ICT workforce* (Adapt IT 2014). Its vision to be a 'leading innovative IT services and specialised solutions provider' emphasises the import of having innovative minds at work in its departments. Its strategy to get to that point lists 'striving passionately' to achieve this level of innovation and return positive results to stakeholders, through a strategy driven by revenue growth, operating margin, process and resource efficiency, and stakeholder expectations.

The strategic goals set to achieve the above require that the organisation '*demand and reward excellence in leadership, teamwork and delivery enabled by a performance assessment model*'.

All of these areas were perceived poorly by Company A Dbn respondents, while other offices identified one or two areas of concern only. Employees cite rewards as not evenly awarded for high performers – most notable of the comments is that no direct link exists between above-KPI performance and expected reward, with the 'pot' allocated to bonus and increase budgets only decided upon at the end of the 12-month budget cycle, and decisions regarding apportionment made outside of line managers' input. A change to this annual reward allocation process is called for, as it disadvantages high performers who remain unaware of the scale of any reward until it is presented to them in the new financial year.

Leadership and management disengagement have also been cited in the study. Much of this stems from the perceived culture of the organisation, with some managers being very hands-on and others engaging only with middle managers rather than the staff 'on the ground'. The division of business units and lack of teamwork has been cited by respondents as negatively impacting their ability to acquire necessary information and perform effectively.

In combination, all these factors expedite the passage of disgruntled employees out of the business; the more prevalent the incidence, the higher the attrition rate. If not guided and curbed by senior management or executive, such attrition will do more than reduce excellence; it will continually raise the costs of doing business, lower quality of output, impact employee morale and affect bottom-line profit and growth.

It is noted that the organisation has recognised that its performance appraisal system is not standardised across the group. To this end, submissions have been made to utilise a 360-degree software performance review platform. It is hoped that this will be done in consultation with line managers, so that every team is measured on the same skill set going forward.

The organisation's strategic goals also require '*delivery of operational efficiency*' and profit.

This speaks directly to employees' feedback of the processes which impede their efficiency and which if removed, would assist them in achieving their goals much faster. Multiple time-logging and CRM systems, multiple thumbprint-scanning access doors, and repeated, multiple system login profiles to access email, leave and reports are quoted as adding substantial hours to development time. More specifically, respondents suggested that having a single system, on which CRM events, tasks (project or non-project), time and leave could be captured, rather than the 4 different systems with differing URLs and login details currently in place, would reduce significant wasted effort.

The concept of removing time-logging as a whole was touted by a participant, who suggested that goal attainment be measured rather than time spent at the desk.

Wasted time spent walking across the building three times a day to eat away from the office was a common gripe across all Company A offices, while the Dbn office in particular noted that parking a distance away from the office twice a day everyday (as no snack or food facilities existed onsite), was inconvenient and inefficient in terms of productive time spend.

Company policies such as limiting internet access has come up as a gripe for more tech-savvy employees, who rely on YouTube videos to complete tutorials and learn skills rather than conventional ways of learning; this too is an indication of how current practices are no longer suitable for the new pool of talent the company seeks to attract.

Company A's strategy goes on to require that the organisation '*build on innovation*' and customer focus.

Innovation and the environment required to nurture it has been spoken of at length in this study, hence sufficed to say that in order to achieve this strategic goal, a top-

down executive-led change in management approach is called for. The rigid office policies will need to be looked at as they do not appeal to the target market required to fill this gap – dress code, parking policies, desk cleanliness checks, constant scanning of fingerprints to enter/exit internal offices, and the authoritarian rule of no eating allowed except in designated areas, have been repeatedly cited as energy- and motivation-sapping practices.

The third strategic goal is that the organisation '*share skills and experience across the company*'.

With the impressive number of new technology companies acquired by Company A Dbn in recent years, the potential to compoundly maximise knowledge across the group is phenomenal. Co-ordinating this would require inter-office collaboration and allowance from management for 'downtime' to assimilate new skills. Internally however, teamwork and collaboration is sorely lacking, and cited by respondents as demotivating. Such site-specific silos can be broken through with support of management, who have the authority to step in and request collaboration without bias.

The fourth strategic goal is to have '*operating structures simplified to unlock full value*'.

The organisation is working on communicating changes in reporting and business unit structures to employees, but it has been a long-protracted process that has changed numerous times without consultation with teams on the ground, hence buy-in and even recall of these changing borders is very limited.

A clear distinction has been made between the Managed Services (Support) arena of application software teams and the Development side, but confusion of roles, boundaries and scheduling within the multiple development groups is still a work in progress. Once structures are clarified and visible, a multi-pronged approach between HR, line and senior managers and executive, could lead the development of a defined career growth path across the organisation.

## **5.3 Recommendations on Findings**

### **5.3.1 Attracting the Right People at the Right time**

Graduate internships aimed at new recent tertiary I.T. graduates have yielded good results in recent years, but involve a lag period of two years before these resources become fully billable. For that reason, an ever-present online discussion blog or network is recommended – not manned by the Marketing department as is the case with the company’s (blocked) Facebook and Twitter pages, but rather linked to the profiles of key development leaders within the organisation, who can post comments and findings on novel technologies or code ideas, ask for input from social groups, and stir up interest across the online development community. This study shows discussion forums, blogs and social networks as influential in decision-making activities of the target developer group, and would provide a voice of authority on subject matter, that is not yet provided by competitors in the local region.

### **5.3.2 Creating an Innovative Office Culture**

The rigidity of current policies requires a rethink from senior management, as it is not an environment that young developers fit easily into. Simple ways to begin would be to relax rules of office etiquette, formal dress, clear desks and no chatting/eating except in designated areas. Changing mind set of development managers to allow the trial of new ways of achieving goals would require senior management support, to alter the way in which productivity is measured: by delivered goals rather than 8 to 5 days.

Creating a more flexible, people-focused environment would give the organisation a soft advantage over other players in the software market – at the moment only one other software development company provides a ‘work life’ culture of benefits. Company Drv in Durban has invested in strategies to make employees feel valued - thereby increasing productivity- through the provision of prepared meals, exercise/gym areas, and physiotherapy services, which speaks to effective employee wellness and stress management, as proven in the company’s exceptional retention rate, desirability as an employee of choice, and increasingly innovative product output rate (Masood 2011). Their clientele is very specific and

overlap from that group to that of Company A Dbn is extremely unlikely. Adopting at least some of their proven policies will go a long way in increasing the desirability of Company A Dbn without having to enter into a salary war with competitors.

### **5.3.3 Encouraging Teamwork and Collaboration**

A top-down directive is required to break decades-old 'glass' walls and groups that have been created at the Dbn company, specifically within the Oracle technology teams which were the only ones that expressed strong dissatisfaction at the lack of integration and collaboration between teams. Supporting both BEEE, cultural interaction and cross-team familiarity, respondents have suggested team-building initiatives to break through this perceived divide. It is an activity that will impact project time lines to a small degree, but the long-term benefits of equalising and socialising resources across this red-flagged department far outweigh this.

Collaboration generates new streams of thought, which if accompanied by encouragement of employees' freedom to innovate, will likely drive faster evolution of products and technology at Company A, as compared to the current practice of stipulating and micro-managing teams' hours and efforts (Harris and Alter 2014).

### **5.3.4 Delivering 360-degree Performance Management Solutions**

Management does concede that line managers rate performance on completely different standards, and accept that an unbiased assessment is conditional on a 360° evaluation by all stakeholders with whom employees interact. The executive have put in motion the delivery of such a company-wide, role-defined assessment tool, and it is recommended that they seek line management and employee input before finalising such, to ensure buy-in when it is eventually launched – thus avoiding costs that have resulted from other inappropriate administrative systems that have needed to be re-done after launch due to employees' adverse reactions to their ill-fit.

### **5.3.5 Living Organisation Values in Practice**

Company A's organisational values are listed as Integrity (including accountability), Passion, Transparency, Mutual respect, Solution focus, People focus, and Good corporate citizenship (including sustainability).

While these are stringently applied to the customer and business partner levels, responses from employees reflect that these principles are not be as strongly monitored nor enforced internally on the employee level. Respondents cite core information not being shared, only being informed of a change after it is put in play without consultation, 'silo' mentality that puts resources in defensive mode when collaboration is clearly more effective, and general lack of accountability from resources, most notably at the Dbn office.

Employees perceive such failure to live up to touted values as a breach of organisational integrity, which has been shown to influence their likelihood of leaving the company and seeking alternate employers (MacLeod & Clarke 2012).

### **5.3.6 Developing a Leadership Pipeline**

A defined leadership pipeline is essential to address the company's attrition challenges (Drotter & Charan 2001). The first step would be to identify leaders or managers in the organisation who display high EQ traits, as these are likely to be leaders that employees will willingly follow – as opposed to top-down chosen senior managers who employees may resent.

Ensuring team leads and line managers are engaged is also crucial to preventing counter-productive, resentful reactions to a leadership strategy.

A third requirement for successful talent strategy roll-out at Company A is to ensure that whenever high-performers are moved from one hierarchy level to the next, that they have the required training and skillset tools to effectively perform therein. Noting whether or not the internally-promoted resource is actually comfortable with delivering on their new management role, as opposed to insisting on developing software, is crucial to catch a bad leadership decision before it causes upset or resentment in the organisation (Drotter & Charan 2001).

Potential leaders' readiness to transcend must involve the Human Capital department, in defining measurable and objective assessment measures to replace decisions based on personal preference or past experience (Charan *et al* 2011).

### **5.3.7 Competitive Recruitment Strategies**

Less than 10% of surveyed employees comprised female software developers, which indicates a potential gap in the market that Company A should pursue as a competitive talent strategy. University graduates are of largely equal gender make-up, hence encouraging promising female students to follow a software development path within Company A's graduate recruitment programme will set the organisation apart in the local market; targeted marketing and brand support of gender equality in the software development field would assist in improving employment equity statistics and would bring in a new target market into the currently limited software development arena.

Given the large reliance on Oracle technology within Company A Dbn, a concerted partnership exercise with the Oracle software house to co-host conferences and youth learner workshops with the aim of encouraging internships in the field once the high-performing learner has completed tertiary studies, is recommended. It has proven successful in rival companies in the Durban area, such as Company Drv, whose ratings by employees have been consistently high across the study.

Moving into the arena of private schools by offering bursaries, summer schools or internships, would also bring the brand to the attention of the parents and guardians of these students, many of whom are key decision-makers in the Durban and KwaZulu-Natal business sector. To not take this approach, given the number of private schools in the area is to almost let potential sales and resources slip through Company A's hands.

## **5.4 Limitations of this Study**

The short duration of this study meant that many employees of companies who fell within the research scope were not able to participate due to conflicting schedules. The questions asked were generic, so as not to create defensiveness or wariness

in respondents when answering, nevertheless many chose not to complete the survey or to leave certain areas unanswered, which reduced the sample size to 60. A significant portion of respondents were new to the companies being surveyed hence may not present a true representation of what long-standing employees feel, however, given the moving target of employee contingent in this ICT sector, the sample was deemed statistically appropriate for the requirements of this study.

## **5.5 Recommendations for Future Research**

Future studies on ICT talent retention and attrition factors in the local environment should be expanded to include other cities and provinces in South Africa, to ascertain whether Durban shares any traits with that of other cities; Cape Town for example, is also a coastal city, but does that impeded or improve its attraction as a city of choice for software developers? It would also be interesting to see what factors would entice developers to move across regions in SA, and how these could be used to influence that mobility back into KZN.

A follow-up study on similar impressions felt by graduate interns who had received appropriate training and investment in skills-building would be useful to assess whether such companies inspire loyalty that significantly reduces attrition in future years.

A study that focuses primarily on female software development resources and their experiences of, and preferences for employers may yield insight into key areas that companies could develop further to create a competitive advantage in attracting female skills into a currently largely male-dominant sector.

## **5.6 Conclusion**

The objectives of this study have been met. It has been established that known retention-reducing factors exist at the Durban software Development Company, and areas that employees feel most disgruntled about have been identified. These were corroborated by global and South African literature, research, and reports which identify these areas as linked to increased employee movement out of companies that display noted behaviours or shortcomings.

Employees themselves rated the impact of these shortcomings as influencing their desire to leave or remain with the company, further identified areas which if addressed would improve their work experience, and provided feedback on processes which they felt reflected poorly on the work culture at the company under study.

## CHAPTER SIX

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## **Appendix A: Survey Introductory Letter**

Good day,

My name is Surendri Chetty, and I am an MBA student at the University of KwaZulu-Natal (student # 9262480), researching Key Factors to Attracting and Retaining Software Development Talent in an I.T. Solutions Company in Durban, KZN.

You are invited to participate in my survey, on factors which you rate as crucial within this sector.

In this survey, approximately 120 employees will be asked questions pertaining to the topic. It will take approximately 10 minutes to complete the questionnaire. Your participation is completely anonymous and voluntary - all responses are strictly confidential, and data from this research will be reported only in the aggregate. If you feel uncomfortable answering any questions, you can withdraw from the survey at any point.

It is very important for me to learn your opinions. If you have questions at any time about the survey or the procedures, you may contact my supervisor Dr Abdul Kader on 082 901 0225 or myself on 083 655 6074.

If you're ready to proceed, kindly start by ticking the Participation Acceptance Box, below.

I thank you for your contribution to this research.

Yours faithfully,  
Surendri Chetty

## **Appendix B: Ethical Clearance**

UKZN Ethical Clearance certification letter appears hereafter.

## **Appendix C: Questionnaire**

The questionnaire used in this quantitative survey, appears hereafter.

## **Appendix D: Turnitin Report**

Dissertation Turnitin Report appears hereafter.